

PUBLIC HEALTH

Calcium-Less Milk

A controversial question is posed by strontium 90, a product of radioactive fallout, and its effects on health and heredity. It replaces calcium, making it dangerous to man.

► **THE QUESTION** of whether Americans are gulping down too much radioactivity with the milk they drink has received very different answers.

On one side of the controversy is Dr. W. O. Caster, department of physiological chemistry, University of Minnesota, Minneapolis, who warns that milk should be purified by decalcifying it to remove the dangerous strontium 90 from atomic fallout. It can then be rebuilt with calcium from an ancient source such as limestone.

Taking the other side of the controversy, Dr. Thomas L. Shipman, Los Alamos Scientific Laboratory, told milk producers at the California Creamery Operators' Association meeting, Lake Tahoe, Calif., that emotions were obscuring the facts about the danger.

In *Science* (June 28), Dr. Caster reports that a decalcification process like the one he advised is already being used to produce low sodium and soft curd milk, and could be used to reduce milk's dangerous radioactivity by four or five times its present contamination.

Dr. Caster believes the general population is nowhere near as safe from strontium 90 as recent discussions of radioactive fallout have indicated.

The danger is that the maximum permissible concentration (MPC) of strontium 90 in the body that is considered safe for workers in the atomic industry cannot be carried over to the "average" population. The MPC now used as a guide can only be

applied to the professional isotope worker, probably male, 45 or more years old, who is exposed to the isotope only under rigidly controlled laboratory conditions.

When all the allowances have been made, it can be computed that the MPC for the population should be 1,000 times less than that for the professional worker.

This throws the problem of strontium 90-containing milk into sharper focus since 80% of the dietary calcium, and therefore strontium 90, that enters the body comes from milk and milk products. This could be eliminated by the decalcification process, a simple safety measure that should be taken immediately, Dr. Caster said.

But Dr. Shipman is far less impressed with such concern about the dangers from strontium 90 in milk.

Every bottle of milk sold today contains just as it always has throughout history a small amount of radioactive potassium, he said. The radiation dose from this potassium is 10 to 25 times as great as that from the strontium 90 and cesium 137 in the milk. "I have never heard anyone getting very disturbed about the potassium!" Dr. Shipman reported.

The physicians, biologists, biochemists and other scientists studying the dangers are sincere, capable and independent, with children of their own. They certainly would not be advocating a course of action that would harm their own families as well as the rest of the human race, he added.

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on-Avon and Mr. Hill. It describes a drive for independently suspended vehicle wheels.

The general aim of the invention, the inventors state, is to eliminate vibrations and provide "an extremely compact power package including an engine and power transmission means mountable as a 'unit' on a vehicle frame."

Mr. Ferguson is perhaps best known in the United States for his work with the late Henry Ford in the development of farm equipment.

The patents issued can be purchased from the Commissioner of Patents, Department of Commerce, Washington 25, D. C., and cost 25 cents each.

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NATURAL RESOURCES

Public Enjoys Wildlife Refuges

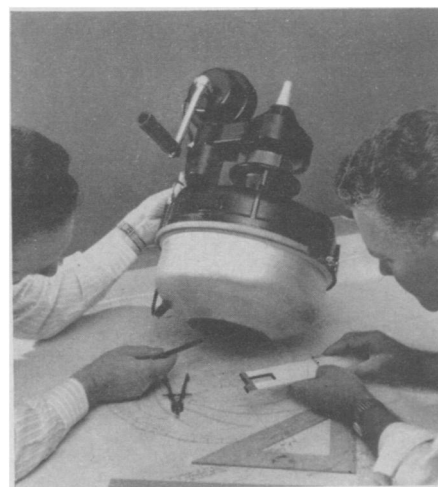
► **ANIMALS** are not the only ones enjoying our national wildlife refuges.

During 1956 a new public-use record was set when more than 7,500,000 persons visited some 270 refuges. They came to fish, swim, go boating and picnicking or to study nature.

With the exception of some parts of the Midwest and the South, where drought conditions prevailed, attendance soared over 1955 records. It doubled in many refuges in Georgia, South Carolina, Wyoming, Nevada and Oregon.

The whooping cranes at the Aransas wildlife refuge in Texas were peered at by some 15,000 visitors who could observe the rare birds from the vantage point of a new observation tower.

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"SOLAR MERCURY"—A model of one of the smallest gas turbine aircraft engines ever built is being examined by engineers at Solar Aircraft Company, San Diego, Calif. The company, which designed and produced the engine under a joint Navy-Army contract, says the 50-pound engine will produce 55 shaft horsepower plus 12 pounds of jet thrust on a 100 degree Fahrenheit day.

TECHNOLOGY

Car Patents Available

► **HARRY** Ferguson's automobile secrets can be bought for 75 cents.

Three patents involving a system of wheel traction, suspension and braking that promise to revolutionize the automotive industry were granted by the U. S. Patent Office. Mr. Ferguson, head of Harry Ferguson Research, Ltd., Stow-on-the-Wold, England, was assigned the patent rights to all three inventions.

Together, the three inventions offer adaptability to any type of vehicle. They provide greater safety and maneuverability on bad roads, sand, ice and snow. They promise to cut the running costs of passenger cars. The first patent issued, No. 2,796,941, is the invention of Claude Hill of Kenilworth, England. It is for a four wheel drive for automotive vehicles and is described by Mr. Hill as providing "what will be, indeed, a real four wheel drive under all conditions of operation." It will afford a

four wheel drive that can be used continuously, on all kinds of roads or terrain, without wearing tires more than with an ordinary two wheel drive of a pleasure or commercial vehicle.

The drive system is designed to have free differential action between front and rear pairs of wheels for turns and automatic means for preventing loss of tractive power by one pair of wheels when one or both of the wheels in the other pair spins on a slippery surface.

The second patent, No. 2,796,942, is the invention of Mr. Hill too. This patent supplements the first patent in general and specifically shows the design of a four wheel drive in which one-way overrun devices are used to achieve the desired goal. The devices are described as "simple, reliable and inexpensive."

The third patent, No. 2,796,943, was granted to Anthony P. R. Rolt of Stratford-