

Correspondence.

A Needed Patent Office Reform.

To the Editor of the SCIENTIFIC AMERICAN :

In your issue of October 23, your correspondent, Mr. William G. Heath, in an article entitled, "A Needed Patent Office Reform," has by implication unintentionally done some injustice to the authorities of the Patent Office, and evidently is not fully advised of the many and burdensome limitations by which that office is hampered. Nor is it probable, indeed, that the true state of affairs is generally known to the public.

Mr. Heath, after referring to the fact that four months' delay before office action is taken after filing is not an uncommon thing, remarks that with a surplus of \$300,000 accumulated during the past year, and a total surplus to the credit of the office of more than \$5,000,000, it would seem that there is no excuse for submitting inventors to such long delays . . . on the ground that the office is overworked, or the force of examiners insufficient, and he very pertinently asks, "Why is that \$5,000,000 surplus lying idle when it might be expended in supporting an increased force of examiners, and thus facilitating the work of examination?"

The answer, however, is very simple. The Commissioner of Patents has no power and authority whatever over a single penny of the receipts of the Patent Office. Every cent must, by law, be covered into the treasury of the United States, and the only funds available for the expenses of the office are such as Congress annually appropriates for that purpose, specifying how much must be spent for each branch of the service, and even enumerating the entire office force to a man, prescribing their duties and salaries, and specifying the various amounts to be expended for supplies and other expenditures.

Year after year the number of applications filed for patents has increased, and the field of research which the examining corps must daily traverse has broadened out, its extent being no less than the entire issue of domestic and foreign patents, as well as all technical and scientific literature, in all languages, which forms a mass of printed matter that is growing at a very rapid rate.

Thus in 1886 the office received 35,968 applications; in 1896, 43,982. Up to 1870 the number of foreign patents issued by all countries other than the United States was approximately 358,000, while between 1870 and 1896 1,282,000 were issued; and technical and scientific literature is increasing in geometrical ratio, while no material increase has been made in the office force simply because Congress has not given the Commissioners power to make it.

Year after year successive Commissioners have in their annual reports called the attention of Congress to these matters, and in the strongest language at their command have suggested, recommended and almost implored Congress to afford the necessary relief, but thus far all to no purpose.

I could fill many pages of your journal with their utterances upon this head, were they available. I will merely point out where those interested may read what things have been repeatedly recommended and asked for in vain since the year 1890.

The recommendations for an increase of force divide naturally into two classes :

First, recommendations for an increase of the regular office force.

(See Reports Commissioner of Patents for June 3, 1890, p. 5; Dec. 31, 1890, p. 5; Dec. 31, 1891, p. 4; Dec. 31, 1892, p. 5; June 30, 1893, p. 4; Dec. 31, 1896, p. 6; in which latter Report the increase asked for was 10 primary examiners, 50 assistant examiners, 10 clerks, 10 copyists, 10 messengers, and 10 laborers.)

Second, recommendations as to the establishment of the "Classification Division," designed to perfect the present classification of the great mass of existing patents and literature and establish a system of cross references which will facilitate and shorten the official actions of the examining corps.

(See Reports, Dec. 31, 1891, p. 4; Dec. 31, 1892, pp. 6 to 8; June 30, 1893, p. 4; Dec. 31, 1893, pp. 5 and 6; June 30, 1894, p. 6; Dec. 31, 1894, pp. 5 and 6; Dec. 31, 1895, pp. 20 and 21; Dec. 31, 1896, p. 33; in which latter instance an annual appropriation of \$64,500 was asked for, covering 52 additional employees.)

It is a notorious fact that in every department of the Patent Office the employes are overcrowded to an extent inimical to health and detrimental to the good of the service, to the great inconvenience of the public having business to transact there.

The Patent Office building, built by the money of inventors, from their fees, and ostensibly for their sole use, contains also the General Land Office as well as other offices of the Interior Department.

The models have been gradually crowded out of the building, until now the once famous model room is practically a thing of the past.

In 1895 the then Commissioner thus addressed Congress (Report, December 31, 1895, p. 16): "The force of the Patent Office is scattered in remote parts of the

building, its valuable records are disposed upon all the floors, and are at all times exposed to the danger of conflagrations and other loss. There is an apprehension that the galleries are overloaded beyond the safety limit, and the sanitary conditions in many of the rooms are a constant menace to health."

Other utterances will be found as follows : Reports, June 30, 1890, p. 6; December 31, 1890, p. 4; December 31, 1891, p. 1; December 31, 1892, p. 1; June 30, 1893, p. 6; and December 31, 1896, p. 34.

The Commissioners have repeatedly called the attention of Congress to the growing needs of the Scientific Library.

(See Reports for Dec. 31, 1890, p. 8; June 30, 1893, p. 5; Dec. 31, 1893, pp. 6 and 18 to 22; June 30, 1894, p. 6; Dec. 31, 1895, p. 11.)

One of the real needs of the office is a suitably equipped laboratory for chemical, physical, metallurgical and other technical and mechanical tests, and experiments in pending cases where the operativeness of mechanisms or processes, or similar questions, are involved, and can only be settled by practical tests. Such a laboratory should be liberally supplied with apparatus and material, and be in charge of skilled attendants whose entire time should be given to this class of work. Upon this subject see recommendations in the Reports of Dec. 31, 1890, p. 6, and Dec. 31, 1891, p. 10.

The attention of Congress has also often been called to the need of the Patent Office for a suitable hall in which to display its very valuable and interesting collection of models.

(See Reports for Dec. 31, 1890, p. 7; Dec. 31, 1893, p. 11; and Dec. 31, 1895, p. 17.)

General increases in salaries have been recommended as follows. (See Reports of June 30, 1890, p. 6; Dec. 31, 1890, p. 6; Dec. 31, 1891, p. 10; June 30, 1893, p. 5.)

In the Report of the present Commissioner of Patents for the year ending June 30, 1897 (Official Gazette, vol. 80, page 1613), the following language will be found: "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. Such increase will be included in the estimates which I shall submit in a few days. I also lay particular emphasis upon the imperative necessity that means be provided for the improvement of our facilities for transacting the vast amount of business, which is daily expanding in every branch and division of the office." The Commissioner then recommends that Congress provide a contingent fund of \$40,000 per annum to be disbursed "under the direct supervision of the Commissioner of Patents." The matter is then amplified and the pressing needs of the office set forth in very forcible terms which cannot be quoted here at length.

In conclusion, then, what is one of the most needed Patent Office reforms? Evidently a more generous appropriation by Congress of the sinews of war. Why should \$300,000 per annum be collected from our inventors over and above the actual expense of running the Patent Office, and then the appropriations for annual expenses be so cut down by Congress as to materially impair the service and subject the inventors, whose fees support the bureau, to long and needless delays, working untold injury to great manufacturing interests? Why are not our inventors justly entitled to as thorough and complete a preliminary examination, and as valid a patent when issued, as money, skill, and experience can afford, and which they would long since have had if the oft-repeated recommendations of practically every Commissioner who has held office for the last twenty years had received proper attention from Congress? Why should so large a portion of the building erected by the money of inventors, for the transaction of their business, be occupied by other non-supporting bureaus to the detriment of the service? Why should their models be crowded out of the building where they most naturally belong? Why should not the bureau be provided with a laboratory and scientific and law library, each fully equipped and in every way suited to its pressing needs? Why should not salaries be increased to be commensurate with services rendered? For, as is well known, the office is full of so-called laborers at laborers' pay doing the work of stenographers and skilled clerks, of messengers at messengers' pay doing the work of assistant examiners. Were it not for such expedients as these, the office could not keep its head above water even as well as it does at the present time, but the result of all this has been, and is, to turn the Patent Office into a mere training school for clerks for other departments of government (where pay is more proportional to services rendered) and for graduates into the patent bar of the country.

An act of simple handed justice would be to turn over the Patent Office building to the sole use of the bureau serving the inventors whose money has built it; to allow the \$5,000,000 already collected from them by the only self-supporting bureau of our government to be expended in bettering the service, notoriously insufficient in certain lines; for to make the Patent Office a source

of revenue is simply class taxation of an especially odious kind, because burdening with a special tax the class of citizens that have contributed so largely to the industrial and other development of our country.

But wherein does the remedy lie? Evidently in the halls of Congress. I think, judging from the past, there will be no relief, or at least relief that is at all adequate, until the inventors and manufacturers of the country, one and all, take a personal interest in the matter, and use their personal influence with their Senators and Representatives in Congress to see to it that in this matter simple justice is done them. Now is emphatically the accepted time. Congress will soon meet, and the entire subject will once more be brought before that body by the present Commissioner of Patents, and pressed with all the vigor of which he is capable.

With the immediate and hearty co-operation of the real parties in interest—the inventing and manufacturing public—along the lines above suggested, very much can be accomplished for the lasting good of the country in general and its industrial interests in particular.

E. A. H.

Washington, October 28, 1897.

Death of Thomas Doane.

Thomas Doane, of Charlestown, Mass., the well known civil engineer, died October 22. He was born at Orleans, Cape Cod, in 1821, and after attending the Andover Academy he entered the office of Samuel L. Felton, a noted engineer. After remaining with him for three years he became engineer of a division of the Vermont Central Railroad. Mr. Doane was connected at one time and another with all the railroads running out of Boston. In 1863, he was appointed chief engineer of the Hoosac tunnel. He located the line of the tunnel and built the dam in the Deerfield River to furnish water power. In this work he introduced nitroglycerine and electric blasting for the first time in this country. In February, 1875, he ran the first locomotive through the tunnel. In 1869 he went to Nebraska and built 240 miles of railroad on the extension of the C., B. & Q. R.R. He made the question of grades a special study, and so perfect were those on the extension that one engine could haul as many cars to the Missouri River as five engines could haul across Iowa. When in Nebraska he took a leading part in the agitation of the question of establishing a college in that State, and in recognition of his services the institution was named Doane College.

History of Ivory.

The earliest recorded history—we might say prehistoric, the hieroglyphical—that has come down to us has been in carvings on ivory and bone. Long before metallurgy was known among the prehistoric races, carvings on reindeer horn and mammoth tusk evidence the antiquity of the art. Fragments of horn and ivory, engraved with excellent pictures of animals, have been found in caves and beds of rivers and lakes. There are specimens in the British Museum, also in the Louvre, of the Egyptian skill in ivory carving, attributed to the age of Moses. In the latter collection are chairs or seats of the sixteenth century B. C. inlaid with ivory, and other pieces of the eleventh century B. C. We have already referred to the Nineveh ivories. Carving of the "precious substance" was extensively carried on at Constantinople during the middle ages. Combs, caskets, horns, boxes, etc., of carved ivory and bone, often set in precious stones, of the old Roman and Anglo-Saxon periods, are frequently found in tombs. Crucifixes and images of the Virgin and saints made in that age are often graceful and beautiful. The Chinese and Japanese are rival artists now in their peculiar minutiae and detail.—N. B. Nelson, in Appleton's Popular Science Monthly.

A New Tallow Tree.

The *Myristica surinamensis* Roland, of Guiana, and the *Myristica kombo* H. Bn., of Congo, furnish a grease resembling tallow in consistency, to which fact they owe their name of tallow trees. The tree which we wish to introduce to our readers, says the *Revue Coloniale*, does not belong to the same species nor to the same family. The tallow tree of West Africa may, indeed, be classed among the family of the guttifers, and had at first received the generic name of *Stearodendron*, for which subsequently that of *Allanblackia* was substituted.

The *Allanblackia Stuhlmannii* Engler, known in Usambara by the native name of *msambro*, is a large tree with pretty, large, fleshy flowers of a singular shape which at once attract the attention of the traveler. The fruits, which attain the size of a human head, contain a large number of seeds which are extraordinarily rich in fatty substance. According to Holst, the seeds of only four fruits furnish one kilo to one and a half kilos of grease of the spissitude of tallow. This may be used in the manufacture of candles. Quite an important trade is done in it already in Bagomoyo. The wood, of a reddish color, may be used in building, and perhaps even for cabinet making.