

Science News a Century Ago

John Ericsson's Screw Propeller

ON July 13, 1836, six weeks after F. P. Smith patented his screw propeller, John Ericsson, the famous Swedish engineer, also secured a British patent for a screw propeller, but of a very different design. Ericsson's propeller consisted of two drums each carrying on its exterior helical blades; the blades of each drum being inclined in opposite directions, so that one screw was 'left-handed' and the other 'right-handed'. The drums were fitted tandem-fashion behind the rudder and the invention included an arrangement by which the drums were revolved in opposite directions. The object of the duplex arrangement was to avoid loss due to the rotary motion imparted to the water by a single screw.

Ericsson fitted his propeller to the *Francis B. Ogden* in 1837 and the *Robert F. Stockton* in 1838. In 1837 the *Francis B. Ogden* towed the Admiralty barge from Somerset House to Blackwall and back. Ericsson, however, received no encouragement and afterwards learnt that Sir William Symonds, Surveyor of the Navy, had remarked that "even if the propeller had the power of propelling a vessel it would be found altogether useless in practice, because the power being applied at the stern, it would be absolutely impossible to make the vessel steer."

Biot at the Collège de France

IN its column of "Miscellanea", the *Athenæum* of July 16, 1836, said: "The learned and scientific M. Biot has been delivering some very remarkable lectures at the Collège de France. He has proved, that, by means of polarized rays, it is possible to ascertain the chemical action which takes place between bodies held in solution in various liquids; an action which has not yet been discovered by less delicate means. This is a new branch of science, created as it were by this great natural philosopher, from which the most important and curious results may be expected."

Sir John Herschel and Mr. Somerville

WRITING to Mr. Somerville from "Feldhausen near Wynberg, C.G.H." on July 17, 1836, Sir John Herschel, referring to the honour which had been paid Mrs. Somerville, said, ". . . Though what she has performed may seem so natural and easy to herself, that she may blush to find it fame; all the rest of the world will agree with me that merit of that kind is felt and recognised at length in the high places of the earth. . . ."

"We are all," he continued, "going on very comfortably, and continue to like the Cape as a place of (temporary) residence as much or more than at first. The climate is so very delicious. . . The stars are most propitious, and astronomically speaking, I can now declare the climate to be most excellent. Night after night, for weeks and months, with hardly an interruption, of perfect astronomical weather, discs of stars reduced almost to points, and tranquilly gliding across the field of your telescope. It is really a treat, such as occurs once or perhaps twice a year in England—hardly more. I had almost forgotten that by a recent vote of the Astronomical Society I can now claim Mrs. Somerville as a *colleague*. Pray make my compliments to her in that capacity, and tell her that I hope to meet her there at some future session. . . ."

Societies and Academies

Paris

Academy of Sciences, June 2 (*C.R.*, 202, 1826-1880).

L. E. DICKSON: Solution of Waring's problem.

JEAN CABANNES and AUGUSTE ROUSSET: Measurement of the factor of depolarization of the Raman lines in gases: nitrogen, oxygen, carbon dioxide.

GEZA KUNETZ: Some properties of characteristic functions.

ALFRED ROSENBLATT: The conformal representation of restricted domains limited by general curves.

A. TOUSSAINT and S. PIVKO: Free plane stream. The influence of the supporting wings on the aerodynamical characteristics.

GEORGES SABATHE: The origin and suppression of the discontinuity in the hydrodynamic resistance of the floats of flying boats.

VICTOR MAITRE: The colour of stars of the spectral types A0, A2. The hypotheses of a distance effect and an effect of absolute magnitude have been examined separately. From a study of 335 stars of types A0 and A2, the results can be better interpreted as due to an effect of absolute magnitude than as a distance effect. An examination of the B type stars will follow.

W. ARKADIEW: The magneto-dynamic relation between the viscous losses and the permeability in very weak fields.

THÉODORE V. IONESCU: Luminous discharges observed in the magnetic field at pressures below 10^{-4} mm. of mercury. Detailed description of the light effects observed under varying conditions of voltage and magnetic field. The theory of the phenomena is not discussed.

LÉON CAPDECOMME: The role of the parasite flux in measurements of reflective powers carried out with the aid of the microscope.

ANDRÉ MORETE: The melting point of vanadium oxychloride and vanadium tetrachloride. The thermal analysis of the system chlorine-vanadium tetrachloride. The melting point of the tetrachloride is $-77^{\circ} \pm 2^{\circ}$ C. and of the oxychloride, $-28^{\circ} \pm 2^{\circ}$ C. The results of the thermal study of the system chlorine, vanadium tetrachloride are given graphically; they show no indication of the existence of a vanadium pentachloride.

RENÉ WURMSER and MME. SABINE FILITTI-WURMSER. The equilibrium between isopropyl alcohol and acetone in the presence of alcohol-dehydrase.

MME. MARIE FREYMANN and RENÉ FREYMANN: The infra-red absorption and Raman spectra of amides and anilides and the structure of these compounds. The conclusions lead to structures differing from the classical formulæ, and favour the hypothesis of chelation already suggested by several authors.

RAYMOND AMIOT: The adsorption of binary mixtures of acetic acid and of some alcohols in aqueous solution.

MAURICE ENGELDINGER: The study of a colloidal solution prepared starting with resorcinol-formol resins.

MME. LÉONE WALTER-LÉVY: Contribution to the study of the basic magnesium sulphates.

CHARLES DUFRAISSE and MARCEL GÉRAUD: Dissociable organic oxides and anthracene structure. The properties of photo-oxyanthracene. From its