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THE VICTIMIZING OF INVENTORS.

The class of inventors has been selected by the framers of our Constitution and laws as one specially worthy of protection. The patent statutes are based on a clause of the Constitution especially providing for their encouragement, and the courts of the United States have devoted many sessions to adjudication of patent cases, the simple procuring of letters patent putting the humblest inventor in position to appeal to the highest class of Federal tribunals for the determination of his rights. The old time opinions of the judges in these cases are agreeable reading. They take the ground that the inventor requires special guardianship in his rights, the fact being recognized that the man of creative genius is often impracticable in business matters.

Unfortunately, there is another class of men who have adopted this opinion concerning inventors, and who try their best to exploit the community of patentees for their own benefit and to the accompanying detriment of their clientage. When letters patent are awarded, the drawings and claims of the patent and the inventor's name are published in the Official Gazette of the United States Patent Office. This appeals at once to a large number of sharks, calling themselves "patent agents," who see in the inventor a possible source of revenue. As soon as his patent is issued the inventor therefore begins to receive letters from various self-extolled concerns, recommending him to do various things, to apply for foreign patents, or to permit the correspondents to act as his agents for the sale of his patent on commission.

Many of these letters and circulars contain statements that are absolutely fraudulent. The inventor, for example, will be urged to apply for foreign patents in England, France and Germany and other countries, when the agent is perfectly well aware that after the patent has issued in the United States and been published in the Patent Office Gazette, valid patents cannot be procured in those countries, except under the international convention, which he is seldom able to avail himself of. The patent shark relies upon the ignorance of this fact on the part of the inventor to protect him in his nefarious traffic. He is also protected from detection by the fact that in many foreign countries there is no examination as to novelty, and, in due course, and after the payment of the government fees, the patent will issue and he will be provided with the letters patent certificate to present to his "client," who sleeps in blissful ignorance of the fact that the documents are not worth the paper they are printed on. In many cases the fees upon examination will be found to be phenomenally low and the inventor will snap at what seems to him a bargain, simply to find that in Germany, perhaps, he has procured a Gebrauchsmuster, or model of utility patent, instead of a patent; or in Canada, he may be led to believe that he has procured a declaration of intention, which affords no true protection.

It is after an inventor is enticed into correspondence with such firms that his troubles begin. He is probably told that his patent has been examined and found valuable, that otherwise the correspondence would never have been initiated. Perhaps he is told that the correspondent is the American representative of an "International bureau for procuring patents, with main offices in all the principal capitals of Europe," and that the foreign office has examined the patent, and has found it peculiarly well adapted for the old world.

The inventor, almost of necessity of sanguine temperament, has his hopes easily raised. His probably rather exalted idea of the merits of his invention is still further increased, and he is induced to put himself in the hands of the firm. He is then exploited to the best of the practiced ability of the "firm." He is advised to engage them as patent agents for foreign patents, and perhaps he is told that they have a purchaser for the patent, provided the inventor will take out a certain number of foreign patents. He is exhorted to invest capital if he has it, if not, to get money from his friends and to organize a company. Perhaps an alleged sale of his patent or of partial rights in it will be made and a check conveniently dated a month or more in advance will be shown him—a check which, of course, is never collected. These are no fancy sketches—precisely such lines of action are followed by numerous concerns. It has even gone so far that a similarity of name has been used to dishonestly impress the inventor with the idea that he is dealing with a firm of reputation.

The conservative patent agent who will give honest advice as to the patentability of an invention, but who will long hesitate before either approving or condemning its practical utility, and the probability of its success, is the one who can be trusted to conduct the business properly. The agent who has no conscience will urge the inventor to apply for a patent, even though he is aware that the device is not patentable.

The public is the final judge of the merit of inventions—directly or indirectly their value is settled at that tribunal—and the value of a patent can rarely be

predicted with certainty. Every patent has to stand on its own merits; its exploiting must depend on the ground it covers, for a different clientele is to be reached by each invention.

The remedy for this state of things is simplicity itself: it is to be careful with whom you deal. The issuing of circulars tending to inflate the hopes of patentees is in itself a bad sign, as far as the standing of the firm issuing such circulars is concerned.

Deal only with attorneys of known integrity whose long record of service makes them well known and who have been tried and have not been found wanting.

THE LICK OBSERVATORY EXPEDITION TO OBSERVE THE TOTAL SOLAR ECLIPSE OF AUGUST, 1896, IN JAPAN.

BY DR. EDWARD S. HOLDEN.

It is proposed to send an expedition from the Lick Observatory to observe the total solar eclipse of August next in Japan. The necessary expenses of the expedition will be met from a fund provided by Col. C. F. Crocker, one of the Regents of the University of California and a member of the standing committee on the Lick Observatory.

The expedition will be under the charge of Prof. Schaeberle.

Its programme will be wholly photographic in character. Prof. Schaeberle will make large scale photographs of the corona with a lens of 40 feet focus (giving an image of the sun about 4 1/2 inches in diameter on a plate 18 x 20 inches) on the plan so successfully carried out by him at the Chile eclipse of April, 1893.

All difficulties in the mounting of so long-focused a lens are avoided by keeping the lens stationary and making the carriage for the sensitive plates movable. The lens is placed in the proper position for seeing the sun during totality. A large canvas tube (40 feet long) is stretched over a frame of gas pipe tubing. At the further end of this frame is an inclined railway carrying a holder for the negative plates (18 x 20). A clock-work drives the frame at the proper speed. The observer is stationed inside of his telescope, and makes the exposures according to a programme fixed beforehand. Some of the exposures will be very short, in order to obtain the finer details (only) close to the sun's edge. Others will be longer to obtain details further out, and these plates will sacrifice some of the details close to the edge, for these regions will be overexposed.

A study of all the plates obtained in this fashion will give a complete account of the whole corona, though no single plate will do so.

Mr. Charles Burckhalter, director of the Chabot Observatory, in Oakland, some time ago imagined a plan for giving the correct exposure for each part of every plate at an eclipse. He will accompany the Lick Observatory expedition to Japan and will make a trial of this plan, using a telescope of 4 inches in aperture and of 15 feet focus, specially made for the eclipse at the cost of Hon. W. M. Pierson, of San Francisco. (The image of the moon is about 1 1/6 inches in diameter.)

This telescope will be mounted equatorially and will follow the sun. The image of the eclipsed sun will fall on the negative plate, in front of which is a rapidly rotating diaphragm. (The plate has a hole in its center through which passes an axis driven by clockwork. On the end of the axis in front of the plate, and close to it, is a rotating fan or diaphragm.) The diaphragm is cut into the shape of a double cam, one cam being inverted, so that it is perfectly in balance, and it makes about five revolutions per second.

One of the double cams has such an outline that if the corona at the moon's edge has an exposure of one second, the exposures elsewhere will be:

Table with 2 columns: Distance from edge and Exposure time. At 20' from the edge... 4 seconds. 40' ... 9. 60' ... 14. 80' ... 20. 100' ... 24.

Other differently shaped cams are provided, each ready for operation, with its clock, in its special plate holder. When the plate holder is lifted, the clock starts automatically and runs for about 15 minutes. Five or six such plates will be exposed during totality. Each plate will be exposed much longer at the outer limits of the corona (where the light is weakest) than at the inner limit (where the light is strongest). It is therefore hoped to secure, in this way, a photograph of the corona on a single plate, every part of which has received the proper exposure. This single plate will then exhibit all the details of the corona, and it will no longer be necessary to build up, as it were, the real corona from a series of plates (each one of which is underexposed for one region, overexposed for another, and correctly timed for another).

Mr. Burckhalter's ingenious plan deserves a trial. The only difficulties in the way are mechanical ones, and these are now supposed to be conquered.

Besides the 40 foot lens Prof. Schaeberle will take with him a 5 inch photographic refractor (presented to the Lick Observatory by Miss Floyd) and a Dallmeyer portrait lens of 6 inches aperture (lent by Hon. W. M. Pierson).

The former instrument will be used to make small