

PHYSICS

Mosquito's Stinger Weighs .000006 Ounce

IT's the little things which count in life, and just how little they are has been shown by the work of Dr. Harry F. Miller, microscopy specialist of General Electric's Pittsfield, Mass., laboratory.

That bothersome proboscis (stinger to you) of the troublesome mosquito weighs only .000018 of a gram or .000006 of an ounce. The misplaced comma or period your English teacher might raise the dickens about weighs all of .000002 of a gram in the case of the period, and .000005 gram for the comma. An exclamation mark weighs .000008 gram. These punctuation marks weigh, in ounces, .0000001, .0000002 and .0000003 ounce respectively.

An extremely delicate microchemical balance was used for Dr. Miller's computations.

Science News Letter, June 10, 1939

PSYCHOLOGY—SOCIOLOGY

"Youth" and "Age" May Be Future Political Parties

"YOUTH" and "Age" may be the main political parties of the world of tomorrow.

This prophecy is based on the thinking of economists and population experts concerning what will happen as a result of declining birth rates and a total population no longer growing lustily in numbers.

Both parties may be "radical." What the "age" group may be like, we have an inkling in the recent Townsendite and "Ham and Eggs" movements that made themselves heard on the subject of pensions for the aged. Despite the fact that persons past middle-age are traditionally conservative, age movements may be quite otherwise and may promote very radical schemes in their own interest.

A falling birth rate may be expected, combined with lengthened lives, to add enormously to the potential recruits for the "Age" party.

Youth will demand its party, too. That it will be a fiery radical party, perhaps a reckless and very dangerous one, is surmised from the world's experience with youth movements.

The economic battle between the young and the old shows no sign of lessening. Older men in jobs will fight to keep them. Social Security has not removed as many older people from employment as some hoped. In fact, the

prejudice against hiring men over 40 appears to be lessened now that such older men are not likely to become a burden on the conscience or pension roll of industry.

Young people, it is likely, will be kept out of jobs as long as possible by requiring more and more academic training for employment and by pushing up age limits through anti-child labor legislation.

Economic dependency, postponed marriage, competition for jobs, diminishing opportunities for promotion, will surely sharpen the resentment that youth will feel toward age.

Elections in the world of tomorrow should be exciting.

Science News Letter, June 10, 1939

ENGINEERING

Three Pounds of Rubber, Seven Pounds of Steel

DEVELOPMENT of a new type of automobile spring which uses three pounds of rubber and seven pounds of steel in place of the all-steel construction was announced by the B. F. Goodrich Company of Akron, O. The new spring, it was said, requires no lubrication and reduces rattles and squeaks.

It has been installed in the Goodrich exhibit at the New York World's Fair by A. S. Krotz, development engineer.

Rubber springs have been invented and patented many times, but none has ever come into general use. The new Goodrich spring gets around the difficulties of most of its kindred predecessors through the fact that the rubber is under compression and twisting or torsion pressure instead of being under stretch or tension. When under tension, cracks develop in the surface of the rubber and it soon deteriorates.

The rubber surrounds a central steel shaft and is in turn surrounded by a pair of hemispherical steel shells. By making the rubber layer a little larger in diameter than the inside diameter of the steel shells before they are fastened together, the rubber is put under pressure. High pressures are applied during the curing process to bond the rubber and metal firmly. The spring is stressed in torsion by anchoring either shell or shaft to chassis and rotating the other member.

The entire arrangement takes advantage of one of rubber's most marked and most desirable characteristics, its ability to absorb and damp vibration. This has not previously been done in the springs in widest use in automobiles.

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IN SCIENCE

INVENTION

Patents Covering Hosiery From Nylon Granted

FOUR patents covering stockings and other knitted fabrics made from the new synthetic silk, nylon, and indicating that their appearance on the market is not far off, were granted by the U. S. Patent Office to E. I. du Pont de Nemours and Company scientists.

Durable hosiery which is virtually wrinkle-proof, but which may yet be creased under special conditions under control of the manufacturer, and which dries extremely rapidly after laundering are claimed in the group of patents which cover processing treatments.

"Nylon is little sensitive to water spotting," the company declared in a simultaneous announcement. "Nylon fibers are characterized by high tensile strength, high resistance to moisture and extraordinary opposition to all ordinary solvents." Stockings made from it can be washed repeatedly with little effect on the fiber.

One of the patents covers the use of sodium sulfite in small amounts to speed setting of nylon fabrics by steam or hot water. Such setting of the fabric enables it to retain crimps and creases, and improves the material's elastic recovery. The setting is permanent, laundering not affecting the smoothness or original shape.

"Pre-boarding" to give nylon stockings this set shape and smooth appearance is covered in a second one of the four patents. Much more severe conditions of moisture and heat than originally used in the setting are required to destroy or alter the set. Hence, its permanence.

Two nylon-making plants are under construction, one at Seaford, Del., for textiles, and the other at Belle, W. Va., for a variety of other products that can be made from nylon. Some of them have already made their appearance commercially in the form of toothbrush bristles, sewing thread, fishing lines and fishing leaders. Nylon is made from coal, air and water, and is the first synthetic fiber not derived from an organic base.

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E FIELDS

MEDICINE

Little Known Disease Identified At Cornell

MEET "acute interstitial pneumonitis," a new disease entity.

Eighty-six students at Cornell University have entertained the disease in recent months. No influenza epidemic was present but one by one these students had an acute infection of the respiratory tract that, under X-ray examination, somewhat resembled pneumonia.

Four doctors at Cornell University Infirmary report the new disease entity (*Journal, American Medical Association*, May 10). Every month since the infirmary was opened in October, 1937, there have been cases of pneumonitis.

These doctors believe that this disease is more infectious than pneumonia and they hospitalize and isolate all patients, permitting no visitors. They give several reasons why the disease is not simply atypical pneumococcal pneumonia.

They believe the disease, while new in their area, is probably identical with the "acute influenza pneumonitis," described by Major Albert Bowen as occurring in Hawaii from 1931 to 1934 and with the "acute pneumonitis probably caused by a filtrable virus," described by Dr. Hobart A. Reimann as occurring in Philadelphia in 1938.

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ANTHROPOLOGY

"What Is an Indian?" Can't Be Summed Briefly

NOW THAT Americans are taking to Indian jewelry and rugs and other craft work, and now that Indian villages are part of every world's fair, it would seem that the red man should be better understood by the public.

It is undoubtedly true that America's aborigines are better understood. School children, who used to be brought up on Hiawatha, and got additional ideas from observing circus and Wild West show Indians, are now taught as a rule something about Navajos, Pueblos, and some of the other tribes with distinctive manner of living.

But even today, if you ask any one what he considers a typical Indian, you usually find that Indians are people who live in tepees and wear blankets and war bonnets. Yet the majority of prehistoric Indians, in the United States area at least, were settled farmers, not roving hunters. And the biggest tribe today are the sheep-herding Navajos who do not resemble plains or forest tribes either in their dress or in the appearance of their homes.

The explorers, from Columbus on, never grasped the idea that aboriginal America was peopled by all grades of humanity from the simple savage up to the scholar. They looked at the primitive groups and debated whether they must regard these curious objects as human beings with souls. In Mexico, they were awed by luxury and magnificence of Aztec rulers, and they were surprised that natives could read and write. But they never realized that Indian picture books contained proof of astronomical and mathematical learning in some ways beyond that of Europe's wise men.

In short, the native life of America was not seen or appreciated as the varied expression of a race which accomplished remarkable things in favorable circumstances, and was retarded in other regions and conditions.

There was no typical Indian then, and even though the Indian tribes of today are less widely varied in their state of progress there is no typical Indian, really, today.

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ANTHROPOLOGY

Heads Grow Fastest Between Ages of Two and Four

CHILDREN'S heads grow most rapidly in length between the ages of two and five, in breadth between two and four. Length increase then drops off sharply until seven, and there are further pulsations of growth until about 13. Then boys' heads take on a new spurt, but girls' heads slow down in growth.

These are among the results of measurements taken year after year on the heads of more than 250 children from the time they were two years old until they were sixteen or seventeen, reported by Dr. Marcus S. Goldstein of New York University (*Human Biology*, June).

Girls who reached physiological maturity earliest had heads definitely larger than their later-maturing companions, Dr. Goldstein found.

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AERONAUTICS

Case School Gets Grant To Study Low-Drag Wing

THE Case School of Applied Science in Cleveland has received a grant of \$1800 from the National Advisory Committee for Aeronautics to finance a study of a low-drag wing by Prof. John R. Weske and Karl Scheucher, a senior at the school. Importance of the study lies in the fact that a five per cent. drag reduction, Dr. Weske said, may in some cases make it possible to double the plane's payload by reducing the amount of fuel that must be carried.

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AERONAUTICS

Only Two Ships Beat Once-A-Week Airmail

ONCE-A-WEEK airmail service to Europe, now available following Pan American Airways' inaugural flight, beats every other mail overseas except letters mailed Monday and Tuesday from the New York area or earlier from western points, and marked for the Queen Mary and Normandie, a survey of schedules showed. In the exceptional case, the race is a tie.

When direct service to London is started this month, after ice clears from Botwood harbor in Newfoundland, or when twice-a-week flights commence, also expected shortly, steamship mail will under no conditions be able to reach Europe before or at the same time as airmail.

Because airmail letters for Europe may lie in New York for several days before a flight, it is still possible on two business days a week to write and mail a letter that will reach Europe just as quickly via the two foreign flag giants. The Queen Mary and Normandie sail from New York on Wednesdays, mail on board being delivered in Europe's capitals the next Tuesday morning, even if marked "express" or special delivery. Length of time in advance of the sailing that must be allowed for letters to reach the steamers depends on distance and whether the mail is sent first class or via air. Mail sent to Europe via Pan American's Marseilles service is also delivered in Europe's leading cities on Tuesday.

Ship mail that misses these two fastest steamers cannot reach Europe before or even at the same time as Pan American's present service. Airmail to Europe costs thirty cents a half ounce from any point in the United States.

Science News Letter, June 10, 1939