

Scientific American.

MUNN & COMPANY, Editors and Proprietors.

PUBLISHED WEEKLY AT NO. 37 PARK ROW (PARK BUILDING), NEW YORK.

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

The American News Company, Agents, 121 Nassau street, New York. The New York News Company, 8 Spruce street. Messrs. Sampson, Low, Son & Marston, Booksellers, Crown Building, 188 Fleet street, London, are the Agents to receive European subscriptions or advertisements for the SCIENTIFIC AMERICAN. Orders sent to them will be promptly attended to. A. Asher & Co., 20 Unter den Linden, Berlin, are Agents for the German States. Tubner & Co., 60 Paternoster Row, London, are also Agents to receive subscriptions.

VOL. XX., NO. 18... [NEW SERIES]... Twenty-fourth Year.

NEW YORK, SATURDAY, MAY 1, 1869.

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THE NEW COMMISSIONER OF PATENTS.

We are not surprised to learn that President Grant has appointed Samuel S. Fisher, Esq., of Cincinnati, to succeed Judge Foote as Commissioner of Patents.

The Sun, which "shines for all," referring to this appointment, says "it was made by the President on grounds of personal friendship," wherein the Sun is entirely mistaken.

Mr. Fisher was selected by Secretary Cox on the ground of peculiar fitness for the position; and we happen to know that he hesitated to yield a valuable and extensive law practice to assume charge of an office which could give him but \$4,500 a year. Before entering upon his duties as Commissioner of Patents, Mr. Fisher will surrender his practice, and thus remove an objection which has been raised against his appointment.

Mr. Fisher is well known in Ohio and in the United States Courts as an able, industrious lawyer, and especially skillful in patent law causes. But our inventors, whose interests are to be so largely in his hands, will naturally be anxious to learn something more respecting his character and fitness for the position.

Mr. Fisher is comparatively a young man, being but 37 years of age. He is a native of Michigan; studied law at Philadelphia, and afterward removed to Cincinnati, where, for fifteen years, he practiced his profession with that success which always follows ability, industry, and sterling integrity.

During the war, and when one-hundred-day regiments were called out, Mr. Fisher served as Colonel of the 138th Ohio, operating in front of Petersburg, Va. He now holds the responsible position of President of the Board of Education, of Cincinnati, and is highly esteemed in that city as a Christian citizen and an efficient co-worker in all public enterprises and reforms. Mr. Fisher was appointed entirely without solicitation on his own part. He is not indebted to any outside influence for the honor conferred upon him, and enters upon his duties entirely independent of political or patent cliques. From our knowledge of the character and antecedents of the new incumbent, we do not hesitate to say, that inventors may rely upon him as a true friend; and, furthermore, that the duties of the Commissionship will be administered by himself, and without the intrusive assistance of certain parties who seem to act as though the Patent Office was under their special guardianship, and the Commissioner a mere appendage to a lobby, which has cast a shadow over the good character of that Office. Commissioner Fisher is a hard worker, and, if the business of the Patent Office flags—if there are any drones in this hive of industry—he will be apt to inquire the reason why.

We commend this appointment as one of the very best that could have been made. It assures us that the administration of the Patent Office is about to return to what it was when Mason and Holt were Commissioners.

SCIENTIFIC AND MECHANICAL ASSOCIATIONS.

The utility of well organized and well managed associations for the advancement of science and the arts is unquestionable. There are many such societies, both in this coun-

try and in Europe, which are doing incalculable good. They are models of their kind.

We believe, however, that there is room for the organization of many more associations, connected more particularly with the mechanic arts, whose influence would be almost as great and beneficial as those of a higher scientific character. Our idea of such associations is to disconnect them entirely from all consideration of the regulation of wages, hours of labor, and other questions properly confined to the trades unions; their purpose and scope being solely to elevate the standard of skill and knowledge among mechanics everywhere, and to unite them by the strong tie of just and honorable emulation.

To this end, although such societies might be to a large extent local, they should be connected so as to form one large body, comprising the mechanical genius and skill of the entire country, and recording the valuable results of general observation and experience.

We scarcely ever converse with a practical mechanic without ascertaining some fact of general interest occurring in his experience. So far as such facts are available our readers get the benefit of them, but there are large numbers of mechanics throughout the country, who are in a position to make equally useful observations, but whose knowledge, for want of proper organization, is confined to only a few of their immediate neighbors and acquaintances, while they would greatly benefit the mass of mechanics by being promptly and universally diffused. The columns devoted to correspondence in our paper, are intended to supply this need in some measure among our readers, who may be said to be members of the Scientific American Association for the Advancement of Arts and Science, but we are certain that much that is valuable fails to reach the public through our columns, from considerations of modesty, and the want of a general interest which such associations as we allude to would excite.

Many a hard-headed and hard-headed mechanic could and would impart information of general value, if he could wield the pen as deftly as he wields the implements of his trade. The diffidence he feels in appearing before the public as a writer, would not be felt in addressing an association of his fellow craftsmen, who would certainly be competent to judge whether his ideas were worthy of permanent record in their transactions. Printed copies of such transactions sent to one general central association, of which the smaller local societies should be the members, and in which they should be represented as delegates, would form the basis of a general record, the value of which could not be estimated.

Such a general annual report would be of as much practical utility to operative mechanics, as the transactions of learned associations are now to theoretical mechanics.

There seems no serious obstacle to the formation and successful operation of such associations, and their elevating effect upon their members would be immediate and salutary.

We have, in previous articles, discussed the subject of ways and means by which such organizations can supply themselves with books, lectures, and other means of individual improvement, and nothing would give us greater pleasure than to see those suggestions carried into general effect. The time is coming in the history of the world when men are to be estimated by what they can do. In that time the mechanic will find that his social position will depend not only upon his manual skill but his mental acquirements; but these will not be restricted by conventional limits. He may do or know what his natural genius best fits him for. Excellence will be the standard by which men will be estimated. Everything points to a new and better order of things in the future. It rests with mechanics themselves, whether, so far as they are concerned, the advent of the new era shall be hastened or retarded.

THE NEW EXAMINER-IN-CHIEF.

The President has appointed Rufus L. B. Clarke, Esq., of Mt. Pleasant, Iowa, to the position of Examiner-in-Chief of the Patent Office, to fill the vacancy existing in that Board. Mr. Clarke is a brother of "Grace Greenwood," and is a lawyer by profession, having been admitted to the bar by the Supreme Court of this State in 1845, and practiced his profession at Rochester, N. Y., until the fall of 1845 when he emigrated to Iowa. During his residence in Rochester he was one of the editors and proprietors of the Evening Gazette. At Mt. Pleasant, Iowa, Mr. Clarke, in company with George Doolittle, opened a law office and soon acquired a large practice; being offered the honorable position of law clerk in the Comptroller's office, at Washington, he removed to that city, where he has since remained in charge of special cases and questions arising in the settlement of war claims. He is said to be a gentleman of ability.

THE POSTAL TELEGRAPH BILL.

Since the assurance was first fully felt that the electric telegraph was, in fact, a means whereby messages could be cheaply, safely, and regularly transmitted with the speed of lightning itself to all parts of the civilized world, its ultimate use as an adjunct to the postal departments of this and other countries has been confidently predicted by far-sighted men.

The carrying of mails, as well as the coining of money, is a matter which all modern governments have kept under their own control. They are exceptions to the general order of business, wherein individual enterprise is allowed full scope. There are various and valid reasons why any commonwealth should retain the monopoly of these affairs, which we need not here discuss. The wisdom of such a policy has long been acknowledged by statesmen and political economists.

The analogies existing between the method of transmitting matter by the mail service, and the telegraphic system, are also

obvious, and the influence is almost unavoidable, that if it be a wise policy for the governments to monopolize the one it would be wise for them to monopolize the other.

A bill for the establishment of a postal telegraph was introduced in the last Congress, and another is now under consideration, having been read twice and referred to the proper committee. While we are strongly in favor of the establishment of postal telegraphs connecting the principal cities in the United States, we are not altogether pleased with the bill under consideration.

This bill provides for the incorporation of a company to be called the "United States Postal Telegraph Company," with a capital of \$400,000. This company is to build lines to connect within six months the cities of Washington and New York, Boston and Chicago, and within two years to connect St. Louis with New Orleans. It is further proposed to establish telegraphic communication with every city of five thousand inhabitants and upwards within three years from the completion of the contract.

The offices are to be located in every city at the postoffice, and also at the railroad stations. Messages are to be received at all the general and sub-offices and street letter-boxes. These messages are to be prepaid by stamps. Messages are to be delivered free, as letters are now delivered, within certain limits, and to be transmitted by mail from telegraph stations to towns too small to have a station of their own. The bill also provides for the sending of postal money orders by telegraph. The tariff is to be one cent per word for distances not exceeding five hundred miles, the smallest message to be twenty words, or if less than that number, to be paid for as twenty words.

While the increased facilities offered by this plan are very great, we are not disposed to view with favor the organization of a company to carry it out. The plan, if worthy of adoption at all, is worthy of being put in operation by the Government itself. Such a scheme might be initiated perhaps with the capital named (\$400,000) but it could never be carried out without additional capital.

If Congress should see fit to sanction this scheme, it should not be done without the strongest guarantees that the spirit of the contract will be carried out, and should look to it, that, in granting such a franchise, it does not impose upon the country at large a system that places the public at the mercy of scheming capitalists.

THE TRANSITS OF VENUS IN 1874 AND 1882.

Doubtless many of our readers may think it premature to say anything about an event six years before it will transpire, but there are good reasons in this case for such an apparently ill-timed proceeding. The transits of Venus to take place in 1874 and 1882 are justly looked forward to by astronomers as the greatest astronomical events of the century in which they will occur. Why they are so considered, and the necessity for anticipating them by extensive preparations, it is the object of this article to show.

The phenomena called transits occur only with the inferior planets, that is, those whose paths of revolution around the sun lie wholly within that of the earth. A transit is nothing less than an eclipse of the sun by an inferior planet, that is, the passage of either Venus or Mercury directly between the earth and the sun, so that their disks partially obscure its face, and appear as round, dark spots upon it. Conventional usage has limited the term eclipse of the sun to the obscuration of its disk by the moon, and transit to the same effect produced by the passage of Venus and Mercury between the earth and the sun, although there is no essential difference in the nature of the phenomena.

The transits of Venus occur very seldom. The first one, we believe, of which there is any record, was observed in 1639, by the gifted young astronomer, Horrox, whose brilliant career was so suddenly terminated by death at an age when few have even begun to achieve immortality. The celebrated Dr. Halley communicated a paper to the Royal Society in 1691, with a view of calling attention to a proposed method for determining the parallax of the sun, and thereby its real distance from the earth. Since his time only two transits of Venus have occurred—viz., in 1761 and 1769. Dr. Halley expressed in his paper the belief that, in the way proposed, the sun's distance from the earth would be determined with great accuracy. The feasibility of the method at once attracted the attention of astronomers, and, upon the occurrence of the transits in 1761 and 1769, the sun's distance was computed to be 95,173,000 English miles.

The parallax of heavenly bodies is the difference in their apparent relative position, when viewed from different stations. It is usually expressed in degrees, minutes, and seconds, of angular measurement. This may be illustrated by the following simple method. Take a station at any point where a tree, or lamp-post, or stake can be brought into range with a corner of a house or any other fixed object, representing the sun. The intervening object may be considered to represent the planet Venus, and the station at which the two observed objects are in line, may represent a portion of the earth's surface. If, now, the observer take a station to the right or left of the first station, the objects will no longer appear superimposed, but separated to a distance, depending upon the distance between the two stations, the distance of the stations from the remotest object, and the distance of the stations from the intervening object. The angular difference between the apparent positions of the bodies observed, and the distance between the stations, are sufficient data for determining all the other distances, provided the angle formed by a line joining the two stations, and a line joining either station with the intervening object is also known. The problem is then reduced to the finding of one side of a triangle, another side