

THE DUTIES OF THE COMMISSIONER OF PATENTS AND THE SUPERVISING POWERS OF THE SECRETARY OF THE INTERIOR.

SARGENT'S CASE.

Our readers will remember our notes on Sargent's case published in a previous issue: how, pending Sargent's application for letters patent for "an improvement in time locks," five interfering applications by as many different parties were filed; how each interference was decided in favor of Sargent; how one of these interfering applicants, namely, John Burge, filed a bill in equity in the Supreme Court of the District of Columbia, against Sargent, praying that the former might be adjudged entitled to a patent for the invention which had been the subject of the said interference; how the Commissioner of Patents, on application of Burge, suspended the issue of a patent to Sargent, until the final determination of the said equity suit commenced by Burge; and how the Secretary of the Interior, on the application of Sargent, reversed this order of the Commissioner. We are now enabled to lay before our readers the reasons upon which the decision of the Secretary of the Interior was based. These may be briefly stated as follows:

As an executive officer, the Commissioner of Patents has the authority to exercise such powers and functions as are conferred upon him by the statutes creating his office and defining his duties, together with those which may be prescribed in the rules and regulations adopted, with the approval of the Secretary of the Interior, to facilitate the business of the Patent Office. These duties are in part quasi-judicial, and in part administrative, or ministerial and directory. In the discharge of his judicial duties, the Commissioner is to hear and determine the rights of the parties within the statute, governed by the same rules as a court. In the discharge of his administrative duties, whether of a ministerial or directory character, the law must be executed according to the letter and intent.

Letters patent for an invention are not to issue until the right thereto is clearly established, in accordance with the law and the rules and regulations of the Patent Office; but when this is done, and all of the conditions and requirements of the law, as well as the rules and regulations of the Office, have been fully complied with, they cannot be withheld. The duty of the Commissioner in this respect is clearly and explicitly defined in Section 4,893 of the Revised Statutes. If the applicant is adjudged to be entitled to a patent for the invention claimed, and has fully complied with the law and the rules and regulations of the Patent Office, in the payment of fees, etc., he is entitled to demand that the patent shall issue to him, and there is no right, legal or otherwise, which will justify withholding it. If there be an interfering claim, then it cannot be said that the applicant is "justly entitled" to a patent, until the issue raised by the interference is determined, in accordance with law and the regulations governing the Patent Office, although such applicant may have made an important invention and discovery, and would otherwise be entitled; but if after a fair consideration of such interfering claim, it be decided that he is entitled to a patent, his right is unchanged, and he may demand that the patent issue. This right is not affected by the words "may issue," in Section 4,904 of the Revised Statutes, which prescribes the course of procedure whenever an interfering application is filed; for the well settled construction of the word "may" in similar statutes is that it is the equivalent of "shall." Nor does the provision in Section 4,915 of the Revised Statutes, providing a remedy for the defeated applicant by bill in equity to establish his right to a patent for the invention claimed, authorize the Commissioner to withhold the issue of a patent, merely on the ground that a decision final in its character in one of the departments of the government should be held in abeyance to await the determination of the same question in a co-ordinate department of the government. Burge's suit in equity is a proceeding *de novo*, and is in no sense an appeal from the Commissioner's decision.

The above grounds, and the fact that all the interfering contests were decided in Sargent's favor, the Secretary of the Interior believes, warrants him in concluding that, at the time of making the order of suspension, there was no legal reason why the patent should not have been issued, and that there was no duty to be performed by the Commissioner except the ministerial duty of preparing and issuing the patent, and that in the performance of those duties the statute was mandatory.

In this view of the case, it became important to know what the duty of the Secretary of the Interior was in the premises. Had he the legal right to direct the Commissioner to issue a patent to Mr. Sargent? The Secretary of the Interior is satisfied that he has such a right. In the first place he is charged, by Section 441 of the Revised Statutes, with the supervision of certain branches of the public business, among which is "patents for inventions." By Section 481, it is provided that the Commissioner of Patents, under the direction of the Secretary of the Interior, "shall superintend or perform all duties respecting the granting and issuing of patents directed by law." Section 4,883 provides that "all patents shall be issued in the name of the United States of America, under the seal of the Patent Office, and shall be signed by the Secretary of the Interior, and countersigned by the Commissioner of Patents." The Secretary of the Interior is led to the conclusion that the supervision and direction with which he is charged means something more than an approval of the act of the Commissioner of Patents. That the responsibility of seeing that

the work is properly done by the Commissioner of Patents is with the Secretary of the Interior; and that this duty of the latter relates to the negative as well as affirmative acts of the former. Thus, if the Commissioner neglects or refuses to perform any duty required by law to be performed by him under the direction of the Secretary of the Interior, or performs a ministerial or administrative duty improperly, the Secretary of the Interior, by virtue of his supervisory power, may direct him in its performance; for, to be charged with the responsibility of the supervision and direction of any kind of work or business, by law, and not be able to require that it shall be in accordance with the law, would be anomalous indeed.

In accordance with these views, the Secretary of the Interior directed the Commissioner of Patents to prepare and issue the letters patent for said invention to Mr. Sargent.

INFLUENCE OF THE SPINAL CORD ON BODILY TEMPERATURE.

Since the thermometer has been brought into active use as a clinical aid, numerous instances of unusual and surprising variations in bodily temperature have been recorded which could be ascribed to no other cause than a lesion of the nervous centers. No generally accepted theory explaining the phenomena is in existence; but it is at least conceded that of all the regions of the nervous system the spinal cord seems to play the chief part in these anomalous variations in animal heat. Some new investigations into the subject have recently been made by M. Parinaud of Paris, an account of which we find in the *Lancet*. He states that he was led to the inquiry by observing, in a case of fatal epileptiform convulsions, that the rise in temperature which occurred *pari passu* with the fits did not cease with the cessation of the fits, but continued to mount till death, which occurred six hours later, when it reached 108° F., and soon after death 110°. The experiments were made upon rabbits, and the results reached were that transverse sections of the spinal cord in the cervical or dorsal region led to a fall in the central temperature of the body, even when the surrounding air attained a heat of from 82.4° Fah. to 86° Fah. This lowering of the central temperature appeared to be due to the cooling of the paralyzed parts, the deep temperature of which remained during the whole experiment at a lower level than in the regions still under the influence of the spinal cord. But in the paralyzed parts there was a rise in the surface temperature of the extremities, probably owing to transient vaso-motor paralysis, as it passed away in time and depended for its degree upon the initial temperature of the skin and surrounding atmosphere.

M. Parinaud states his belief that the spinal cord influences animal heat by means of nerves distinct from the vaso-motor system, and which he imagines may have an action quite contrary to that set of nerves. At the same time, says the *Lancet*, he does not think it necessary to invent a distinct system of calorific nerves, but believes those nerves to be sufficient which regulate the processes of nutrition and secretion, of which calorification is simply the physico-chemical result.

AMATEUR OBSERVATIONS OF THE NOVEMBER METEORS.

On the 13th and 14th days of November, the earth makes its annual passage through the second of the great meteor belts which intersect its orbit. The thickness of this belt at its thickest part is estimated by Professor Proctor at some 100,000 miles, and it is supposed that the denser portion of the system or "gem of the meteor ring" contains at least one hundred thousand million meteors. These however, Herschel has calculated to be extremely small, rarely exceeding a few ounces in weight. It has further been determined that the November meteors mostly radiate from the constellation *Leo*, and the aphelion of their orbit is somewhat beyond the planet Uranus.

Late investigations have pointed to the identity of the orbit of some of the comets with the orbits of different groups of meteors. The path of the meteors, for example, which are usually seen from August 9 to 14, coincides with that of the bright comet of 1862, and both Peters and Schiaparelli independently discovered some time ago that Tempel's comet of 1866—a body visible only with the telescope—has elements which may be regarded as absolutely identical with those of the November belt. It is not definitely known however, what connection exists between the comets and the meteors, though it appears that the latter have paths as eccentric as those of the cometic orbits, and hence it is deduced that the earth encounters no less than 56 meteor systems, thus affording proof that the total number of these systems in the universe must be estimated by billions.

It will readily be seen that a knowledge of the elements of the paths described by the meteors is of considerable astronomical importance. While, as already stated, the general direction or radiation is from the constellation *Leo*, it has been observed that often on the same night many distinct centers of radiation may be traced. It is by the determination of these centers that the elements above referred to may be calculated. Then by comparing the results with the elements of the orbits of known comets, it becomes possible to discover which comets, by rupture, according to one theory, probably gave rise to the various groups of shooting stars. Hence observations made with the naked eye, which fix the exact point in the heavens whence the meteors appear to radiate, may prove of value.

It is necessary first to note the region of the heavens

whence the meteors appear, and then to observe specially those bodies which seem to have the shortest trajectories. These will, of course, be the ones nearest the center of radiation, and in this way the location of the latter can be quite accurately determined. Look also for a pale light something similar to the aurora, which is often present about the radiating point. It is also useful to note the color and brilliancy of the meteors. The latter may be estimated by comparison with Jupiter and Venus, the brilliancy of these planets being taken as the maximum. If the meteors leave a trail behind them, note the fact, and also observe how long the trail remains visible after the star disappears, also whether it has any backward motion. A field glass may be advantageously employed to recognize any special peculiarities of the trail. These observations, if carefully made, will be acceptable at any astronomical observatory. Meteors also appear from the 27th to the 29th of November, and from the 6th to 13th of December, but not in such numbers as upon the above-mentioned dates.

ANOTHER TRAVELING EXPEDITION.

A scheme has been started in England which differs from the Woodruff scientific expedition in that, while the latter subscribers pay \$2,500 and travel themselves while somebody else makes money, in the other they pay \$500 and don't go, but then they make the money out of other people who do. The name of the concern is "The Hadjick or Pilgrimage to Mecca, Syndicate, Limited," and its object is the benevolent purpose of transporting devout Mahometans to the aforesaid holy city. There is a glowing prospectus, picturing the delights of the trip, which estimates that at least 170,000 pilgrims will go to Mecca this year, and if each one of these can be made to come back under the company's auspices at an average of 35 dollars per head, this "would place at the disposal of the syndicate a gross sum of nearly six million dollars," of which one million seven hundred thousand will be clear profit plus also gains by freight, etc. There are only 100 shares at \$500 each, and consequently it appears for investing the above sum, the subscriber is going to make at least \$17,000. Our British cousins evidently know more than we do regarding the financing of traveling expeditions.

IMITATION TERRA COTTA.

The *Magasin Pittoresque* gives the following original recipe by which it is stated plaster casts may be made to imitate terra cotta ware with great fidelity. The following colors are necessary, brick red, lamp black, zinc white, and yellow ochre, all in powder. The object to be treated is first carefully rubbed over with "00" sand paper so as to remove all roughness of the surface or ridges indicating where the parts of the mould have been joined. The mixed color consists of yellow ochre 2 parts, brick red 2 parts, and black 1 part. These are well rubbed together. Then 3 parts of zinc white are separately mixed with a little milk to a paste. All the ingredients are then combined in a mortar with 8 or 10 parts of milk and the resulting mixture is passed through a fine sieve to remove any particles of the white. A soft brush is then used to spread the stain over the object, care being taken to lay it on evenly. After 24 hours drying a second coat is applied. When the article is completely dry, rubbing with the finger will eliminate brush marks.

Russian Remedy for Hydrophobia.

A correspondent in *Land and Water* gives the following Russian remedy for hydrophobia: In Saraton the inhabitants collect the larva of the rose beetle (*Cetonia aurata*) which are chiefly found in the wood ants' nests. The grubs are gathered in the spring, placed in earth, and their change or metamorphosis watched for. When this takes place, they kill the beetles and dry them. The powdered insect must be kept in hermetically sealed bottles, or the dried beetles may be kept in sealed pots and reduced to powder when wanted. Three beetles, powdered, is considered a dose for an adult, given immediately after the bite. One for a child and five for an adult in which the disease has declared itself. The effect is to produce a long sleep, which must not be interrupted. The bite is also treated surgically.

The beetles caught on flowers are not so beneficial; they must be secured in the larva stage, and killed directly after they attain the imago. Some of the Russians give their dogs occasionally half a beetle as a preventive.

Ancient Mode of Moving Large Stones.

M. Eugene Robert, having found in the neighborhood of a Keltic dolmen in France a ball-shaped mass of sandstone about a foot in diameter, suggests that it might, with other stones shaped like it, have been used as a roller to facilitate moving the immense masses of rock wherewith the ancients constructed their monuments. He thinks that by this means the large granite rock which supports the equestrian statue of Peter the Great in St. Petersburg, was brought from Finland.

DEATH FROM CHLOROFORM AVERTED.—A correspondent of the *British Medical Journal* communicates the interesting observation, that in a case of syncope during the administration of chloroform, where the usual treatment was without effect, and death seemed imminent, the application of some lint saturated with nitrite of amyl to the nostrils was followed almost immediately by restoration of the pulse, and the subsequent recovery of the patient.