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### TRADE MARKS.

The law presents to every one inducements and facilities for honest effort. The inventor of a new manufacture is, by way of compensation secured in the exclusive right to make. use, and sell the same for a limited number of years.

But without having created a new entity, he may wish to engage in manufacturing some special commodity, and by his skill and honesty may seek to establish a reputation that shall secure a preference for his goods over these of any of his competitors. This reputation is a property in which the law also aims to protect him. He may, in any way he pleases, inform the public how his own productions are to be distinguished from those of other manufacturers, and any attempt at fraudulent deception on their part, in that respect, will be the subject matter of an action at law against them, and all this without any statutory regulation on the subject.

Any mark or device attached to his goods is su this purpose. A word or a symbol is generally selected for thus designating them, and this constitutes what is known as a "trade mark." When by long custom it has become known to the public in its signification, its use by another person embodies a falsehood, and can be dealt with as such. so far as that can be done in a civil suit. It is morally the same as a theft, a forgery, or a counterfeit, but cannot be punished as a crime without a special statutory provision to that effect.

The statute in relation to trade marks operates in aid of the common law on this subject-modifying it to some extent, fixing specifically the penalties attached to transgression, facilitating the giving of the requisite testimony in any remedial proceedings, and providing for a registration which fixes at once the rights of the proprietor, of which every one is bound to take notice at his own peril. In other respects the rules flxing the rights and liabilities of the respective parties seem to remain substantially unchanged by the statute. Some of these rules will now be briefly considered.

The Commissioner of Patents is prohibited from receiving and recording any proposed trade mark which cannot lawfully

become such. This condition refers to the rules and principles on this subject which are dictated by reason, and especially those which have been adopted by the courts.

One of these rules prescribes that the name sought to be used as a trade mark should not be descriptive. If one should seek to appropriate the word "inexplosive" as a trade mark on his preparation of an illuminating fluid, or the word "indelible" on a new marking ink, such a trade mark would not be received or recorded at the Patent Office, or sustained by the courts as legitimate. Any other person who had contrived preparations for such purposes would have a just right to commend them to public favor by like designations respectively. Any law or regulation that should prohibit him from the exercise of such a right would be wholly tyrannical and unjust.

Again it has been held that the name of any particular locality could not, as a general rule, be selected as a legal trade mark. A party who had sought to appropriate the name Lackawanna" as a trade mark for his anthracite coal. was not sustained in that attempt by the highest of our courts (see Canal Company vs. Clark, 1 Official Gazette, p. 279.) The ground on which this decision chiefly rested was that no other person who should be engaged in mining coal in the Lackawanna district could legally be prevented from designating it by that name.

For a similar reason, the statute prohibits the registration of a trade mark which is merely the name of a person, firm, or corporation, unless such name is accompanied by a mark sufficient to distinguish it from the same name when used by other persons. And also, as a matter of manifest justice, no one is permitted to select as a trade mark a word or symbol which so nearly resembles one, previously appropriated by another person, that it will be likely to deceive the pub-

But it must not be supposed that any one can with impunity attach a name to his productions, although such name could not have been appropriated by any other person as a trade mark. The great underlying rule that fraud will not be allowed to achieve success, wherever it can be detected, will interpose to prevent the consummation of an effort to compass its ends by falsehood or deception. If, therefore, a salt manufacturer at Onondaga should adopt the word "Onondaga" as his trade mark-although that trade mark would be wholly invalid as such, unless at all events he had monopolized all the manufacture of salt at that locality still, if another manufacturer at Saginaw or Kanawha should label his commodity "Onondaga salt," he would be liable to an action by the Onondaga manufacturer. This would not be on account of the trade mark adopted by the latter. He might maintain such an action irrespective of his trade mark, and so might any other person who had sustained an injury

A trade mark then should be novel, that is to say, so far differing from any one previously attached to a like commodity that there will be no danger of causing deception; it should not be descriptive of the quality of the goods to which it is attached; it should not consist merely of the name of any person, firm, corporation, or locality; and finally it should not be attempted to be used for an immoral or illegal pur pose. Subject to these conditions, it may consist of any device, symbol, or word-nomatter how arbitrary or unmean ing in itself-that the proprietor sees proper to select.

These rules are believed to be sufficient to serve as guides in most of the cases which shall present themselves to the mind of the honest inquirer.

## HOME NEWS BY WAY OF THE SUN.

"Go abroad to learn the news" is a very old saying. Just now the study of the sun's constitution furnishes a remarkable verification of the correctness of the proverb: that far away orb affording a better and closer view of the early stages of the earth's development than could possibly be gained at home, and furnishing at the same time an altogether unexpected means of estimating the relative character of the earth's chemical structure as compared with the other members of the solar system.

It is well known that the elements which compose the earth and its atmosphere are very unequally distributed. Of the part which we are acquainted with, oxygen constitutes by weight fully one half. Silicon makes up a quarter. Aluminum, calcium, magnesium, potassium, sodium, iron, and carbon, in decreasing proportions, constitute nine tenths of the remaining quarter. There is left only one tenth of a quarter to be made up of the other fifty-five non-metallic and mixed in the parts of the earth open to our investigation. The outer portions, being mainly sedimentary strata, derived from an original nucleus of primary rock, are of no assist ance in determining the primal distribution of the elements. For this we must interrogate the basic rocks. These are naturally divided into two great divisions, holding on the whole a definite relation to each other. The upper mass consists of granite and other plutonic rocks rich in silica, moderately rich in alumina, and poor in lime, iron, and magnesia. Below are basaltic and volcanic rocks poorer in silica, equal in alumina to the upper series, and much richer in iron, lime, and magnesia, and containing also a great variety of other elements as occasional constituents: the proportion of the dense metals increasing downward. These relatively precious con stituents of our earth, as we all know, reach the surface only through veins which traverse the outer lavers.

How did it happen that a few of the elements are provided so plentifully for us, while there is such a scanty provision of the rest? And why are the useful metals chiefly hidden in the depths?

The Pope, the Turk, and—not the devil, as the old litanies

ran, but his chief opponents-theclergymen, (some of them at least) reply: "It is the will of God," and that ends the inquiry with them. But Science rests with no such thoughtrepressing dogma. Present conditions are, because some other conditions were: what were those conditions? In pursuit of the answer to this question scientific men stop at nothing short of "interviewing" the Universe. Naturally the ruler of our planetary system is the most instructive wit. ness in regard to the genesis of his family, the earth included.

It appears to be pretty conclusively shown, by spectroscopic analysis of the sun's light, that the following twenty terres trial elements (with indications of perhaps two otherwise unknown elements which need not be taken into this account) exist in the sun's atmosphere:

Aluminum Chromium Sodium CobaltMagnesium Strontium Barium Copper Titanium Cadmium Manganese Calcium Hydrogen Nickel Uranium Potassium Cerium Zinc

These various substances are not indiscriminately mixed in the vapors which surround the sun. Thanks to the interposing face of the moon in total eclipses, it is possible to study the sun's atmosphere in sections, so to speak: by which study it appears that, by virtue of the high temperature which prevails there, and the varying specific gravity of the different elements, the latter are enabled to arrange themselves in layers, in spite of the storms and gaseous outbursts which would tend to disturb their positions. It is observed too that, in the main, the number of elements increases downwards. The outer "coronal" atmosphere contains cooled hydrogen. The "chromosphere" shows incandescent hydro-The "reversing layer," gen, magnesium, and calcium. which lies next the photosphere, exhibits sodium, chromium, manganese, iron, nickel, and the rest, with the probable exception of aluminum, the place of which has not been determined by observation, but which most likely lies between magnesium and calcium.

Theoretically the metalloids should lie, as a group, outside the metallic atmosphere: and Mr. Lockyer has submitted some evidence to show that they probably do, explaining why, under the conditions which prevail, their record among the Fraunhofer lines should be a feeble one, and insisting that, in the lack of such lines, we have no argument against the presence of some quantity of the metalloids in the sun, although that quantity may be small. As collateral evidence it is proper to add in this connection that, in the spectra of granite, greenstone, and lava, no trace of metalloids is seen, notwithstanding the (chiefly) non-metallic character of those

Assuming, in accordance with the nebular hypothesis, that the earth was once in the condition which the sun now presents, we can readily understand why its chemical constitution should be what it is. From the known behavior of the elements, it is inferable that, as the external metalloidal vapors cooled, they would condense and fall upon the underlying layer forming these binary compounds capable of existing at a high temperature, such as the vapors of water and hydrochloric acid, silica, carbonic acid, and others.

As the cooling went on, the precipitation of these binar compounds would give rise to numerous reactions, forming silicates, chlorides, sulphates, etc. With still further cooling, the condensation of water and the formation of minerals would ensue, and the consolidation of the outer shell would begin. The condensation of the metals would come much later and nearer the center.

The same line of facts and reasonings give a clue to the probable constitution of the planets. Assuming the solar nebula to have once existed as a nebulous star at a temperature of complete dissociation, and to have contracted with loss of heat, throwing off the planets successively, we may infer that the outermost would be chiefly if not entirely metalloidal; the inner ones would be increasingly metallic as their orbits approached the central portion of the nebula. Mr. Lockyer considers that the low density and the gigantic and highly absorbing atmospheres of the outer planets accord with their being more metalloidal than the earth: on the other hand the high density and comparatively small and feebly absorbing atmospheres of the inner planets point to a more intimate relation with the inner layers of the original nebulous mass, and consequently a more metallic constitution. For the same reason we should expect to find the metalloids scarcer in the sun than in the earth. The otherwise mysterious fact that the moon is of lower density than the earth, and the moons of Jupiter similarly less dense than their primary, is easily explained by this hypothesis.

The news which we have briefly summarized awaits confirmation, though (as the newspapers say) it comes direct, and from a trustworthy source. It is certainly good enough to be true, commending itself, as Professor Prestwich observes in his review of the present aspects of geology, not only by the simplicity and grandeur of the views presented, but for their high suggestiveness for future inquiry and re-

### GERMAN PATENT LAW.

At present the various States, comprising the German Empire, have each a separate patent law. At the time of the Vienna Exposition it was proposed to initiate a general pa tent law, and to abrogate the State laws. For this purpose the German Patent Protective Association was formed, and they have prepared the details of a new law, which has been presented to the Federal Council, with a petition for its enactment.

The proposed new law is substantially a codification of existing provisions, and embodies the current continental notions about patents and inventors. The latter are regarded