

skillful questioning of the Scottish Highlands drew forth revealing answers, telling of the origin of mountain ranges and their evolution in the past.

SIR JOSEPH BARCROFT—An investigator of many phases of the respiration of higher animals; a beloved guide to younger men on both sides of the Atlantic.

FRIEDRICH BERGIUS—A modern magician; his knowing touch transforms coal to oil.

NORMAN LEVI BOWEN—A scientific Vulcan, in his laboratory furnaces he measures those forces which once formed our igneous rocks.

RUDOLF CARNAP—A philosopher of penetrating insight, who lights the way for those who seek through logic the unity of the world.

ÉLIE JOSEPH CARTAN—A versatile investigator in the realm of pure thought; a mathematician who has advanced his science on many fronts.

JAMES BERTRAM COLLIP—A skillful biochemist; a bold explorer among the tangled complexities of the internal secretions.

ARTHUR HOLLY COMPTON—A physicist who forces light itself to illumine the dark secrets of its still mysterious nature.

PETER DEBYE—A large-hearted physicist who gladly lends the chemist a helping hand by elucidating the electrical properties of matter.

LEONARD EUGENE DICKSON—A fruitful speculator on the significance of numbers; an algebraist noted for his stimulating work.

SIR ARTHUR STANLEY EDDINGTON—A student of the cosmos who peers within the atom and surveys the expanding universe, an expounder to the multitude of the poetry of modern science.

HANS FISCHER—A master builder of molecular structure whose labors tell us why grass is green and blood is red.

RONALD AYLMER FISHER—A student of heredity who has improved statistical methods and assisted agriculture by the application of his science.

CORRADO GINI—A versatile sociologist and statistician who early turned his attention to that most vital problem, the growth of populations.

GODFREY HAROLD HARDY—A British mathematician who has led the advance to heights deemed inaccessible by previous generations.

ROSS GRANVILLE HARRISON—An embryologist whose method of transplantations yields new insight into the process of development.

JOHAN HJORT—The naturalist of the northern sea, whose studies and explorations have benefitted alike the science of biology and the fisheries of his native land.

SIR FREDERICK GOWLAND HOPKINS—From John Harvard's university, the discoverer of the vitamins, a pioneer in many fields, whose work stands as a symbol of the ceaseless adventure of the human mind.

BERNARDO ALBERTO HOUSSAY—A physiologist noted for his studies of the ductless glands, a leader of science in the New World to the south.

PIERRE MARIE FELIX JANET—A pioneer in studying the multifarious phenomena of mental pathology; his systematic analysis founded a branch of psychology.

CHARLES GUSTAV JUNG—A philosopher who has examined the unconscious mind, a mental physician whose wisdom and understanding have brought relief to many in distress.

SCHACK AUGUST STEENBERG KROGH—A physiologist forever probing with new instruments the unknown mechanism of life processes.

KARL LANDSTEINER—The master of the science of immunology, the discoverer of those fundamental principles which made blood transfusion possible, saving countless lives.

ANDREW COWPER LAWSON—A geologist who has ranged widely both in time and space.

TULLIO LEVI-CIVITA—A mathematician great in his accomplishment, an intellectual leader of the land we all revere, the birthplace of the art and science of the present day.

BRONISLAW MALINOWSKI—An anthropological explorer who initiated a new movement for the study of the gregarious habits of the human race.

JOHN HOWARD NORTHROP—A chemist turned biologist, a skilled manipulator of those catalysts on which life depends.

ANTONIE PANNEKOEK—An astronomer who has gauged the distances of the dark nebulae; an astrophysicist who has assayed the stellar atmospheres.

LEOPOLD RUZICKA—A chemist, daring in his attack, brilliant in his methods, successful in his interpretations of architecture of nature's baffling compounds.

KOYOSHI SHIGA—The discoverer of the cause of epidemic dysentery, a valiant and effective fighter in the international struggle for prevention of disease.

FILIPPO SILVESTRI—A brilliant entomologist who has searched many continents to find those parasites which guard our crops.

HANS SPEMANN—A biologist who experimented with embryonic tissue and discovered a new approach to those agents which determine organic form.

THE SVEDEBERG—A man who sees beyond the microscope, at his bidding centrifugal forces make giant molecules reveal their size.

RECENT DEATHS

DEAN HENRY LANDES, for forty-one years professor of geology at the University of Washington and state geologist from 1901 to 1921, died on August 23 in his sixty-ninth year.

DR. JOHN H. MCNEIL, chief of the Bureau of Animal Industry of the New Jersey Department of Agriculture, died on September 18 at the age of sixty-six years.

DR. ALEXANDER ANDERSON, lately president of University College, Galway, for many years professor of natural philosophy in the college, died on September 5 at the age of seventy-eight years.

HENRI LOUIS LE CHATELIER, formerly professor of chemistry at the Ecole des Mines, Paris, and of min-

eralogical chemistry at the Collège de France, distinguished for his work on the combustion of gaseous metal and chemical mixtures, died on September 18. He was eighty-six years old.

DR. JEAN CHARCOT; Professor de Vaux, French physicist; Dr. Larronde, secretary general of the French Geographical Society, and Professors Parat

and Jacquir, of the Sorbonne, lost their lives when the French Polar exploration ship, the *Pourquoi Pas*, foundered in Faxe Fjord, Iceland, on September 16. The expedition, sponsored by the Paris Trocadero Museum of Ethnography, sailed from Copenhagen on April 25. There was only one survivor of the forty men comprising the expedition.

SCIENTIFIC NOTES AND NEWS

SIR FREDERICK GOWLAND HOPKINS, professor of biochemistry at the University of Cambridge, will deliver the Edward K. Dunham Lectures for the promotion of the medical sciences of the faculty of medicine at Harvard University. The general subject will be "The Significance of Catalysis in Biology." On October 6 he will speak on "The Catalytic Equipment of Micro-organisms" and on October 8 on "The Nature of Biocatalytic Systems in General." The lectures will be given at 5 o'clock at the Harvard Medical School.

SIR JOSEPH BARCROFT, professor of physiology at the University of Cambridge, will deliver the Terry Lectures at Yale University on October 5, 6 and 7. Sir Joseph will speak on "Three Aspects of the Relation of Environment to the Organism." The lectures will be given in Stratheona Hall at 4:30 P.M. The topics of the individual lectures are: "Mental Efficiency Considered in Relation to some Properties of the Blood"; "The Origins of Behavior in the Foetal Environment"; and "The Transition from Foetal to Neo-natal Conditions." Sir Joseph gave the opening lecture of the year on September 24 before the Cleveland Academy of Medicine, where he spoke on "The Genesis of Respiration."

At the meeting of the American Astronomical Society held at Cambridge, Mass., from September 2 to 5, Hisashi Kimura, director of the International Latitude Observatory at Mizusawa, Japan, known especially for his studies of the variation of latitude, was elected to honorary membership. The following new members of the council were elected: R. S. Dugan, Princeton, *vice-president*; J. C. Duncan, Wellesley, *secretary*; F. C. Jordan, Allegheny, *treasurer*; D. B. McLaughlin, Michigan, S. L. Boothroyd, Cornell, and Keivin Burns, Allegheny, *councilors*. Otto Struve, Yerkes, was elected to membership on the U. S. National Committee of the International Astronomical Union for the term 1937-40.

N. S. OSBORNE, physicist of the National Bureau of Standards, received an honorary degree of doctor of engineering at the exercises on the occasion of the recent installation of Dr. Grover C. Dillman as president of the Michigan College of Mining and Technology.

THE gold medal of the Royal College of Surgeons has been awarded to Dr. James Alexander Murray, in appreciation of his services as director of the laboratories of the Imperial Cancer Research Fund.

IN the issue of SCIENCE for July 31 it was reported that one of the Field Medals at the International Congress of Mathematicians was awarded to Professor K. A. M. Ahlfors. A correspondent writes: "This medal was awarded not to Professor Ahlfors, but to his son (I believe), Lars V. Ahlfors, adjunct professor of mathematics in the University of Helsingfors. L. V. Ahlfors was lecturer in mathematics at Harvard University during 1935-36 and is now beginning a faculty appointment as assistant professor of mathematics at that institution."

DR. JOHN H. WOLFENDEN, lecturer in physical chemistry at Exeter College, University of Oxford, is Frank B. Weeks visiting professor of chemistry at Wesleyan University for the first half of the first semester of the present academic year.

LEE ROY SCHOENMANN has been appointed Charles Lathrop Paek professor of wild land utilization in the School of Forestry and Conservation of the University of Michigan.

DR. GLENN L. JENKINS, professor of pharmaceutical chemistry at the University of Maryland, has been appointed head of the department of pharmaceutical chemistry in the College of Pharmacy of the University of Minnesota.

HARRY T. POWER, for a number of years chief petroleum engineer for the Gulf Oil Corporation of Oklahoma, formerly a staff member of the U. S. Bureau of Mines, has been appointed professor of petroleum engineering and chairman of the department at the University of Texas.

DR. CARL P. RUSSELL, of California, formerly chief of the Museum Division of the National Park Service, has been appointed chief of the Wildlife Division to succeed the late George M. Wright, who was killed in an automobile accident last February.

AT the Massachusetts State College Arthur P. French has been promoted from assistant professor to professor of pomology and plant breeding and Rich-

A SIMPLE DEVICE FOR SHORT PHOTOGRAPHIC EXPOSURES¹

IN connection with some recent experiments on the deposit of insecticidal sprays on surfaces it became necessary to photograph the formation of droplets of spray on the object. This requires a short exposure and therefore high intensity illumination. Instead of controlling shutter speed the duration of illumination

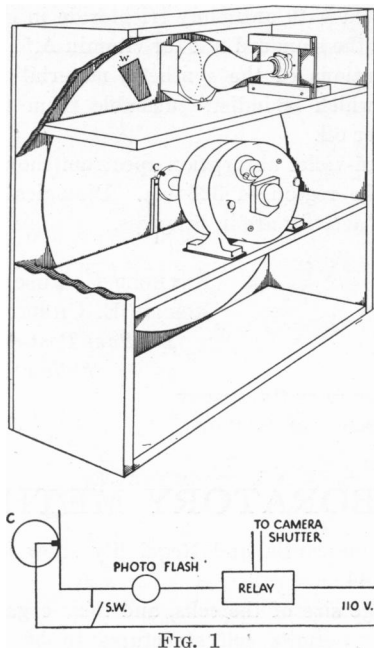


FIG. 1

was limited. The apparatus is shown in Fig. 1. A window, W, is cut in a sheet steel disk 2 feet in diameter directly fastened to the motor shaft. A window, not shown, is cut in the box so that it and the flash lamp and lens are in line. The window, W, thus serves as a shutter. If the speed of the motor is 1800 r.p.m., then one revolution requires 0.033 seconds and a window subtending 12° of arc will give a duration of illumination of 0.001 second. Since the maximum intensity from a photoflash bulb occurs about 0.01 seconds after firing, the commutator is set at 180° to 270° with respect to the window. Before the window has again passed the lamp the flash is over so that but a single exposure results. The number 20 size photoflash lamps give enough light to cover a square foot of surface.

The wiring diagram is self-explanatory. If desired, the relay may be dispensed with and the camera shutter operated by hand, using a one second time or "bulb" which permits of firing the light by switch during the exposure. The switch, S.W., is used when focussing the light on the object, an ordinary 100-watt lamp being substituted for the photoflash lamp.

RODERICK CRAIG

¹ From the laboratories of insect physiology and toxicology, Division of Entomology and Parasitology, University of California, Berkeley, Calif.

A SIMPLE LABORATORY-MADE BLAST LAMP

A SIMPLE flexible blast lamp may be easily constructed in a few minutes with material found in most laboratories. The outer jacket (A) may be made of 20 mm Pyrex tubing or a 20 mm Pyrex test-tube, to which is attached the side arm (B) for the gas intake.

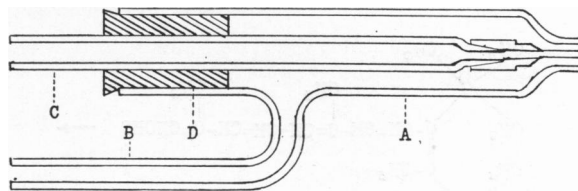


FIG. 1

The nozzle is then drawn out to about 3 mm inside diameter. The central tube (C) for oxygen supply is the barrel of a 1 cc tuberculin syringe, with the base flange removed. This is inserted through the cork (D). For the changeable oxygen tips, filed-off hypodermic needles are used. Thus by merely removing the syringe and cork, a needle may be slipped off and quickly replaced by another of a different size and the resulting flame may be varied from a fine point with a 20-gauge needle to a large lance flame with one of 13 gauge. The type of flame may also be varied from a point to a large "brush" annealing flame by slipping the syringe forward or back.

For very fine work, as quartz micro-manipulation needles, the nozzle may be drawn out to a finer opening and smaller tips used. The bend in the side arm makes the lamp convenient for use as a hand torch, while a ring stand and clamp make it a flexible bench type.

The only disadvantage to this blast lamp as described lies in the fact that both oxygen and gas must be regulated at the source. If desired, stop-cocks may be incorporated in the lamp itself.

C. ROBERT MOODEY
ARNOLD LOWMAN

UNIVERSITY OF CALIFORNIA MEDICAL
SCHOOL

BOOKS RECEIVED

- ERIKSON, HENRY A. *Elements of Mechanics*. Third edition. Pp. xv + 269. 143 figures. McGraw-Hill. \$2.25.
 HOLMES, HARRY N. *General Chemistry*. Third edition. Pp. viii + 700. 200 figures. Macmillan. \$3.50.
 HOUSTON, WILLIAM R. *The Art of Treatment*. Pp. 744. Macmillan. \$5.00.
 PEAKE, HAROLD, and HERBERT J. FLEURE. *The Law and the Prophets*. Vol. IX in series of *The Corridors of Time*. Pp. viii + 188. 53 figures. Yale University Press. \$2.00.
 PINCUS, GREGORY. *The Eggs of Mammals*. Pp. ix + 160. 33 figures. Macmillan. \$3.75.
 SHAW, SIR NAPIER, and ELAINE AUSTIN. *Manual of Meteorology*. Vol. II, *Comparative Meteorology*. Revised edition. Pp. xlviii + 472. 225 figures. Cambridge University Press, Macmillan. \$10.00.