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PENDING TRADE MARK LEGISLATION.

One of the chief annoyances in the way of the registration of trade marks is the rather foolish and unnecessary requirement that the applicant should make a declaration, when applying for registration, that the goods upon which the mark is stamped are used in commerce with a foreign nation or an Indian tribe. This is one of the anomalous requirements of the otherwise admirable statutes now governing the registration of trade marks. It frequently happens that the applicant has extensive trade relations between the States, but engages in no foreign commerce. He is, therefore, in no position to procure the protection granted by the trade mark laws, and before his mark will be registered it is necessary for him to practice what may be called a pious fraud, and ship some goods for sale to Canada or some other neighboring State, whereby he becomes qualified and can subscribe to the required declaration. Such a practice is objectionable and the cause for it should be removed. The commerce between our States is now so enormous that there is no reason why those engaged in such trade should not receive the same recognition before the Patent Office that is accorded to those whose special trade leads them into the channels of foreign commerce. With a view to remedying this feature of our present law, a bill has been introduced into the Senate, and is now in the hands of the Committee on Patents, which seems to possess much merit.

Senate bill No. 1627, the one alluded to, is to amend the present trade mark act so that it shall be applicable to trade marks used in commerce "among the several States."

The old trade mark act of July 8, 1870, based on the patent and copyright clauses of the Constitution, attempted to provide broadly for the registration of any lawful trade mark. This the Supreme Court of the United States decided, in 1879, that Congress had no power to do under those clauses of the Constitution mentioned in said act. The power of Congress to enact trade mark laws must, of course, be found in the federal Constitution. Such power, the court said, could not be found under the eighth clause of section eight of article one, which provides that Congress shall have power to pass laws "to promote the progress of science and useful arts by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries," because an ordinary trade mark has no necessary relation to invention or discovery. Both inventions and writings involve the element of originality, while a trade mark does not necessarily embody that idea, but is generally nothing more than an adoption of some device or word already in existence, as the distinctive symbol of the person using it. It does not necessarily depend upon novelty, invention, or discovery, but is founded simply upon priority of adoption.

It therefore falls under the provision of the third clause of the same section, which provides that Congress shall have power to regulate "commerce with foreign nations and among the several States and with the Indian tribes," and the existing law is based on this clause, but very curiously omits any reference to commerce "among the several States." This defect the present bill aims to correct; it recognizes that fact and is framed in reference thereto. It seems to be in accordance with the requirements of the times, and is needed to protect a very large and important class of trade marks which are in use in commerce among the several States, but which are not in use in Commerce with foreign nations or with the Indian tribes.

It is hoped that this bill will receive the good treatment that it deserves at the hands of the committee, and that it will be considered by them in such good season as to enable it to be passed by the Senate before the session is too far advanced.

There is another bill now before the Committee which is of a very different kind, and which belongs to that class of bill which appears at every session of every legislative body, and which, perhaps, serves to amuse its promoters and those having a sense of humor whose attention may have been called to it, but which generally and quite properly fails to emerge out of Committee.

House bill No. 4349 has been introduced into Congress to create State trade marks. It provides that the Governor of any State or Territory of the United States or the commissioners of the District of Columbia may adopt a public trade mark, each for his or their respective State, Territory, or District, and file a description and illustration of the same in the Treasury Department of the United States. The Secretary of the Treasury, upon receipt of said description and illustration, and his fee of \$25, is required to register the same and issue a certificate of registration which shall be received in evidence in all courts of the United States, and shall be conclusive proof of the adoption and registration of such trade mark. Every such trade mark can be used only under and in accordance with such rules, regulations, and restrictions as may be provided by the laws of the State, Territory, or District adopting and filing the same, and upon goods, wares and merchandise produced, grown or manufac-

tured therein, and upon packages and wrappers containing the same. To infringe such trade mark on goods, wares, or merchandise which are, or which are intended to be, for sale, shipment, consumption or use without and beyond the boundaries of such State, Territory or District is declared to be a misdemeanor, punishable by a fine of not less than one hundred dollars nor exceeding one thousand dollars, or imprisonment for not more than two years, or by both such fine and imprisonment.

This bill is undoubtedly the outgrowth of the Tillman case. Our readers will remember that the history of that case was as follows: On July 15, 1893, Benjamin R. Tillman, Governor of South Carolina, on behalf of said State, filed an application in the Patent Office for the registration of the word "Palmetto" as a trade mark used in the sale of intoxicating liquors. The application was refused by the examiner on the ground that a State of the Union is not within the terms of the law permitting the registration of trade marks, because it does not come within the designation of "person" or "corporation" used therein. On appeal to the Commissioner, the latter refused the application, holding that the State of South Carolina had no authorized sale of liquors outside its own limits. Tillman then applied to the Supreme Court of the District of Columbia for and obtained a mandamus to compel the Commissioner of Patents to register the trade mark as applied for. Thereupon the Commissioner of Patents appealed to the Court of Appeals of the District of Columbia, and that court reversed the judgment below and dismissed the petition on the ground that the trade mark applied for had not been lawfully used in foreign commerce.

It will be noticed that in the pending bill the registration of such State trade marks is made a part of the duty of the Secretary of the Treasury. He has no discretion in the matter. We do not approve of such provision. If a State is by statute to be entitled to register a trade mark, we see no reason why its application for registration should not be filed in the Patent Office, like the applications of "persons" or "corporations," and subject, like those, to being rejected if found to be an infringement upon some mark previously registered. Should the act become a law, however, the courts will undoubtedly be called upon, sooner or later, to decide the power of a State to engage in foreign commerce for the purpose of revenue or profit.

The passage of this bill would lead to endless confusion and litigation, as each State would be authorized to make its own trade mark laws and there is no federal examination and supervision, as the Secretary of the Treasury is instructed to register State trade marks in spite of the fact that he may be aware that such registration may be a direct infringement of the trade marks of some prior applicant, whose rights in the premises the Secretary is summarily forbidden either to question or protect.

Burning Powdered Coal.

Engineering contains a description of a process which has lately been brought out by Carl Wegener for utilizing powdered coal. The coal, which has been ground to pass through a 60 mesh screen, is fed into a hopper which is located in front of the furnace. At the bottom of the hopper is a grating, which can be agitated from 150 to 250 times to the minute, according to the rapidity of feed desired. The coal dust falls through the grate into the bend of an air supply pipe, which enters the furnace at the top of the furnace door. As it falls into this pipe it is met by the induced draught and carried into the furnace. The interior of the furnace is lined with firebrick for a length of 10 or 12 feet, and has in addition two firebrick bridges. There is no grate and there are no fire doors, so called, the combustion being watched through peepholes. A test was recently made in Berlin of a Cornish boiler, fired first by hand and again by the same coal in a powdered condition. The results show that the dry powdered coal evaporated from and at 212° 912 pounds of water per pound of dry coal, as against 648 pounds for solid coal, fed by hand stoking. It was claimed that the poor condition of the grate is responsible for the very low results in the latter case. The trial, however, shows good economy for the Wegener system. The grinding costs about 10 per cent of the value of the coal.

A LUMINOUS foresight for use in a bad light with guns of various kinds has been patented in England by Mr. Winans. A tiny incandescent lamp, supplied with current from a simple form of battery concealed in the stock, is mounted within a shield at the muzzle of the gun, and a faint ray of light, calculated to indicate the position of its source, is exposed in the direction of the shooter's eye, and this is sufficient to enable him to obtain the required alignment with the back sight and with the target, be it animate or otherwise. The special application of the sight is for game shooting at night and for service purposes, such, for instance, as the illumination of a machine gun used against torpedo attacks during the night.—Army and Navy Journal.

**An Expedition to Labrador.**

An expedition bound for the interior of Labrador will leave Philadelphia in June for the purpose of studying the Eskimo and collecting specimens of the fauna and flora of that region. The party will be commanded by G. H. Perkins and will consist of four students of zoology, geology, botany and archæology and a number of college students and others. Prof. Frank Russell, curator of the University of Iowa, accompanies the expedition as archæologist. From St. John's, Newfoundland, to Labrador, the trip will be made in the ship Kite, which was formerly used by Mr. Peary. At St. John's, Newfoundland, this party will be joined by ten scientists sent out to explore the coast of Elsemere's Land and will consist of a number of scientists, including Dr. T. C. Mendenhall, Superintendent of United States Coast Survey, General A. W. Greely, J. W. Powell, Director of the United States Geological Survey, Baron Adolf Eric Nordenskjöld, of the Royal Academy of Science, Sweden, Baron von Baurmajeltsch, J. A. W. Grip, Envoy Extraordinary from Germany to Norway and Sweden. These persons are sent out to explore the coast of Elsemere's Land and also to discover traces of the ancestors of the Greenlanders, who, it is thought, came from that place. Professor Hite, of the University of Pennsylvania, is the originator of the expedition.

**An Exhibition at Innsbruck.**

Arrangements are now being perfected for the International Exposition for Physical Education, Hygiene, and Sport, which will be held in the town of Innsbruck, Austria, from May to October, 1896. The exposition will include exhibits from all the trades and industries pertaining to the physical education of the growing child and to the sports of the adult as well. In the first group will be shown objects which relate to the nutrition, care, and physical training of children from their birth to the age when schooling begins. The second group will be devoted to gymnastics, swimming, fencing, boats, sporting costumes, etc. In the third group are all kinds of outdoor and indoor games, and the fourth group will be devoted to skating and children's games, showing skates, sleighs, snowshoes, roller skates, and toboggans. In group fifth will be found exhibits which pertain to riding and driving, and besides models, plans, and representations of stables, all kinds of stable equipments will be shown and models for racecourses will also be exhibited. The sixth group is of particular interest, as it is devoted to cycling, and it is reported that there will be an international contest between the manufacturers in all parts of the world. The commission appointed for the United States includes many well known men who are interested in sporting affairs.

**The Care of the Aged.**

When a man or woman passes seventy years of age, great care should be given to the conditions surrounding him or her for the prolonging of life. The vital forces are greatly enfeebled at that period of life, and the powers of resistance in consequence of age are the weakest. A man of threescore years and ten, and over, is like an old machine that by proper care given to its condition has been kept running many years, and is still able to do work, but its wheels and axles and pinions are much worn and are rickety, and if it should be pushed, even to a small extent, in excess of its diminished powers, it breaks down and cannot be repaired, for every part of it is shattered. But if worked carefully and intelligently by a person who understands its condition and knows its capabilities, it can be kept in action a much longer time than would be possible if a careless engineer controlled it. In these fast times, however, it is generally not profitable to husband the resources of an old machine. But this is not true as regards our old men and women. It is desirable to hold on to them as long as possible, and if we can succeed in prolonging their lives five or ten years, or more, it will greatly enhance our happiness.—Medical Review.

**Why and How Thread is Numbered.**

The question, "Why is spool cotton numbered as it is, and why are the figures not used in regular order?" is often asked, says the Boston Journal of Commerce. The explanation is this: The numbers on the spools express the number of "hanks" which are required to wind a pound. The very finest spinning rarely exceeds 300 hanks to the pound, while in the very coarsest there is about a half pound in each hank. The more common qualities, however, those from which sewing thread is usually made, run from ten to fifty hanks to the pound, and the spools on which it is wound are numbered from 10 to 50 in accordance.

PROF. RAOULT, of Grenoble, has received the biennial prize of \$4,000 from the Académie des Sciences for his discovery of the numerical ratio between the molecular weight of a substance and the difference produced on the freezing point of the liquid that dissolves it, as well as on the expansion of the vapors of the liquid.

**Science Notes.**

Botanic Gardens.—The Berlin paper Kuhlow's says: "Of botanic gardens France has 22, Germany 35, Great Britain and Ireland 11, the Indian empire 9, Italy 22, Russia 14, New Zealand 3, the United States 5. It is said that the finest botanical gardens in the world are situated in the islands of the Azores. When Portugal was at its prime in the great office of discovering the world, a rage for botanical specimens was current among all interested in the maritime adventures of those interesting days. The climate of the Azores lends itself particularly to the growth of the products of almost every land. The result is a series of magnificent botanical gardens in those summer islands, where may be seen nearly every tree and plant known to the early navigators."

The latent life of seeds has been investigated by M. C. De Candolle, and he has come to the conclusion that in their latent life seeds pass through a period of suspended animation (vie ralentie) in which all the functions of the protoplasm are quiescent, but from which they revive when again placed in conditions suitable for germination. This period of suspended animation may extend over an indefinite time, probably through a long series of years, and the seeds may during this period be subjected to a very low temperature without losing their vitality. In the case of wheat, oat, and fennel, the temperature was reduced as low as minus 30 degrees C., and the experiment was repeated as many as one hundred and eighteen times on the same seeds without injurious effects; the greater number of the seeds of the sensitive plant, however, succumbed to this temperature, and nearly all those of *Lobelia crinus*. The immunity from injury appears to depend on the protoplasm of the seed passing into a completely inert state, incapable of either respiring or assimilating before it is placed under the unfavorable conditions.—Gardener's Magazine.

Prof. Mark W. Harrington, late Chief of the United States Weather Bureau, and who is now president of the University of Washington, intends to establish a department of terrestrial physics and geography in the university.

Prof. Sollas, F.R.S., will leave England shortly for Sydney, Australia, to take charge of an expedition to make deep borings in a coral atoll. The Royal Society contributes about \$4,000 to the expense fund and the British government has placed a gunboat at the disposal of the party. The scene of operations will be Funifuti, in the Central Pacific.

Dr. Krueger, of Charlottenburg, Germany, finds that the combustion of acetylene is improved by being mixed with an equal volume of carbon dioxide. The consumption is about 0.053 cubic foot of each gas per acetyl-acetate unit, or say 0.06 cubic foot per candle.

A writer in the Popular Science Monthly has noted that on the basis of an average salinity of 3½ per cent in the 290,700,000 cubic miles of water which make up the oceans there are 90,000,000,000,000,000 tons of salt, equivalent to 10,173,000 cubic miles of salt. This is sufficient to cover the land of the earth to a depth of 1,000 feet.

MM. Troost and Ouvrard, in the Comptes Rendus, state that if an electric current be passed through a mixture of nitrogen, argon and helium in which there is a sufficient quantity of fine magnesium wire in a Plücker's tube, the following phenomenon is noticed: When the temperature rises and the magnesium begins to volatilize, the argon and helium are absorbed and a nearly complete vacuum results.

Prof. Roentgen, of Würzburg, after a lecture which he had delivered on his new X ray photography, was invested with the Order of the Crown (Kronen Orden), second class.

Austria has decided to combine with Germany in an expedition to the South Pole, and Julius von Payer, the explorer of Franz Josef Land, has been asked to give up his expedition to northeast Greenland in order to take the command of it.

The air is clear at Arequipa, Peru. From the observatory at that place, 8,050 feet above the sea, a black spot, one inch in diameter, placed on a white disk, has been seen on Mount Charchani, a distance of eleven miles, through a thirteen inch telescope.

It is announced that no fewer than four small planets were discovered on the night of January 7, two by M. Charlois, of Nice, and two by Dr. Max Wolf, of Heidelberg. If all four are duly verified, the total number will be raised to 413. Perrine's comet may be seen now in the morning, but its brightness as compared with unity on November 18 is greatly reduced. Dr. Lamp's ephemeris for Berlin midnight on February 1 reads R. A. 19h. 40m. 50s., S. Dec. 4° 41' 6", brightness 0.29. The comet does not appear to have been observed in the southern hemisphere.

Aluminum for Cooking Utensils.—A scientific investigation was recently undertaken by the Imperial German Health Bureau to inquire into the suitability of the use of aluminum for cooking utensils. They proved that aluminum is entirely free from communicating to food any poisonous salt, such as is given off by copper, tin, or lead. To make sure that no injurious effects need be feared if aluminum be taken

into the system, two physicians, aged respectively twenty-six and thirty-five, volunteered to act as subjects. To each of these was administered daily with their lunch about fifteen grains of aluminum tartrate, for the period of one month. By the end of that time neither had lost flesh or appetite, nor felt the slightest discomfort. For cooking purposes, this metal seems to be peculiarly adapted, as it is a splendid conductor of heat, while it has also the advantage of being non-poisonous and non-corroding.

In addition to his other achievements in the domain of chemistry, Dr. Deninger, of Dresden, is now reported to have prepared carbon monosulphide, CS, pure for the first time, and finds that, instead of being, as described in the text books, an amorphous red solid, it is really a colorless gas. He prepared it by heating dry sulphide of sodium with chloroform, or, preferably, iodoform, in sealed tubes, to 180° C., the gaseous products being made to bubble through aqueous caustic potash, which absorbed the sulphureted hydrogen, and the carbon monosulphide passed through unabsorbed. By acting upon carbon disulphide with sodium, in the presence of some aniline, the new gas was also obtained. It is colorless and easily condensable to a clear liquid, which evaporates rapidly, and is extremely explosive.

Sir John Lubbock describes an ant which can support a weight three thousand times heavier than itself, or equal in proportion to a man holding 210 tons by his teeth.

**Motor Carriages in Great Britain.**

A recent conviction for the illegal use of a horseless carriage has been obtained in England. The owners of the carriage were summoned for not carrying a flag in front of it. The defense contended that the prosecution was an absurdity. A fine of one shilling and costs was imposed.

At a very early date an "International Horse and Horseless Carriage and Roads Locomotion Exhibition" will be held within the great Crystal Palace building at Sydenham, London. From the present condition of things, automobile carriages cannot be run in England on public highways, and in order that no delay should occur from this fact, the extensive grounds of the Crystal Palace, which is situated within five miles of the center of the metropolis, are to be utilized for trials and races of self-propelled vehicles. The exhibition will be comprehensive in its scope and will be of great scientific interest. It will be divided into two sections. In the first will be things appertaining to animal locomotion, such, for example, as the primitive modes of transportation employed in former times, the ancient sledges, litters, palanquins, and other wheelless conveyances which will gradually lead up to an interesting display of antique and mediæval coaches and carriages. Modern coaching as well will not be neglected. Turning to the engineering section, many of the interesting steam-driven carriages which ran upon English roads some sixty years ago are to be shown in connection with the steam, electric, and petroleum driven carriages of to-day. Accessories of various kinds for horseless carriages will also be exhibited. Mr. A. R. Sennett, A.M.I.C.E., has accepted the post of honorary executive commissioner.

**Gas from Sawdust.**

There are several large lumber mills in Deseronto, Canada, and the town is partially lighted by gas obtained from sawdust from them. The sawdust is charged in retorts which are heated by a wood fire. The gas from these retorts passes into a series of coils and thence into the purifiers, which are similar to those used for coal gas. Lime is used as a purifying agent. The plant is not a very large one, and it only turns out 540 cubic meters of gas per day, for which about two tons of sawdust are required. A man and boy furnish all the labor needed at the works. The best quality of gas comes from resinous woods. One hundred kilogrammes of sawdust leave a residue of twenty kilogrammes of charcoal, and the gas in an ordinary burner, says the Engineering and Mining Journal, gives an illumination of about eighteen candle power.

TO MAKE ALUMINUM IN NORWAY.—The estate of Hafslund, near the great waterfall known as the Sarpsfos, between here and Goteborg, has been acquired by a syndicate, chiefly consisting of German and American capitalists. The purchasers intend to form a large company with a large capital in order to utilize the water power of the falls for electrical force, and establishing aluminum works on the same principle as those now being constructed at the Falls of Foyers, in Scotland. The Sarpsfos is one of the finest falls in southeastern Norway, being 74 feet in height and 116 feet in width.

A MONUMENT to Francois Garnier, the explorer, whose murder at Hanoi ultimately brought about the Tonkin expedition and the French policy of colonial expansion, is to be set up midway between the Observatoire and the Luxembourg Palace in Paris. The sculptor is M. Puech.