

• New Machines and Gadgets •

For sources of more information on new things described, send a self-addressed stamped envelope to SCIENCE SERVICE, 1719 N St., N.W., Washington 6, D. C., and ask for Gadget Bulletin 864. To receive this Gadget Bulletin without special request each week, remit \$1.50 for one year's subscription.

☛ **CAKE MOLD** for making party cake-houses offers fun for children and grown-ups alike. The take-apart aluminum mold can be used to bake house-shaped cakes that with a little imagination in decorating become churches, barns or schools. The molds are available in two sizes.

Science News Letter, January 5, 1957

☛ **ARMORED CAR** for junior is also a bank for junior's savings. Molded of a non-shattering acetate plastic, the money-truck is remotely-controlled for forward or reverse motion with the press of a button. Two standard flashlight batteries power the combination toy and bank.

Science News Letter, January 5, 1957

☛ **MAIL NOTIFIER** for rural type mail boxes can be spotted from inside the house. Made of aluminum, the signal can be installed on either side of the mail post box without drilling, bolting and screwing on. The bright red signal flag is designed to hang from the box.

Science News Letter, January 5, 1957

☛ **FACE GUARD** for football helmets can be attached to any of several well-known makes. Designed to add extra protection to amateur and professional alike, the guard is made of a clear butyrate plastic. Holes may be punched or drilled on either side of



the helmet for individual adjustment of the guard, which is shown in the photograph.

Science News Letter, January 5, 1957

☛ **ALUMINUM TRELLIS** doubles as a television antenna. Replacing rooftop antennas and "rabbit-ears," the outdoor device is not affected by interference from

metal products as are indoor antennas. Measuring 32 inches wide and 72 inches tall, the TV-trellis can be covered with roses or other vines.

Science News Letter, January 5, 1957

☛ **LABORATORY STOPCOCK** requires no stopcock grease. The conventional glass plug has been replaced by a precision-machined Teflon plug that is self-lubricating. Product contamination is eliminated and the stopcock will work over a wide range of temperatures.

Science News Letter, January 5, 1957

☛ **WATER REPELLENT PRESERVATIVES** for use by fishermen and boating enthusiasts are described as quick drying. One repellent, recommended as a base for marine finishes, protects wood against warping, checking, decay and termites. The other, for sails, rope, canvas and fish nets, offers protection against moisture, decay and mildew.

Science News Letter, January 5, 1957

☛ **LETTER FILE** for the top drawer is a do-it-yourself leather and metal holder. A design can be tooled onto the leather bands that decorate the wrought iron file. The file holds over 25 letters, notes, checks or other papers.

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Nature Ramblings



By HORACE LOFTIN

Safety in Numbers

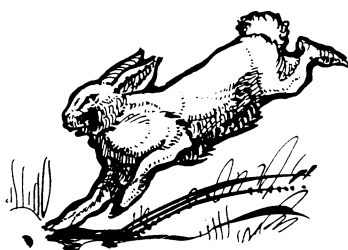
► THERE SEEMS to be a sort of "natural law" in the animal world that the weaker creatures in general produce a greater number of young than do the strong.

For example, the prolific but defenseless cottontail rabbit, *Silvilagus*, produces some three litters a year, with three to six young per litter. On the other hand, the great black bear gives birth to only one or two young every second year.

Why this difference? Remember that it takes a lot of rabbit dinners to make a full-grown bear, wildcat or other flesh-eater.

If the rabbits and other small creatures are to survive as a race, they must reproduce themselves in greater numbers than will be eaten by predators. We might call this the "principle of safety in numbers."

Probably the field mice, *Microtus*, and their kin are the most prolific—as well as the most eaten—mammals in the world.



There may be from four to nine young in each litter, and one litter follows the other in rapid succession.

One captive field mouse had 17 consecutive litters in a single year; meanwhile her offspring began to bear young. Before the end of the year, one of her daughters had produced 13 litters more.

Such a rate of reproduction points up the

fine balance of life in nature. Without this high rate, the lesser animals might not survive the onslaught of the meat-eaters. Still, without the predators there would be more of the tiny animals than the habitat could support. Starvation and disease would quickly follow.

Other factors than predation make high reproductive potential important in survival.

For example, oysters extrude eggs and sperm into the open water, and they must come together more or less by chance to produce new individuals. The "chances" are considerably increased by the fact that the oyster produces from 15,000,000 to 114,000,000 eggs at a single spawning.

Bacteria may divide to make up two separate individuals every 20 minutes, under favorable conditions.

If multiplication continued at this rate without death among the offspring, the bacteria in a glass of milk would make a mass larger than the earth in five days!

Science News Letter, January 5, 1957