

Scientific American.

ESTABLISHED 1845

MUNN & CO., EDITORS AND PROPRIETORS.

PUBLISHED WEEKLY AT

No. 361 BROADWAY, - - NEW YORK.

TERMS FOR THE SCIENTIFIC AMERICAN.

One copy, one year, for the U. S., Canada or Mexico. \$3.00
One copy, six months, for the U. S., Canada or Mexico. 1.50
One copy, one year, to any foreign country, postage prepaid. 4.00

The Scientific American Supplement

is a distinct paper from the SCIENTIFIC AMERICAN. THE SUPPLEMENT is issued weekly. Every number contains 16 octavo pages, uniform in size with SCIENTIFIC AMERICAN.

Building Edition of Scientific American.

THE BUILDING EDITION OF THE SCIENTIFIC AMERICAN is a large and splendidly illustrated periodical, issued monthly, containing floor plans and perspective views pertaining to modern architecture.

Export Edition of the Scientific American

with which is incorporated "LA AMERICA CIENTIFICA E INDUSTRIAL," or Spanish edition of the SCIENTIFIC AMERICAN, published monthly, uniform in size and typography with the SCIENTIFIC AMERICAN.

The safest way to remit is by postal order, express money order, draft or bank check. Make all remittances payable to order of MUNN & CO.

NEW YORK, SATURDAY, JANUARY 29, 1898.

Contents.

(Illustrated articles are marked with an asterisk.)

Table listing various articles such as Aconcagua, Mount, ascent of; Alabama, battleship; Aluminum, acid resisting; Archaeological news; Arc lamp, 9,000 candle power; Battleships, our new; Bazin, M., death of; Benin, curios from; Blacking, waterproof; Bridge swing, a curious; Britannic, record of; Bulkheads, watertight; Butterworth, death of Mr.; Cabinet, Worthington's prescription; Catacombs lighted by electricity; Chimney and pole problem; Commissioner of Patents, appointment; Crickets, the chirping of; Cruiser, raising a stranded; Electric light beacon, a great; Electric locomotives for London; Fish, burrowing; Gasoline motor, a new; Hawaiian expedition, Prof. Libbey's; Inventions, and Manufacturers' Association; Kentucky, battleship; Lens, 90,000,000 candle power; Letters, the safe sealing of; Linoleum, underlays for; London fire, the late; Metals, world's consumption of; Microscopical examination of growing plants; Moodus noises, the; Natural science gift to Yale; Naval use of homing pigeons; Notes and receipts; Patent Office, business of the; Patent Office needs; Patents granted, weekly record of; Patent swindlers arrested; Pigeons, homing, in naval service; Plaster casts, making; Science notes; Scientific American offices, Washington; Seismoscope, an electric; Sesame oil; Tibet, Landor's expedition to; Tire removing device, Robin's; Trade mark law, Bolivian; Wood oil, Chinese.

TABLE OF CONTENTS OF Scientific American Supplement

No. 1152.

For the Week Ending January 29, 1898.

Price 10 cents. For sale by all newsdealers.

Table listing sections: I. BACTERIOLOGY.—Bacteriology in 1897; House Flies, Gnats and Mosquitoes as Destroyers of Pathogenic Microbes; II. BICYCLES.—The Pneumatic Tire; III. BIOGRAPHY.—Theodor Mommsen, Octogenarian; IV. BOTANY AND HORTICULTURE.—Castanopsis Chrysophylla; V. CHEMISTRY.—Chemistry in 1897; VI. ELECTRICITY.—A Review of American Electrical Progress During the Year 1897; VII. FISHERIES.—The United States Fish Commission Salmoneter; VIII. MARINE NAVIGATION.—Lambert's Gliding Boat; IX. MARINE ENGINEERING.—Auxiliary Engines and Transmission of Power on Naval Vessels; X. MECHANICAL ENGINEERING.—A Large Boring Mill; XI. METALLURGY.—The Use of Aluminum in the Brass Foundry; XII. MISCELLANEOUS; XIII. PHOTOGRAPHY.—Photographic Formulas; XIV. TECHNOLOGY.—A Lack of Whalebone; XV. TRAVEL AND EXPLORATION.—Story of the Yukon.

THE APPOINTMENT OF A COMMISSIONER OF PATENTS.

The vacancy created by the decease of the late Commissioner of Patents imposes upon the executive the duty of selecting a properly qualified successor to this important office. In the whole range of offices which are filled by government appointment there is none that calls for so many special qualifications as this, and the selection should be made primarily with regard to the administrative and professional ability of the candidate—the question of mere political services and the recommendations of political friends being made strictly subordinate.

The Patent Office has suffered too severely in the past from the incompetence of political appointees. Men have been placed in charge who, whatever may have been their political qualifications, were altogether unfitted to fill a position which calls for a thorough knowledge of the patent system and an unusual amount of judicial and administrative ability for the conduct of its affairs.

Among these, and perhaps chief among them, is that of Commissioner of Patents; and that its duties can only be properly performed by a professional man, one who has had a thorough acquaintance with patent practice, is proved by the record of the various gentlemen who have filled the position in the past.

When the new commissioner enters upon the duties of his office, he should do so feeling that he is absolutely free from all external controlling influences of a political nature. He should realize that he is given the office because he understands its duties, and is justified by his past training and experience to perform them intelligently.

It can safely be said that there is no department which, as a rule, has been purer, more free from political intrigue, than this; and it is earnestly to be hoped that, in selecting a successor to Mr. Butterworth, a man will be chosen who, like him, is thoroughly conversant with the workings of the patent system and possesses the necessary judicial qualities for this difficult and responsible position.

It has never been the practice of the SCIENTIFIC AMERICAN to advocate the claims of particular individuals in matters of this kind; but in the present case we feel compelled to state that our past experience of the acting incumbent of the office convinces us that no better man could possibly be selected for the position.

Judge A. P. Greeley has been the practical head of the department during the protracted illness of the late Commissioner, and his management has been characterized by excellent judgment and unusual administrative capacity. His appointment would be received with great satisfaction not only by the department but by the inventors and manufacturers of the country, to whom his name is already well and honorably known.

URGENT NEED FOR LARGER PATENT OFFICE APPROPRIATIONS.

We have more than once had occasion to call the attention of the public to the fact that, unless more generous appropriations are made by Congress for carrying on the business of the Patent Office, its work is certain to fall hopelessly in arrears. The failure of the Patent Office staff to keep pace with the business of the office is not due to any want of capacity or zeal on the part of its examiners and clerical force. It is safe to say that there is no department whose staff is worked so hard—so completely overworked—as this, and that the business of the office is falling behind is to be attributed solely to the fact that the force employed is altogether inadequate.

This fact has long been recognized by the Patent Commissioner, and urgent requests have been made from time to time for increased appropriations to enable the necessary increase in the force to be made. In the report of the late lamented Commissioner of Patents for the year ending June 30, 1897, the subject

is referred to as follows: "I desire to call especial attention to the steady increase in the business of this office, and to say that, if the work is not to fall hopelessly in arrears, an increase of force must be provided during the ensuing fiscal year." One would naturally suppose that such urgent representations as these would meet with ready response from Congress; yet, as a matter of fact, the appropriations have been as steadily refused as they have been persistently requested.

Now the gross injustice of the course pursued by Congress will be evident when it is borne in mind that the money which the Patent Office requests is its own money, paid by inventors in the shape of patent fees, and set apart in a fund known as the Patent Office fund, whose object is to meet the current expenses of the office.

For many years past there has been an excess of receipts over expenditures in the business of the office, and the fund, which is now being augmented at the rate of over \$300,000 a year, has already reached a total of over \$5,000,000.

The business of the Patent Office is carried on by means of annual appropriations from the Patent Office fund. The Commissioner of Patents has no authority whatever over a single dollar of the receipts of his office. He turns every cent over to the Treasurer of the United States and he is dependent entirely upon the annual appropriations of Congress for means to carry on the business of his department. For many years there has been a steady increase in the business of the Patent Office without any commensurate increase in the staff or the annual appropriations. In 1886 the office received 35,968 applications; in 1896 there were 43,982. Up to 1870 the total number of patents issued by foreign countries was 358,000, whereas between 1871 and 1896, 1,282,000 patents were issued in these countries. The increase in the transactions of the office has called for enlarged accommodations and an increased working staff, and the surplus which this bureau has been accumulating would at any time have been more than enough to meet the emergency. Yet, for some unaccountable reason, Congress, though lavish—over lavish—in its appropriations for other purposes, has pursued an extremely parsimonious policy with regard to the Patent Office. This refusal is the more unjust because, as we have pointed out, this Department is merely asking that the surplus of its own earnings may be appropriated to its own needful expenses. The recommendations of the Commissioner for appropriations are passed on by the Patent Committees in the Senate and the House, who almost invariably approve them. They then come before the Appropriation Committee, who failing to see the broad distinction between this appropriation and appropriations say for rivers and harbors, have almost invariably cut them down to a figure much below the growing necessities of the office.

Undoubtedly one great cause of the neglect of the interests of the Patent Office is the total misunderstanding of the real nature of the annual requests of the Commissioner for money. They are not requests for "appropriations" in the common sense of the term. The money asked for does not come out of Uncle Sam's pocket in the way that river and harbor or pension appropriations do. The Commissioner merely requests that a sufficient amount of the earnings of the Patent Office may be placed at his disposal to enable him to transact its business to the best advantage. Whether the amount allowed by the Appropriation Committee be large or small, it will not make the nation's purse lighter or heavier—it will merely be a question of the Patent Office fund lying idle or being applied to its legitimate uses.

If the Appropriation Committee would only judge this matter on its own merits, and not confound it with the extravagant appropriations asked for various public works of doubtful utility, there would be little difficulty in obtaining the needful funds. We believe that the committees at present include the following names:

Senate Appropriation Committee.—William B. Allison, Ia.; Shelby M. Cullom, Ill.; William J. Sewell, N. J.

House Appropriation Committee.—Joseph G. Cannon, Ill.; Henry H. Bingham, Pa.; William W. Grout, Vt.; Stephen A. Northway, O.; William A. Stone, Pa.; Mahlon Pitney, N. J.; James A. Hemenway, Ind.; James J. Belden, N. Y.; Samuel S. Barney, Wis.; William H. Moody, Mass.; Samuel J. Pugh, Ky.; Joseph D. Sayers, Tex.; Alexander M. Dockery, Mo.; Leonidas F. Livingston, Ga.; Thomas C. McRae, Ark.; John M. Allen, Miss.; John C. Bell, Col.

There is no question that the immediate remedy lies with these gentlemen, for it is in the committee that the appropriations have almost invariably suffered their first reduction. We think that the surest way to secure a proper recognition of the rights of inventors would be for the people to bring all possible pressure to bear upon their representatives, both by personal interviews and by written communications.

The cause is a worthy one. An altogether inexcusable injustice is being done to one of the best administered