

Scientific American.

ESTABLISHED 1845.

MUNN & CO., Editors and Proprietors.

PUBLISHED WEEKLY AT

No. 361 BROADWAY, NEW YORK.

O. D. MUNN.

A. E. BEACH.

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 belonging to Postal Union. 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. THE ARCHITECTS AND BUILDERS EDITION OF THE SCIENTIFIC AMERICAN is a large and splendid illustrated periodical, issued monthly, containing floor plans, perspective views, and sheets of constructive details, pertaining to modern architecture.

Export Edition of the Scientific American. In 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.

NEW YORK, SATURDAY, MARCH 2, 1895.

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REPORT OF THE COMMISSIONER OF PATENTS FOR 1894.

The report of the Commissioner of Patents for the year 1894 is in some respects one of the most interesting presentations yet issued from the Patent Office. The reports of the business of the office show that there were granted 20,803 patents, including designs, while there were 38,344 applications for the same. Counting trade marks and reissues, there were 40,492 applications, 12,920 patents expired and 3,812 were forfeited for non-payment of the final fee. The total expenditures were \$1,100,047.12, and the excess of receipts over expenditures was \$87,392.46. In the Treasury of the United States there is now a balance of \$4,369,135.91 to the credit of the office.

Connecticut, with one patent to every 993 inhabitants, was the most inventive State, Massachusetts, with one patent to every 1,335, coming next. At the foot of the list is South Carolina, with one patent for every 25,581 inhabitants. Of foreign countries, England, with 689, and Germany, with 582 patents granted, head the list.

The commissioner describes the methods of the office during the year. A great effort has been made to bring business up to date, and at last it has been accomplished, so that on December 31, 1894, there were but 2,273 new applications in the office which had not been acted on, and no division was more than thirty days in arrears, either on new or on amended work. On the same day 50,507 cases were pending in the office; of these, 12,000 had been pending two years or more, 1,514 five years or more, 130 ten years, and five had been pending fifteen years.

This long pendency of applications indicates often intentional delay, the idea being in some cases to delay the issue of the patent until the art is more fully developed. To prevent this abuse the commissioner proposes to put in force after April 15, 1895, a new rule to the general effect that only six months' delay in making each amendment will be tolerated on the part of applicants, and where cases have been pending for five years or more the applicant may be required to show cause for his delay, and failing in this, his case will be subject to rejection. The last clause seems to be an echo of the Berliner telephone decision. Exactly how the six months' rule can be enforced in the light of the two year period presented by section 4,894 of the patent statutes does not appear, or is not explained in the report.

While the Berliner case is applied to the prevention of delays in prosecution, the portions of the decision touching on the administrative character of the Patent Commissioner's functions are not laid to heart. The ambition of the present commissioner is apparently, by examining all possible references, to grant patents which in a very high percentage of cases will be held valid in the courts. To make this result attainable the office is working on such references, to make what is termed the "perfect classification of this vast material," such material being the 541,571 United States patents, 864,700 foreign patents, and the printed publications of all countries. How any approach to a perfect classification of the vast body of material can be made is a problem nearly unsolvable. A special increase of appropriation of \$64,590 is asked for on behalf of this work. It is evident that there is no tendency to greater liberality in issuing patents; the tendency is in the opposite direction. In the law every man is assumed to be innocent until he is proved to be guilty—patent applications seem considered to be for invalid inventions until proved to be for valid ones.

It would be interesting to know how the business of the office has been so expedited—whether it has been by too severe a treatment of applications and by too strict an interpretation of the statutory requirements of invention and novelty. We have repeatedly maintained that the public would be better served by a liberal administration of the Patent Office. An applicant should be treated as entitled to a patent at least prima facie. The granting of an invalid patent does little harm, while the refusal to grant one which, seemingly invalid, would ultimately prove valid, may do the inventor and the community the greatest injury. The old time jurists of the United States held that the inventor was to be encouraged and fostered by the state. The pendulum, however, began to swing the other way and the Supreme Court declared many patents invalid, practically threw out reissues and gave the Patent Office every pretense for illiberal treatment of applicants for patents.

In the courts the pendulum seems to be on its return swing, and patents are again favorably adjudicated on. It is to be hoped that the Patent Office will ultimately take a more favorable view of the claims of the country's inventors. Such important and difficult topics as statutory invention, and degree of invention, and the subjects in general of the patent statutes, the "metaphysics of the law," as they have been termed, deserve adjudication in the highest and most competent courts. The Patent Office examiner presides at too low a tribunal for the determination of such intricate questions as arise in the granting of letters patent.

THE CAREER OF A CHEMIST.

Through some influences similar to the article "On the Choice of a Career," in the issue of the SCIENTIFIC AMERICAN of January 19, my father was persuaded to let me—or make me—study chemistry. I was sent to Germany and passed two years under one of the leading analytical chemists and then two years at a university, devoting my time to the study of organic chemistry. After graduating, I returned as assistant to my old teacher, and through his influence I obtained a position in one of the leading establishments in Germany. There I passed three years, one year in the laboratory and two years overseeing the work done outside.

Here I obtained a thorough knowledge of the manufacture of soda, sulphate, caustic soda, alum, the acids, bleaching powder, etc.

About this time my father concluded that my education had been completed far enough for America and called me home—home to a city of 40,000 inhabitants, in which there was not one single establishment employing the aid of chemistry, directly or indirectly. My father himself knew nothing about chemistry, excepting that he had read of the success achieved now and then by some chemist in various parts of the world. He simply expected me to discover something new and to become famous and rich in a few months.

After awhile, however, I obtained a position as chemist in one of the largest American establishments, attending to laboratory work and partly supervising the manufacturing processes.

After five years I had an opportunity to fill a better salaried position. This I accepted, and remained in my new position for four years. Then the entrance of the owner's son into the factory deprived me of my position. I have tried to obtain a new one for the last eight months, but in vain. I am conversant with the processes used in making all the leading chemicals, have made many of them myself for years, but can find no one who wants my services.

Through my training and schooling I am locked out of every other business almost. I am no bookkeeper, I know perhaps as much about pharmacy as the average druggist, yet I cannot accept a position as druggist. I cannot enter a shoe store as clerk nor can I work as stevedore along the wharves.

I cannot follow your advice, "Select a process, study it, find out its weak point, and endeavor to improve that. In this way your opportunity will come." To do this requires money, and I cannot afford to devote more money to studying out a process that may or may not bring in financial returns. I must strive to draw returns out of the knowledge I possess at present, knowledge gained at the schools and in practical work in some of the leading establishments in Germany and America, and to devote this knowledge in working out processes for my employers.

Before undertaking the study of chemistry, the student should ask himself the following two questions:

- 1. Can I, after finishing my studies, devote a certain number of years and a certain capital to farther research?
2. Must I enter the service of others after finishing my studies?

The chemist must pay more for his education than the minister, the lawyer or the physician. These last three can settle down in any village or town and gradually build up a living, according to their attainments. The chemist, however, provided he is not a man of means, finds thousands of towns and cities in the Union closed against him, because there are no chemical works in them.

If, perchance, he obtains a position as chemist in a town of any considerable size and loses it, he can do nothing else but leave the town, as it is highly improbable that there will be a suitable second opening for him there.

The chemist cannot go into any village by chance and grow up with it as the physician can; he cannot build up a practice like the lawyer, or a congregation like the theologian. He must either enter the employ of some manufacturing concern or he must start an analytical laboratory in some of the large cities, or he must have the means to enable him to devote his time to private independent research. These points must be considered in discussing the question propounded by you "On the Choice of a Career." J. G. L. Jersey City, N. J.

THE HEAVENS IN MARCH.

The celestial stage this month will present Diana playing a role in which she was once accustomed to terrify mankind. And even to-day the earth contains millions of Adam's descendants who look upon a total eclipse of the moon with awe and dread. But knowledge does not diminish the interest of such an event. It is a wonderful thing to watch the shadow of our planet creeping across the mountainous face of a globe nearly 240,000 miles away. The scale of such a phenomenon is in itself imposing to the imagination. And we like to see our shadow reaching so far; it heightens our respect for the ball that casts it. There should be