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CONGRESSIONAL INQUIRIES CONCERNING THE PATENT OFFICE.

We have had occasion to speak of the crowded condition of the Patent Office, and the resulting delays in reaching results in the prosecution of work. The matter has assumed serious proportions, and it is no longer delay in carrying on the regular operations that is to be apprehended, but a suspension of important parts of work seems imminent.

The subject has been brought to the attention of Congress, and two Senate resolutions have been passed, one asking for an account of all money received by the Patent Office and of the disposition made of it; the other inquiring as to the safety and sanitary condition of the building. In compliance with these resolutions reports have been rendered by the Commissioner of Patents which cast a strong light on the neglect with which the interests of inventors have been treated in this country.

One report shows that there is a balance of \$4,041,753.10 to the credit of the Patent Office. This balance is now in the Federal treasury. By Act of Congress of July 28, 1868, the money received from the Patent Office was no longer kept separate, but was included with the other amounts from all sources. The office, however, has kept an account of all such money transmitted. Of this money \$358,000 has been appropriated for building purposes, although only a portion was expended. In addition a little over \$250,000 has been expended upon the office for work of more or less permanent character.

The other report shows that the portion of the building allotted to the Patent Office is quite insufficient for its purposes. The storage of printed copies of patents is inadequately provided for. They have to be stowed away in all sorts of places, any attempt at consecutive order having been abandoned as impossible. The brickwork in places has cracked under the immense weight of the printed copies. It is said that a special training in the geography of the place is requisite to enable a new clerk or messenger to know where to find copies of patents. The sanitary condition is also reported as very bad. Bad plumbing and insufficient cubic contents of the rooms, with inadequate ventilation, not only threaten, but undoubtedly affect seriously, the health of the employees of the office.

The Patent Office should not be conducted as a business speculation. It should be managed in the interest of the inventors of the country. The four millions of dollars credited to it, or a liberal portion thereof, should be expended on perfecting its service. At present, with this amount to its credit in the U. S. Treasury, the Patent Office is hampered for want of funds, its corps of examiners are rendered incapable of doing justice to themselves or to their work, simply on account of their unfavorable surroundings, and what is to be done in the near future to provide storage for printed copies of patents is altogether problematical.

The Hon. Commissioner of Patents is to be congratulated on having brought this subject before Congress, and it is to be hoped that his efforts in the service of the country's inventors will be well seconded by legislative action.

RECENT LYMPH TESTS AND EXAMINATIONS FOR TUBERCULAR DISEASE IN CATTLE.

An expensive but scientifically valuable series of experiments was made on March 16 at Clairemont Farms, near Philadelphia, when six high-bred Jersey cows were sacrificed by their owner, Mr. Joseph E. Gillingham, in the interest of sanitary science. Out of a large herd of valuable Jerseys, all of known and registered lineage, a herd that is famous among American cattle breeders, over a score had been selected for slaughter on account of the presence in them of tubercular disease. The presence of this dread malady was made known by the use of Koch's lymph used in the way now familiar to all. Out of seventy-nine head of cattle, thirty had responded to the treatment in such a way as to convince Professor Leonard Pearson, of the Veterinary Department of the University of Pennsylvania, that tubercular taint was present.

The killing of these very valuable animals was a voluntary sacrifice on the part of Mr. Gillingham, for while the State and local sanitary officers and inspectors were present by his invitation, no action had been taken that made the slaughter obligatory upon him. It was entirely in the interests of the continued health of the rest of his herd that they were now sacrificed, and in the interest of a better acquaintance with this disease that over a hundred prominent scientific men and others likely to be interested in these researches were specially invited to be present.

In this herd the purity of the stock has been maintained by the use of all the leading Jersey strains. Such blood as comes from Coomassie, Stoke-Pogis, Rieter, Guildroy and St. Lambert sires is here, yet, notwithstanding the greatest care having been taken, in some way many of the herd have become tuberculous; this it is thought was brought about by the recent introduction into the herd of some imported cows. Be this as it may, when not long since several

of them became sick they were killed, and an examination showed them to have been suffering with tubercular disease. Mr. Gillingham at once decided that all the herd should be carefully examined by Professor Pearson, with the results above stated.

Having discovered so large a proportion of diseased cattle, 38 per cent of the entire herd, and reasoning that what could so soon come to pass under the most careful management was likely to spring up elsewhere under like conditions, the occasion was made by him one of public education. Professor Pearson and Drs. Shakespeare, Guiteras and Abbott were selected as a committee to examine the animals slaughtered and report to the assemblage. Among the latter were representatives of the State Board of Agriculture, the State Board of Health, the University of Pennsylvania, Jefferson Medical College, the National Bureau of Animal Industry and many prominent medical men from Philadelphia and elsewhere.

Owing to the time taken in making examinations that were entirely satisfactory to the experts present, only six of the doomed animals were killed; the rest will be killed later in a more private manner, when only those most intimately connected with the cause of sanitary science will be present. The killing of five of these was done by Dr. S. J. Harger, professor of anatomy in the University of Pennsylvania, by a method technically known as "pithing." This is virtually the usual death stroke dealt by Spanish toreadors in the bull fights of that country. It consists of quickly piercing the back of the neck with a stout dagger, which is passed directly through the spinal cord at the base of the brain, and results in death so instantaneously that only the natural reflex actions of the muscles are noticeable. The other cow was killed by Rabbi Isaac Stemple, according to the Hebrew rite, the jugular vein being severed by a mighty blow from a ponderous knife.

Of the six slaughtered animals, the following statistics were gleaned from the experts and the head herdsman:

Name.	Age.	Strain.	Effect of the injection of the lymph.		Location of tubercles.
			Temperature before.	Temperature after.	
Juno.....	4 yrs.	Gloucester	102	108	Slight in intestines.
Lea.....	4 "	Clairemont	102	106	Lymphatic glands.
Steen.....	2 "	Clairemont	101	106	" " "
Sylvia.....	4 "	"	102	107	Large on the lungs.
Phyllis.....	3 "	"	102	107	" " "
Pity.....	3 "	"	101	106	" " "

After the autopsies Dr. Guiteras announced that in five of the cows there were indisputable evidences of tubercular derangement, and that as some doubt appeared to exist as to the other (Juno) a fuller examination would be made by the committee. It was generally conceded, however, in after conversation that well formed tubercles were found on her intestines. None of the doomed cows or calves are valued at less than \$150, and among them Rose, valued at \$1,000, who gives 43 pounds of milk daily, is yet to die.

In a spacious stall near by was Amber Stoke-Pogis, an inbred bull, out of Waiter Girl by St. Lambert. This noble animal, though only six years old, weighs 1,700 lb.; his sire has twenty-seven daughters on the tested list, and is now practically the greatest of his breed now living. Beyond this stall was that of Signal, sired by Amber Stoke-Pogis out of Rose; though a beautiful little fellow outwardly, showing every sign of health and coming great value, he too is doomed, for the lymph has shown that from his dam he has inherited the tubercular taint.

Low Temperature Galvanizing.

The London Metallurgical Company are introducing a new process of galvanizing, which seems to have several advantages over the older process. The process appears to be one in which zinc is deposited from its solution in the cold on the wire or sheeting to be coated, and the inventors claim that in this way a more even and uniform thin coating of the protective metal is obtainable, while at the same time, in the case of wire, the tensile strength is not diminished, as occurs when thin iron or steel wires are galvanized by the common methods of steeping in molten zinc. At the ordinary temperature, too, there is no appreciable tendency to form a zinc-iron alloy, which causes a considerable waste of zinc in addition to the reduction of strength already pointed out, and may be regarded as a further defect in the present system. Comparative tests on the hardness of the coating on iron sheeting by means of the sclerometer also show that a plate galvanized by this process has a harder surface than that obtained by the ordinary hot method of galvanizing.