

ENGINEERING

**Automatic Injections
Aid Car Engines**

➤ MORE power for the automobile engine for high speeds and hill-climbing is provided with an improved alcohol-water injection device which automatically supplies the mixture at a rate which increases proportionately to the engine speed. Inventors are Philip H. Bills, Longmeadow, Joseph A. Logan, Hadley, and Theodore J. Mesh, Easthampton, Mass. Gilbert and Barker Manufacturing Company, West Springfield, Mass., has acquired the patent rights.

It is well known that a mixture of water and alcohol will result in better performance of an internal-combustion engine, the inventors state. At ordinary legal speeds on level roads, regular gasoline gives satisfactory power. This invention is to provide the injection when higher speeds are desirable or satisfactory power for hill-climbing without engine knock.

The injection is made by a pump which is controlled by a switch actuated by the suction of the engine manifold. This results in injection during the periods when the engine is working hard. The circuit breaker of the ignition system of the engine is used as a vibrator to convert the current from the storage battery to the high frequency pulsating current needed to operate the pump.

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PEDIATRICS

**Opinion to the Contrary,
Babies Do Sleep at Night**

➤ REGARDLESS OF what mother, daddy and the neighbors may think, babies do sleep at night. Their night time sleep lasts from eight to 10 hours and the time between one and three a.m. is when they are most likely to be asleep. These are among the findings of a study of babies' sleep by Prof. Nathaniel Kleitman and Theodore G. Englemann of the University of Chicago.

Even at the age of three weeks babies do most of their sleeping at night, the scientists found. At that age they sleep about eight and a half hours at night, and only six and a half hours during the day. The basic day-night sleep pattern already is beginning to be established. In the next few weeks of life, up to the fourteenth week, the total amount of sleep increases only slightly, if at all, but the babies increased their night sleep to a little over 10 hours. The day-time sleep decreased proportionately.

At the end of six months, the babies cut down their day-time sleeping to about three and a half hours, which usually falls into two well-defined naps during the day. Their total sleep over a 24-hour period is as little as 14 hours.

Boys and girls differ little in the length of time they sleep, the study shows, but the babies that slept the least were found among the boys. The boys also tended to eat more often.

The study showed that there was no difference in sleep habits of the babies fed meat or of those on a meatless diet. Nor did meat in the diet affect the amount they cried or the number of crying spells during the night. These latter, incidentally, varied between one crying spell every ten nights to as often as two spells a night.

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GERIATRICS

**Start at 20 to Stop
Diseases of Old Age**

➤ DOCTORS SHOULD start preventing old age diseases among their 20-year-old patients, Dr. Malford W. Thewlis of Wakefield, R. I., told members of the American Geriatrics Society at their meeting in Atlantic City, N. J.

Geriatrics is defined as that department of medicine which treats all problems peculiar to old age and the aging. But, said Dr. Thewlis, "geriatrics is not a special branch of medicine."

"It is a part of general practice or internal medicine. Any physician who is well grounded in medicine and who takes special interest in those of advancing years qualifies as a geriatrician."

"Preventive geriatrics," he continued, "begins at 20 and actual geriatrics begins at 40."

Physicians must keep their aging patients up and about as much as possible, he advised, pointing out that hospitals are already over-crowded.

"Better diagnosis, more preventive geriatrics, will keep these old people going—an important thing at this time when every able body is needed in industry," Dr. Thewlis declared. "Much can be done in industry by physicians who are dealing with employees. A good geriatrician always has his mind on prevention."

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INVENTION

**Push Button Will Aid
Can-Opener Cooks**

➤ CAN-OPENING, heretofore considered an easy way to prepare a meal, becomes even easier with the invention of a push-button, motor-driven can-opener. Just place the can—of beans or hash—in the proper position, push the lever which operates the push-button, and the lid is pierced and the can opened.

This boon to the bridge-playing housewife was invented by Richard J. Raab, Rochester, N. Y., who received patent number 2,555,931 from the U. S. Patent Office.

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IN SCIEN

PHYSICS

**Man to Duplicate Stellar
Atomic Energy in 50 Years**

➤ THERE IS no reason why scientists should not find within the next 50 to 100 years some way to build heavier elements out of light chemical elements in a controllable chemical reaction releasing great quantities of energy.

This possibility of duplicating usefully what is done in the stars and may be done in the so-called hydrogen bomb is foreseen by Prof. F. E. Simon, professor of thermodynamics at the University of Oxford, England.

The so-called thermo-nuclear reactions thus achieved, Prof. Simon believes, would, together with solar energy, probably be the main source of power in the distant future when supplies of conventional fuel and of uranium for atomic energy have given out.

At present there is no controllable way of combining hydrogen nuclei to form helium as is done in the stars with a conversion of mass into energy. There are, however, good chances that this process can be used to make the hydrogen bomb.

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PSYCHOLOGY

**It's Humor Children
Want in Comic Books**

➤ DESPITE FEARS of some parents over the kind of comic books their children read, humor is one of the major characteristics children look for in comic books.

This was discovered by two Syracuse University, N. Y., professors in a survey of the comic book reading habits of 1,256 children. They graded the 16 major characteristics of the most popular comic books.

Boys preferred books with masculine and humor characteristics; girls preferred the characteristics labelled feminine, humor and adolescent.

The five best-liked comic books for the boys were: True Sports, Crime Does Not Pay, Donald Duck, Mutt and Jeff and Joe Palooka. The girls preferred most to read: Patsy Walker, A Date With Judy, Millie the Model, Archie, and Nancy.

Superman was mentioned in an earlier survey as having been bought most often. However, it did not turn up later as the most preferred.

The professors who conducted the surveys were Robert F. Butterworth and Dr. George G. Thompson.

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CE FIELDS

MEDICINE

Obesity Called Waste of Manpower and Food

► "FATTIES ANONYMOUS," groups of overweight people who try to help each other stick to a reducing program, were praised by Dr. James M. Hundley, of the National Institute of Arthritis and Metabolic Diseases, U. S. Public Health Service, in a report at the joint meeting of the Chicago Medical Society, Chicago Nutrition Association and Chicago Dietetic Association.

He called such groups an "encouraging start" toward handling the problem of obesity, or overweight, through groups. The Public Health Service, he added, has made pilot studies on this, also with "encouraging results."

Group treatment is needed partly because of the size of the problem. If all the obese were suddenly to descend on their physicians asking for treatment, "our medical facilities would be completely swamped," Dr. Hundley declared.

Calling obesity a "luxury we cannot afford," he said, "it is a waste of our national resources not only in manpower but in food."

Although there is no proof that obesity is the cause of high blood pressure, heart disease, diabetes and a shortened lifespan, it is associated with all of these.

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ENTOMOLOGY

Fifth as Many Insects At Time of Full Moon

► AT THE time of full moon, nocturnal insects are only about a fifth as plentiful as during the dark of the new moon.

This seeming effect of the moon is reported by two entomologists, C. B. Williams and B. P. Singh, working at Britain's Rothamsted Experimental Station.

For many years those who gather insects for scientific purposes have known that if a bright light is used to attract insects at night, the catches are considerably higher near the period of the new moon than near the full moon. While catches at full moon by other methods were also believed to be poor, there was the chance that the low catches in a light trap might be due to a lowered relative luminosity and a lowered attractiveness of the trap at full moon.

Entomologists Williams and Singh last summer and fall made a test by sucking up insects at night with a strong electric fan, so the light intensity would not affect the catches.

Careful counts of the flies and other kinds of insects captured during five complete lunar cycles showed that the catch in the new moon week was five times that in the full moon week.

This year, they announce to the scientific world through the journal, *NATURE* (May 26), they will repeat their experiment. In the meantime, they hope others will report evidence on this problem, particularly long series of night catches of insects by any method not depending upon attraction to light.

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ASTRONOMY

Sun Doesn't Set Latest On Longest Day of Year

► ALTHOUGH June 22 is the longest day of the year for people in the northern hemisphere, the sun doesn't rise earliest on that day nor does it set latest.

The latest sunset is about June 29 and the earliest sunrise was June 15. But these two days and the 22nd differ only about a minute in the length of day.

The times of sunrise and sunset, and the number of daylight hours vary considerably with latitude. The northern states enjoy several extra hours of sunlight, the sun rising earlier and setting later than in Florida and Texas, for instance.

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NUTRITION

Dessert Can Do Double Duty Finishing Meal

► DESSERT can be more than a sweet bit to finish the meal. It can carry the kind of protein nourishment for which we ordinarily eat meat, fish and poultry as the main course.

The trick is to make a generous egg dessert such as custard or pound cake. Nutritionists of the U. S. Department of Agriculture suggest this for the period when eggs are plentiful and inexpensive. It might also be a good idea for the housewife trying to plan a nourishing but appetizingly cool meal in hot weather.

Baked custard, a favorite with all ages of the family, can be touched up so that each serving is different, according to cookery specialists. An easy way to do it is to line up six custard cups and put a few raisins in one, nutmeg in another, cooked dried apricots in a third, honey in a fourth, chocolate chips in a fifth, then fill all six cups with the custard mixture and bake. When done, this assortment is turned upside down in individual dessert dishes so that the trimmings are on top. The one plain custard may be touched up with frozen strawberry sauce at serving time. The specialists say that greasing the custard cups helps make apricots or nutmeg stay in place.

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VETERINARY MEDICINE

Sea Lions Suffer From Ulcers, Too

► GASTRIC ULCERS not only cause your boss to be peevish, but cause sea mammals—notably the sea lion—to be sluggish and lacking in pep.

And a dispirited sea lion makes a pretty sad exhibit in a zoo or in a trained animal act.

So says Dr. Arthur Louis Kelly, veterinarian of the San Diego Zoo, who is presently doing research at the University of California's Scripps Institution of Oceanography.

"The technical literature carries several references to the presence of gastric ulcers in sea lions," says Dr. Kelly, "and in our work at the zoo we have often found sea lions so afflicted."

In the sea lion, gastric ulcers are thought to be traceable to the activities of parasites ingested with the animal's food. There is no evidence that the ulcers are of psychosomatic origin, as is common among humans.

Dr. Kelly is studying the chemical changes that take place in the bodies of marine mammals when they are changed from sea water to fresh water. Part of this investigation is an attempt to determine where the sea lion gets the water its system requires. One theory is that it may come from the body fluids of the fish the mammal eats.

The transfer of sea lions from the salt water of the ocean to the fresh water of the zoo benefits them immediately in one way, Dr. Kelly says. They soon lose external parasites, such as lice, with which they are afflicted in the open ocean.

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MEDICINE

A-Bomb Survivors Have Cataracts and Leukemia

► CATARACTS OF the eyes and leukemia, cancerous disease of the blood, are the two conditions so far found to occur more often than normal among Japanese survivors of the atom bombings in Hiroshima and Nagasaki, Dr. W. C. Davison, dean of the Duke University Medical School, has found.

Dr. Davison has just returned from a six-week inspection of the Atom Bomb Casualty Commission, the U. S. agency conducting a long range medical study of results of the atom bombings on survivors.

The finding of more cataracts and leukemia, he stressed, represents only a "relative increase." The actual number of cases of each condition is "extremely low."

Dr. Davison reported his findings to the National Research Council, parent agency of the ABCC.

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