

Scientific American.

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Report of the Secretary of the Interior.

The annual report of the Secretary of the Interior has just made its appearance. It contains much valuable information touching the domestic relations of this government; but the portion most interesting to our readers relates to the Patent Office, and that part we accordingly annex.

The remarks of the Secretary evince, on their face, a much more fair and liberal disposition towards the Patent Office than we have hitherto supposed he ever entertained or manifested. He says that inventors are a worthy and meritorious class of citizens; thinks they ought to have the benefit of the National Gallery, &c. He glosses over with excuses his recent foray upon the premises of the Patent Office, and, having got all that he wanted, affects entire contentment from any further operations of the same sort.

We strongly suspect that the honeyed words of the Secretary are only intended to cloak some new and more dangerous assault upon the Patent Office than any he has yet ventured to assay; still, we hope we are mistaken. It is, perhaps, but fair, under the circumstances, to give him his due, and, for the time being, believe what he says. He purports to have finished all his mischief, and to be now ready to lend inventors a helping instead of an opposing hand. Let him have the chance of proving the sincerity of his professions.

He argues that the Patent Office isn't the Patent Office, because only a portion of its cost was paid out of the patent fund; therefore it was both right and proper for him to cut down its facilities and reduce its accommodations. Such reasoning is almost too absurd for refutation. As well might he say that the Capitol was not designed for the especial use of Congress, or the White House for the President. Like those edifices, the Patent Office was erected by Congress at the public expense, and set apart for an especial purpose—the transaction of patent business. By the clearest legal enactment it is devoted to this one branch of the public service, and to no other. In disregard of law the Secretaries of the Interior have converted it into an asylum for Land officers and Indian clerks.

As for the ancient and venerable Indian documents of which the Secretary speaks, we appreciate the importance of their preservation; but would it not have been better to have dug a vault in the earth and buried them safe from sight and fire?

The reasons presented by the Secretary in favor of the removal of the National Museum from the Patent Office building are sensible and strong. We hope he will continue to urge them with all the influence which his official position affords, until the change so much needed is realized. We stand ready to second his efforts in that direction by every means in our power.

We pass over the apparent self-contradiction of the Secretary in stating that his late innovation was not detrimental to the interests of the Patent Office, while in the next breath he admits, and proves conclusively that the Department is, and was laboring under great disadvantages for want of sufficient space. His arguments in favor of the removal of the Museum apply, with equal force, against all extraneous concerns existing in the building. The Land Office and Indian Bureau, for example, to use his own expression, have "no connection whatever with the Patent Office, and may as well, therefore, be placed elsewhere."

But these last changes we shall not now insist upon, it being agreed and understood that, for the future, the Secretary will behave himself properly, in regard to the Patent Office; that he will not absorb any more of its space; that he will use his best endeavors to ship off the Museum, and put the Commissioner of Patents in possession of that beautiful room, 260 feet long, and 62 feet 6 inches wide; that he will go ahead with the north wing and build it with a portico, never minding the expense; that he will henceforth and for ever

labor hard to benefit inventors, and through them and the Constitution, to advance the prosperity of his country.

SECRETARY OF THE INTERIOR'S REPORT ON THE PATENT OFFICE—"The reorganization of the Patent Office has been perfected, and its good effect already sensibly experienced.

"Several important amendments to the patent laws were suggested by the Commissioner of Patents, in his last report, which are necessary to the more efficient action of the Bureau, and are in themselves reasonable and entirely unobjectionable.

"Since the 1st of January last there have been issued upward of eighteen hundred patents, and within the year the number will probably reach two thousand. This is the result of the judicious and excellent system that has been adopted, and which enables the office promptly to examine and dispose of every application that is presented.

"Several of the rooms in the basement story of the Patent Office building are occupied by the Indian Bureau. Previously, it was in a building not fire-proof, and much exposed to conflagration. I did not feel justified in keeping in constant jeopardy its records, files, and papers, of such immense value and importance, the loss of which would be irreparable, both in a historical and pecuniary point of view. Experience has already taught its folly, and the lesson should not be disregarded.

"Before directing the change to be made, I satisfied myself that, although it might put a few of the clerks of the Patent Office to some inconvenience, it would not materially interfere with their labors, nor essentially, with a correct and efficient discharge of their duties.

"By some it is contended that the entire building should be exclusively appropriated to the use of the Patent Office, and to this, under any other than extraordinary circumstances, I should cheerfully assent. But when I look at the fact that the entire structure, so far as completed, has cost some sixteen hundred thousand dollars, of which \$1,279,700 has been drawn from the Treasury, and only \$320,300 from the patent fund, and that it was impossible to secure for the Indian Bureau such a building as its necessity demanded, I could find no plausible pretext for hazarding millions of the public property, more especially when it was evident it was not absolutely necessary to the full and proper execution of the patent laws, and would not, to any great extent, incommode the Patent Office.

It will require a further appropriation to complete the west wing of the Patent Office building. The east wing cost \$607,700. Owing to the declivity of the grade an additional story was required in the west wing. It was found necessary, so as to construct its basement, sub-basement, and principal story, that each might be converted into one large room when the requirements of the Patent Office demand it. To accomplish this object, marble and granite piers and architraves have been introduced, which are not in the corresponding stories of the east wing. These and other additions have cost about \$100,000, and yet the whole expenditure will not exceed that of the east wing.

"The north part of the building should be commenced. The estimated cost is \$450,000, without a portico. A partial estimate for its construction has been submitted.

"There is a large room in the Patent Office designated the National Gallery, which is not used for any practical purposes. It has been made the depository of the curiosities of the exploring and other expeditions, and of other rare articles worthy of preservation. If they could be removed to a more suitable place, it would be very advantageous to the Patent Office. This room is one of the largest in the building, being two hundred and sixty feet long and sixty-two feet six inches wide, and the cases it contains, as I am informed, cost some thirty thousand dollars, drawn from the patent fund. The annual charge of the Government for merely taking care of and superintending it is \$3180. The room is required for the proper disposal and exhibition of rejected models, for which it is so well calculated, and was probably designed. The Commissioner could then determine which of the models could be treated as useless, and which placed on exhibition, and thus would be brought to light a

set of models never seen by the public, of scarcely less importance than those now so well exhibited in the cabinets of models of patented inventions. This would be a great acquisition to inventors, one of the most meritorious and deserving classes of our citizens.

"The collection in the gallery—a very curious, interesting, and instructive one, is constantly open to, and attracts large numbers of visitors, which, in itself, is very proper; but when taken in connection with the secrecy and seclusion to which the inventions and discoveries are entitled, whilst under examination, it becomes a privilege of doubtful propriety, calculated, as it is, to disturb the employees of the Patent Office in their business, and to affect in some instances the interests of the inventors. The collection has no connection whatever with the Patent Office; and may as well, therefore, be placed elsewhere.

The appropriations for agricultural purposes have been usefully and judiciously applied. The seeds were well selected and distributed, and, from all the information received, the most beneficial results are anticipated.

Award of the Scientific American Prizes.

The pleasing duty once more devolves upon us of awarding our annual series of prizes to those friends who have most successfully labored to extend the circulation of the SCIENTIFIC AMERICAN. We annex a list of the names and residences of the fortunate competitors, together with the number of subscribers obtained by each, and the amount of prize money now their *rae*. The sums to which they are respectively entitled are ready for payment, and will be handed over, in gold or any other currency more desired, whenever called for. Sight drafts from those who cannot make it convenient to call or send by messenger will be duly honored.

No.	Name.	Residence.	Prize List
I.	J. CANT,	Hamilton, C. W.	\$100 172
II.	M. M. GREEN,	Louisville Ky.	\$75 132
III.	J. F. LOVECRAFT,	Rochester, N. Y.	\$65 94
IV.	W. C. GRANT,	Detroit Mich.	\$55 82
V.	J. L. MITCHELL,	Jackson, Mich.	\$50 75
VI.	J. L. DICKINSON,	Dubuque, Iowa.	\$45 71
VII.	G. C. HYATT,	Adrian, Mich.	\$40 66
VIII.	J. S. BARBER,	Waukegan, Ill.	\$35 61
IX.	JNO. GARST,	Dayton, Ohio.	\$30 55
X.	H. S. BABBITT,	Newark, Ohio.	\$25 46
XI.	C. BIERSTADT,	So' Dedham, Mass.	\$20 45
XII.	J. LYMAN,	Quincy, Ill.	\$15 45
XIII.	B. RANKIN,	Louisville, Ky.	\$10 45
XIV.	R. SKINNER,	Princeton, Ind.	\$5 45

It will be observed that the number of subscribers furnished by the last four individuals on the list are exactly the same, viz.: 45.—They are each, consequently, equally entitled to the highest of these four prizes, but for the sake of filling out the list, we have voluntarily placed their names in the order seen. These gentlemen must either make an equal division of the gross sum of the four prizes, to wit, \$50, which will give them each \$12-50, or some further time must be given them to obtain more subscribers, and so enter a limited competition for the choice. We should prefer to have them try to increase their lists, and for that purpose suggest that the time be extended to the 15th of February. It is a matter that they must settle among themselves; we recommend them to correspond together upon the subject, without delay, and notify us of their verdict.

The competition for these prizes has been thrown open to all alike. It is a remarkable fact that "Young America" has been completely distanced by Canada,—the first time we believe, that such a thing was ever known. It speaks well for the enterprize and intelligence of our vigorous neighbors of the North. Throughout the whole domain of Canada the SCIENTIFIC AMERICAN passes free of postage, although we are obliged to pre-pay 26 cents per annum on each subscriber, to pass them to the line. A wise enactment of the Canadian Parliament provides that all publications of a scientific and useful nature, shall go free, no matter where they come from.

The good effects of this law are being sensibly felt. The circulation of valuable publications in Canada has wonderfully increased since the passage of the act, now about three years since, and, as a consequence, the people are beginning to make rapid strides in knowledge and enterprise. It may be well

for our own legislators to consider the propriety of establishing similar postal reforms.

To all who have lent their aid in endeavoring to promote the prosperity of our journal during the late canvass, we return our sincerest thanks. Whether they have taken prizes or not, one thing is certain, their labors have not been thrown away; they have worked for a good purpose—nothing less than the diffusion of useful knowledge—and they have accomplished noble results. Thousands of new readers are added to the SCIENTIFIC AMERICAN host. With the highest wishes for their success and advancement, we wish them all a "Happy New Year," and remain, as ever, their friends to command.

The Quality of American Wool.

The statement has been propagated far and wide that American wool is unfit to give that beautiful finish required for broadcloth of the best quality. It has been stated that our wools were longer in the staple than the foreign kinds, and were excellent for making strong warps, but did not possess the necessary felting property requisite for fine cloth, and for this reason a little foreign wool was necessary.—H. C. Merriam, in the last number of the *Country Gentleman*, scatters all such assertions to the winds, and proves conclusively that American wool surpasses all foreign wools for its felting properties, and for making beautiful broad cloth—light or heavy. He states that American grown wool and fine wool from Saxony have been tested, and the palm awarded to the former. The finest Saxony wool obtained from Hungary contained only 2400 serrations to the inch, while wool obtained from samples of American flocks contained 2552 serrations to the inch.

Water Descending and Hot Air Ascending.

A stream of water descending through the air tapers downwards, and at a certain depth divides into drops, because each particle falls with accelerated velocity, and at length (when it has overcome their cohesion) leaves the other particles behind it. But, when the stream is inclosed in a tube, this separation of its parts is prevented by the atmospheric pressure above and below keeping them together, and forcing the whole stream to flow with equal velocity; the lower part dragging the upper after it, while the upper (by its inertia) equally retards the lower, so that they move together with the mean of their natural velocities; and the discharge is, of course, more rapid than if there were no tube, and will be faster the longer the tube. Now, as the same is true of a stream of light fluid ascending through a heavier, this explains why the draught of a furnace depends on the height of the chimney.

Back Numbers Volume 11.

The demand for back numbers of the SCIENTIFIC AMERICAN on this volume has been so much greater than we calculated for, that we can no longer furnish complete sets.

Of the 17 numbers issued, however, we can supply all except Nos. 6, 12, and 15. It is not probable that even this stock will long remain on hand. Those, therefore, who desire to obtain such back numbers as we have, should make early application.

Railroad Collision.

A terrible accident took place on the Ohio and Pennsylvania Railroad, near Darlington Pa., on the 31st ult., by which four persons were instantaneously killed, and eighteen severely wounded. It was caused by the collision of an express and a freight train in turning a curve. When will all our railroads be compelled to have double tracks?

Extinguishing a Burning Coal Mine.

The Pottville *Miner's Journal* states that efforts are being made to extinguish the fire in the Tamaqua coal mine, which has been on fire for some time. The method of extinguishing it is the same as that used in England, viz.: injecting steam and carbonic acid gas into the mine, then closing all the open spaces by which air has found an entrance.

The average duration of life in France is 36 1-2 years, in England it is 38 years; this is the highest of any country in Europe.