

**PROF. SIR GEORGE H. DARWIN.**

Prof. Sir George H. Darwin, M.A., F.R.S., LL.D., D.Sc., the English scientist at present in this country for the purpose of attending the Franklin bicentenary celebration at Philadelphia, is the second son of Charles Darwin, the great naturalist. The Darwin family for generations has included men distinguished in the arts and sciences; and while the originator of the Darwinian theory, one of the most eminent investigators and thinkers England has ever produced, unquestionably overshadows the others, it has not been through his reflected glory that his sons have taken their deservedly prominent position in the world of science. Sir George H. Darwin was born at Down, in Kent, England, in 1845. He was educated under the Rev. Charles Pritchard, who subsequently became a Fellow of the Royal Society, and the Savilian Professor of Astronomy at Oxford. In 1864 George Darwin entered Trinity College, Cambridge, from which he was graduated in 1868 as Second Wrangler and Smith's Prizeman. From 1868 to 1878 he was a Fellow of Trinity College, and was re-elected in 1884. He studied law, and was admitted to the bar in 1874, but he did not subsequently practise that profession.

In the following year he returned to Cambridge, and devoted his entire time to the study of the mathematical and astronomical sciences, and particularly to experimental investigations on the pressure of loose sands, on changes in the level of the earth's surfaces, and on minor earthquakes. His interest in astronomical and meteorological studies and investigations had been aroused prior to this, and in 1870-71 he accompanied the English expedition to Sicily to observe the eclipse which occurred during that period. In 1882 Prof. Darwin assisted Sir William Thomson (Lord Kelvin) in the preparation of a new edition of Thomson's and Tait's "Natural Philosophy," and in the following year was appointed Plumian professor of astronomy and experimental philosophy at Cambridge, succeeding the Rev. James Challis, M.A., F.R.S., to a chair which Prof. Darwin still holds with distinguished success. From 1885 to 1905 he was a member of the Council of the Meteorological Office of Great Britain, and he served on the Meteorological Committee of 1905. He was chosen a member and later, in 1879, a Fellow of the Royal Society. Last year he was elected president of the British Association for the Advancement of Science, and as the head of that association, he formally opened the Victoria Falls Bridge over the Zambesi gorge in central Africa in September of last year. In 1885 he received "a royal medal" from the society for his scientific work, and also one from the Royal Astronomical Society.

Prof Darwin is an honorary graduate of the universities of Glasgow, Dublin, and Padua, as well as a member of several British and foreign academies of science.

Prof. Darwin's published contributions to scientific literature include papers on consanguineous marriages, for the Statistical Society; jointly with his brother on Small Deflections of the Plumb Line Due to Movement of the Earth, British Association Report; a series of reports to the British Association on Harmonic Analysis of Tidal Observations, 1883 and later; several papers on the same subject in the Proceedings of the Royal Society; a series of memoirs on the Effects of Tidal Friction on the Earth and on the Moon, Philosophical Transactions of the Royal Society; papers on subjects cognate to the last, and on Figures of Equilibrium of Rotating Masses of Fluid and on the Mechanical Constitution of a Swarm of Meteorites, Philosophical Transactions of the Royal Society; a paper on Periodic Orbits, in 1896; and one on the Tides and Kindred Phenomena in the Solar System, 1898.

**THE PROPOSED AMENDMENT TO THE TRADE-MARK LAW.**

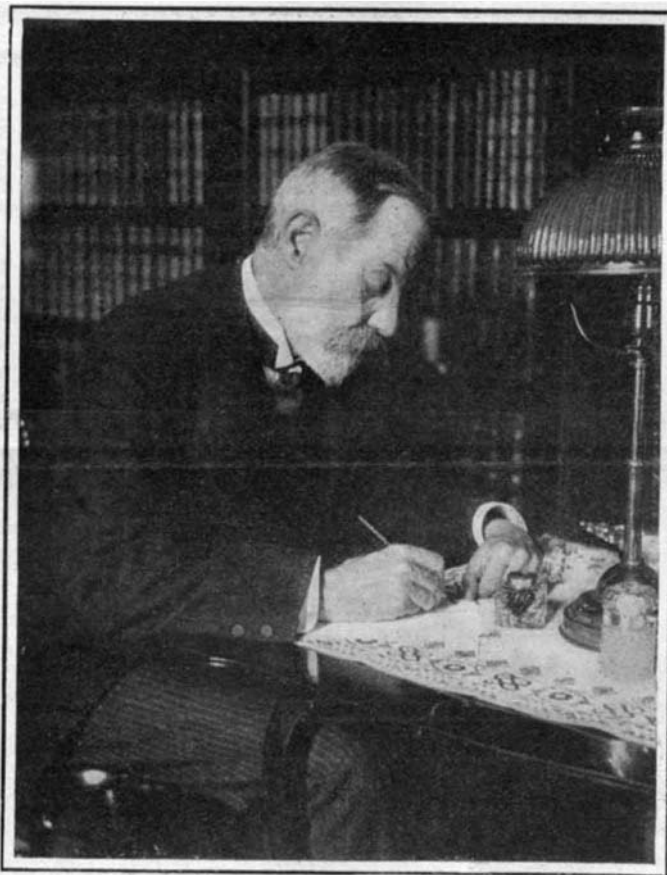
A bill has been introduced in the House which has for its purpose the amendment of the trade-mark law of 1905.

One section of the bill authorizes the Commissioner of Patents to establish classes of merchandise for the purpose of trade-mark registration. A trade mark may be registered at the option of the applicant for any or all goods upon which the mark has been actually used. This will enable both attorneys and applicant to know the scope of their trade-mark protection. Up to the present time the Patent Office has registered under one application only goods of the same descriptive properties. By providing for the classification of trade marks, American practice will be brought into accord with the trade-mark practice of other countries so far as classification is concerned. If the bill becomes a law, this provision alone will have a most salutary effect. In foreign countries American marks are registered only for the class of goods covered by the do-

mestic registration. Hence, a large dry-goods house which uses one mark on perhaps several hundred kinds of goods, and which under the existing law is compelled to file a United States trade-mark application for each article of merchandise, is required to file exactly the same number of applications abroad, thereby incurring a considerable expense. By the provisions of the present bill all this will be obviated. One class will be covered in America, and one class in each of the foreign countries in which the trade mark is to be protected.

Still another section of the amendment provides that any owner of a trade mark who has a factory within the United States shall be afforded the same protection for marks used on the products of his factory as though he were domiciled within the United States. Some foreign houses have established manufacturing plants in this country, and manufacture goods which are not marked in the same manner as those made in their native countries. The foreigner cannot register such a mark first at home and then re-register it here. It is to protect these foreign manufacturers that the provision in question has been inserted in the bill.

One other amendment deserves attention. It provides that "a description of the trade mark only when needed to express colors not shown in the drawing" need be filed. Inasmuch as almost every trade mark is more or less colored, the preparation of a detailed description of the mark has been a matter of considerable difficulty. Sometimes the registrant received more than he was entitled to; sometimes he was too narrowly limited. The amendment is intended to cure the



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evil. Whether the bill will become a law or not, remains to be seen.

**THE WHISTLING VIBRATION OF A DROP.**

In experiments carried on by T. Terada and set forth in an article entitled "Whistling Vibration of a Drop," which was published in the Physico-Mathematical Soc., Tokyo, Proc., a capillary end is fused in a glass tube 5 millimeters in internal diameter, and the other end is connected to an air-bag of considerable capacity, which is pressed by a constant weight.

On wetting the nozzle with some liquid, such as water or olive oil, and then blowing through the liquid, a musical note of definite pitch is produced, the latter depending upon the dimensions of the nozzle, as well as the quantity and nature of the liquid. A microscopic examination shows that the liquid bubble is wide open while the note is sounding, and that the note is due to the vibration of the edges of the liquid. The pitch varies nearly inversely as the radius of the aperture, and inversely as the square root of the density of the liquid. It varies directly as the square root of the capillary constant. When the liquid is magnetic, like a solution of ferric chloride, the establishment of a magnetic field about it immediately lowers the pitch in some cases, and raises it in others. This phenomenon may be useful for demonstrating the magnetism of liquids, or for exploring magnetic fields otherwise inaccessible.

Motor car statistics for 1905 show that 27,840 machines were built in America. Of this number 22,970 were sold.

**THE NATIONAL ACADEMY OF SCIENCES.**

BY MARCUS BENJAMIN, PH.D.

The National Academy of Sciences held its stated session in Washington city on April 16, 17, and 18, meeting as usual in the National Museum, with Dr. Alexander Agassiz, the president of the Academy, in the chair. The meeting this year was convened a day earlier, so that on the adjournment of the Academy the members might participate in the anniversary exercises commemorative of the bicentenary of Benjamin Franklin, celebrated later in the week under the auspices of the American Philosophical Society in Philadelphia, Pa.

There were sixteen papers presented at the public sessions. Of these the first was "Recent Developments of Existential Graphs and Their Consequences for Logic," by Charles S. Peirce, and was a special presentation of a method of logic of his own devising. Prof. J. M. Crafts gave a paper on "Primary Standards for Temperature Measurements Between 100 deg. and 350 deg.," which was a report of progress in continuation of the work that he has so successfully carried on during recent years. Of more popular interest was a paper entitled "Interference of Oviposition of a Sargasso Fish with a Flying Fish," by Theodore Gill. It appears that ever since 1872 the Sargasso fish has been famous as the builder of a remarkable globular nest made of the Sargasso weed, in the midst of which it makes its home. This fact was assumed by the elder Agassiz in consequence of the nest being used by the fish mentioned, and has continued ever since to be accepted by writers on ichthyology. During the last winter some eggs of the Sargasso fish were obtained by the Fish Commission and examined by Dr. Gill, who at once came to the conclusion that such nests could not be made by the Sargasso fish. It is well known that eggs of certain flying fish possess filaments that could readily become entangled with the floating seaweed, and consequently build such nests. The arguments in favor of this theory were skillfully presented by Dr. Gill. A highly technical paper on "Commelinaceæ. Morphological and Anatomical Studies of the Vegetative Organs of Some North and Central American Species," by Theodore Holm, a non-member of the Academy, was presented through the interest of Dr. Gill.

The second day's programme began with the presentation of "The Distribution of American Men of Science," by J. McKean Cattell. It will be recollected that Prof. Cattell has recently published his book on "American Men of Science," in which he stars the thousand leading men in their leading specialties. In the printed table which he distributed there were five tables showing (1) the birthplaces and residences according to States, (2) the residences in cities, (3) the distribution according to colleges and other institutions, (4) the attendance at various educational institutions, and (5) the branches of sciences in which the men considered pursued graduate studies. These facts he presented.

Major Clarence E. Dutton, with the title "Radio-Activity and Volcanoes," showed that the origin of the former could be traced to the latter. This paper, although technical, on account of the timeliness of the subject attracted much attention.

Prof. Henry F. Osborn read a paper written by W. J. Sinclair, a non-member of the Academy, entitled "Volcanic Ash in the Bridger Beds of Wyoming," in which the announcement of the finding of extensive quantities of volcanic dust in the Bridger beds in southwestern Wyoming was made. This was interpreted as explaining the peculiar formation of these deposits, which had been previously supposed to be due to erosion. The presence of volcanic dust would explain in a reasonable way the lack of certain forms of life, and also show that a shorter period of time covered their formation. Over the title of "Faunal and Geologic Succession in Eocene and Oligocene Basins of Rocky Mountain Region," Prof. Osborn showed that the various expeditions sent out by the American Museum of Natural History had located very complete series of strata showing the entire Eocene formation, so that from the study of these, full information as to the life prevalent at that time and other facts would be available. This was very gratifying, as nowhere else was so perfect a series of strata of that period to be had.

Director Charles D. Walcott gave an account of the "Cambrian Faunas of China," with lantern illustrations. He told of the expedition sent out under the auspices of the Carnegie Institution to study certain geological horizons in China, and that as a result information has been obtained showing that a better series of Cambrian strata could be found there than elsewhere. Then passing to the discussion of the brachiopoda from there, he pointed out the new forms, and also indicated many specimens of which similar

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