

THE CROWDED CONDITION OF THE PATENT OFFICE.

The United States Patent Office is not only self-supporting, but, according to a recent report of the commissioner, there is a balance of over \$4,000,000 to the credit of the Patent Office in the Federal Treasury. This means that the inventors of the country, as a special class, have paid to the government just so much more than the cost of examining and passing upon their applications for patents, and the issue thereof. It is this feature of the patent business, as a branch of the public service, which gives especial significance to the illustrations we to-day present, showing the crowded and congested condition of the Patent Office business.

That this is no new complaint our readers know well, but the evil is steadily growing, and it is difficult to estimate its possible consequences in thousands of instances of which the public may never hear. To say that the work of a patent examiner requires above all things a clear head, thorough deliberation, wide knowledge, and mature judgment, and that to these are to be added, in each special branch, a good acquaintance with what inventors have already done and what has become embodied in the practical work of a wide variety of industries, is to state only the simple facts. But these are by no means the limitations of the examiner's field.

The number of issued patents now mounts up to nearly half a million, to say nothing of the caveats on file and the thousands of applications for patents all the time in course of examination. It is a fundamental principle of the examiner's work that all these, with their numerous complexities and possible constructions, must be held to be at least fairly understood in taking up each new application, to see, in connection with accurately noted dates, what bearing, if any, they have upon the claims of each new petitioner for the protection afforded by a legal title upon which is stamped the seal of the United States Patent Office. And not only must these records of our own Patent Office be consulted, but the patents issued by other governments must likewise come under a similar examination, also all forms of printed records, in periodicals, books, etc. The latter are not, it is true, always held to form the same value as proof of priority or actual invention as a legally issued patent, but the examiner must have them in mind in the understanding and proper construction and possible limitation of an inventor's claims. In all this he acts, in the great majority of cases, as both judge and jury upon the petition of an applicant for a patent.

Perfect system, thorough organization, are necessities in satisfactorily conducting this vast work. Without these conditions, the best legal skill, the most comprehensive technical information, the acutest analytical brains, would lamentably fail to do anything like substantial justice to the thousands of inventors and the public. As a part of this system, all applications for inventions are classified according to their nature or subject. There are now more than two hundred classes and nearly five thousand subdivisions. Such division, involving in many cases rather a grouping and distinguishing of similar lines than a complete separation, calls for an abundance of room, not only for the orderly keeping and arrangement of the records, but for the facilitating of the work of those who have to conduct the examinations. Without such order in arrangement and convenience of access, it is not possible properly to conduct searches, make comparisons, and form reliable judgments. That the work of the Patent Office is done as well as it is, under the difficulties of the present situation, has long been a subject of admiration among those best able to judge of what is accomplished.

It requires but a glance at our illustrations to comprehend the difficulties under which the work is prosecuted. The views are from photographs made during the ordinary hours of business, and represent the everyday condition of the rooms, the latter, however, appearing larger than they really are, as a necessity in locating the camera to obtain the most essential features. The first view, in room 155, shows the department to which go all applications for patents relating to chemistry, medicines, fertilizers, photography, sugar and salt, this room being the headquarters of all the assistants in this class of work. The room of the commissioner, in the adjoining picture, appears rather larger, but is only a little more roomy than a commodious bath room, while that of the assistant commissioner, though apparently the most comfortable of all the rooms shown, is a long distance away from the chief clerk and other employees. The picture representing attorneys making searches suggests the reality of "searching for knowledge under difficulty"

in a very practical way. In picture 5 we see the headquarters of the department which has charge of civil engineering subjects, bridges, railways, masonry, excavating, hydraulic engineering, iron structures, fire escapes and ladders, etc.

The chief clerk, in view 6, is apparently among the very few favored ones as to room, and the view of room 7 shows that the desk and record cases are very compactly arranged. This room is the principal one of the department of boots and shoes, clasps, buckles and buttons, harness, hose and belting, and leather-working machinery. In room 30 are examined applications for clutches, conveyors, elevators, hoisting, journal boxes and pulleys, mechanical motors, etc. Room No. 85, shown in view 9, at the top of the page, is devoted to carriages and harness and railway supplies, view 10 showing the electricity headquarters, and view 11 that of artificial stone, lime and cement, clay and pottery, glass, paving, roofing, paper making, etc. In view 12 is shown the department of advertising, baggage, packing and storing vessels, etc., while in view 13 are builders' hardware, cutlery, dentistry, locks and latches, safes, surgery, etc., and in view 14 is seen the apartment of the examiner for acoustics, draughting, horology, measuring instruments, optics, etc. Room No. 91, shown in view 16, is devoted to electric lighting and signaling and telegraphy and telephony. One of the draughtsmen's rooms, shown in view 15, indicates that drawings can be made in such quarters only with the greatest difficulty, and this and all the other departments are in striking contrast with the



WILLIAM EDGAR SIMONDS, COMMISSIONER OF PATENTS.

ample room, perfect light and thorough ventilation afforded in the office of the *SCIENTIFIC AMERICAN*, where the work carried on in the preparation of applications for patents is of just the same kind as that prosecuted in the Patent Office at Washington.

The Patent Office examiners have no space for the orderly arrangement of their records, which must in many cases be piled up in out-of-the-way places, inconvenient of access, and therefore almost necessarily in a state of chronic confusion; the operative force is closely crowded into small, poorly ventilated compartments, where work can only be done under the greatest disadvantages, and these evils are rapidly growing worse with the augmentation of records, the increasing number of applications, and the consequent tendency to the further crowding together of the employees. It needs but a glance at the illustrations to convince one that the trouble has long since passed the acute stage.

William Edgar Simonds, the present Commissioner of Patents, was born in Collinsville, Conn., November 24, 1842. He was educated at the common and high schools of that village and also at the Connecticut State Normal School. He taught school for a year or two. In August, 1862, he enlisted as a private in the Twenty-fifth Connecticut Infantry, his brother and his stepfather, the only other male members of the family, having already enlisted for three years. He was soon made sergeant-major of the regiment, and at the battle of Irish Bend in Louisiana, on the 14th day of April, 1863, he was promoted to be a lieutenant, and was discharged from the service with his regiment in August, 1865.

He graduated from the Yale Law School in 1865, and since that time has practiced law in Hartford, Conn. In 1883 he was chairman of the Committee on Railroads in the Connecticut House of Representatives. In 1885 he was the speaker of the Connecticut House of Representatives. In 1888 he was elected a member of the Fifty-first Congress, in which body he served. While a member of the Fifty-first Congress, an international copyright bill was reported by the Judiciary Committee, debated for two days, and failed of passage by a negative majority of about forty. Mr. Simonds then redrafted the bill, adding its famous thirteenth section, and procured its favorable report to the House. On the third day of the short term he secured its passage through the House, after a vigorous fight, by a majority of about forty. By reason of parliamentary tactics and maneuvers, it had to pass the House, in one shape or another, three times subsequently, each time after a fight over it, the last passage being about two o'clock on the morning of March 4, 1891, the day on which Congress adjourned. For this service in connection with international copyright the government of France conferred upon him the Cross of the Legion of Honor. He has filled the lectureship on patent law in the Yale Law School since 1884. Yale University gave him an honorary degree at the 1890 commencement. He is the author of a "Digest of Patent Causes," a "Digest of Patent Office Decisions," a work on "Design Patents," and a small work known as a "Summary of Patent Law." His commission as Commissioner of Patents dates July 1, 1891, and he entered on the performance of the duties connected with the position on August 1, 1891.

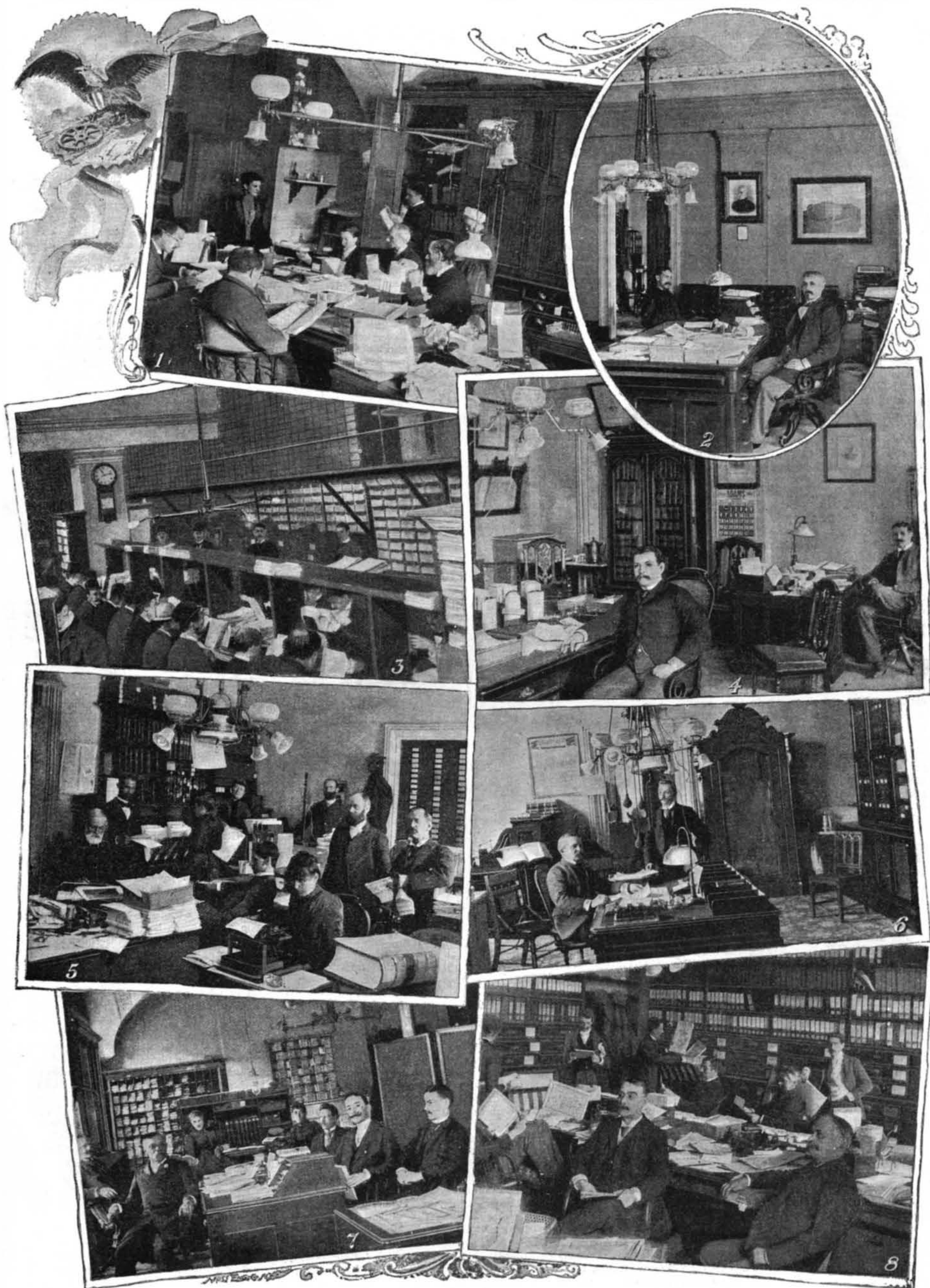
What Organ First Relapses into Slumber?

It is said by scientists to be a fact that all our senses do not slumber simultaneously, but that they fall into a happy state of insensibility one after another. The eyelids take the lead and obscure sight, the sense of taste is the next to lose its susceptibility, then follow smelling, hearing, and touch; the last named being the lightest sleeper and most easily aroused. It is curious that, although the sense of smell is one of the first to slumber, it is the last to awake. Hearing, after touch, soonest regains consciousness. Certain muscles and parts of the body begin to sleep before others. Commencing with the feet, the slumberous influence works its way gradually upward to the center of nervous action. This will explain the necessity of having the feet comfortably warm before sound sleep is possible.

Pasteurized Milk.

All methods of sterilization that are in use in this country have the disadvantage of giving to the milk the taste which is peculiar to boiled milk, and also of rendering it less easily absorbed by the body. In France and Germany a method has been adopted which accomplishes the purpose without injuring the taste of the milk. Machines are in use in Paris and some other cities which will heat great quantities of milk to a temperature of about 155° Fah. for a few minutes, and then cool it rapidly to a low temperature. The method has been called the pasteurization of milk. It does not kill all the bacteria, but it does destroy so many of them that it greatly increases the keeping properties of the milk. Moreover, it almost entirely destroys the danger from disease germs in milk, since nearly all forms likely to occur in milk are killed by this temperature. The advantage of this method is that the temperature of 155° Fah. does not give to the milk the taste of boiled milk, which most people find unpleasant, and does not render the milk difficult of digestion. These pasteurizing machines have not yet been introduced into this country, and the opportunity exists for some one to develop a thriving business by furnishing pasteurized milk in our large cities. A little experience with its superior keeping properties and a little knowledge of its great wholesomeness would soon create a demand for it in America, as it has already done in the larger cities of France and Germany.—*Prof. H. W. Conn, in Popular Science Monthly.*

A SPICY EXHIBIT.—At the great exhibition next year, a Pennsylvania firm will exhibit a map of the United States, 18 feet by 24 feet, made entirely of pickles, vegetables, fruit, etc., preserved by the company which makes the exhibit. The State lines will be accurately shown and the lakes and rivers will be represented by vinegar. The larger cities will be indicated by spices. The whole will be covered with a single piece of plate glass, which is being specially made for the purpose. The expense of this interesting exhibit of the pickling and preserving industry will be \$15,000.



No. 1. Room No. 155. Examiner J. B. Littlewood and Assistants.

No. 2. Commissioner of Patents, William E. Simonds.

No. 3. Attorneys making Searches in the Patent Office.

No. 4. Assistant Commissioner of Patents, N. L. Frothingham.

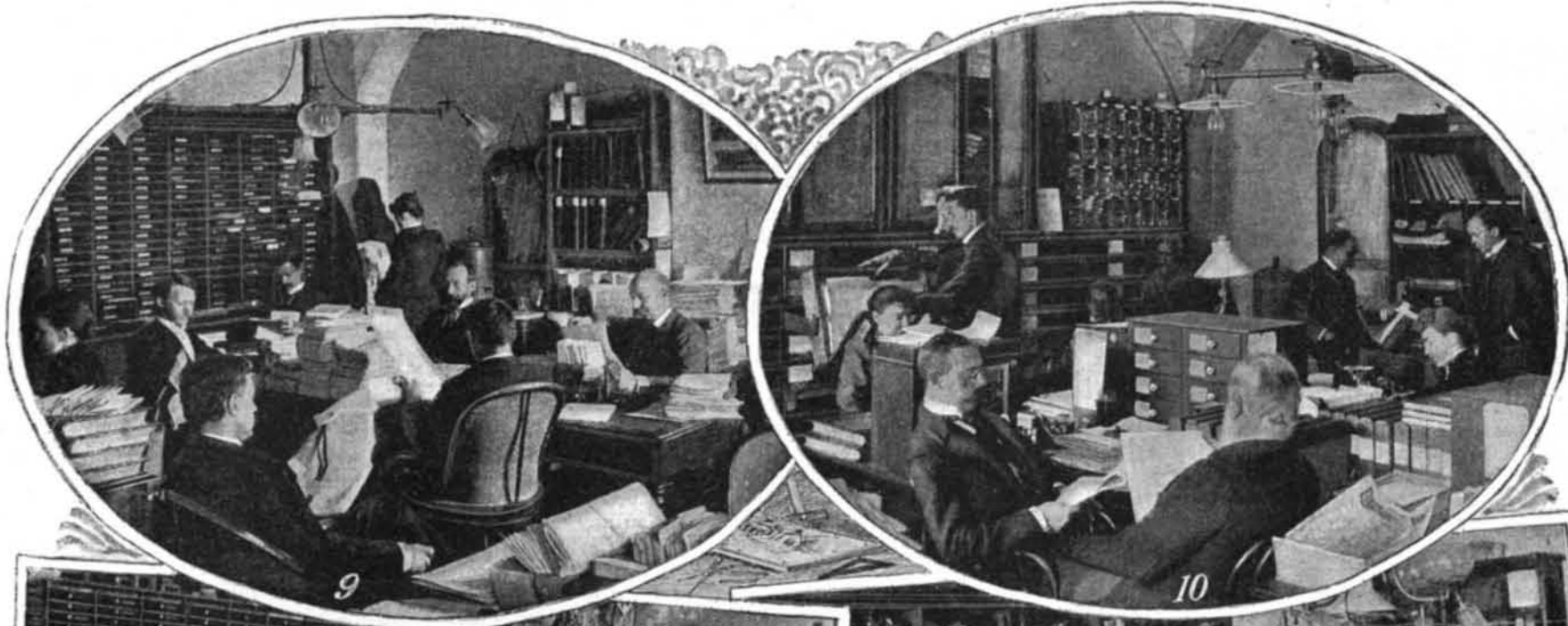
No. 5. Room No. 32, Examiner B. W. Pond and Assistants.

No. 6. Chief Clerk, Jos. L. Bennett.

No. 7. Room No. 105, Examiner Jno. D. Hyer and Assistants.

No. 8. " 30, " W. L. Aughinbaugh and Assts.

VIEWS IN THE PATENT OFFICE—SHOWING ITS CROWDED CONDITION.



No. 9. Room No. 85, Examiner H. P. Sanders and Assistants.

No. 10. " 87, " G. D. Seely " "

No. 11. " 211, " T. J. Hudson " "

No. 12. " 111, " Greely " "

No. 13. Room No. 153, Examiner A. G. Wilkinson and Assistants.

No. 14. " 221, " F. A. Seely " "

No. 15. One of the Draftsmen's Rooms.

No. 16. Room 91. Examiner G. Bissing and Assistants.

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