

15¢

\$5.50 A YEAR

April 4, 1959

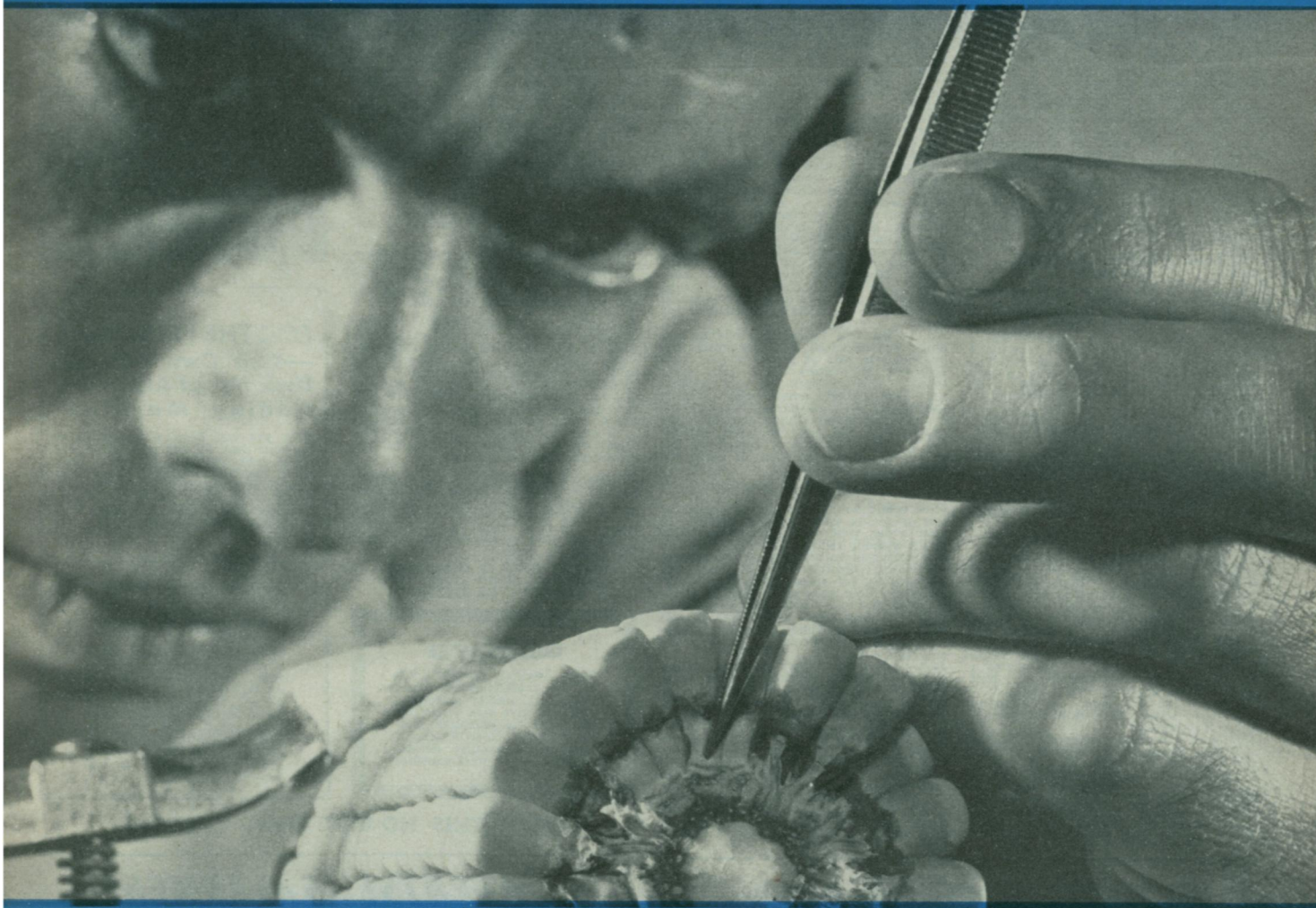
VOL 75 NO. 14

PAGES 209-224

# SCIENCE NEWS LETTER

®

THE WEEKLY SUMMARY OF CURRENT SCIENCE



Gardener's Aid

See Page 214

A SCIENCE SERVICE PUBLICATION

**JUST IMPORTED  
FROM ITALY!**

# WORLD'S FIRST PERSONAL SIZE DESK ADDING MACHINE!

**Amazing Little Machine With Spinning Wheels and Trip  
Mechanism Adds Up To 9,999,999... Automatically!**

Not a flat, vest pocket adder—not a gadget—no bewildering instructions to follow. Here for the first time is a real desk-type adding machine that works on the same scientific principle as electric office computing machines... but without electricity! It adds up bank statements, sales slips, inventories, expense accounts, super-market tapes, budgets, any adding jobs you have... within seconds of even \$200.00 office adding machines! And then, this amazing machine clears itself with just a flick of your finger on the clearing bar. Yes! Instantly all the wheels inside spin back to normal—7 zeros flash into the easy-to-read answer windows—and it is ready for the next time saving, money saving adding job!

**END MENTAL ADDING—  
FOREVER**

No more adding figures in your head... scribbling numbers on paper... making mistakes that cost you time... and cost you money! Simply press the numbers down on this wonder-working little machine. The automatic trip wheel mechanism never makes a mistake. The total appears in big, clear, easy to read numbers in the answer windows—INSTANTLY and AUTOMATICALLY! It keeps you within your budget... protects you from overspending... protects you from the mistakes companies—even banks... often make... adds all the figures for your income tax... adds up stock dividends... checks expense accounts... plus a thousand other adding chores... and pays for itself a hundred times over in the money you save.

**AN ITALIAN INVENTION**

An eminent inventor in Italy discovered the secret of the fool-proof, non-electric, spinningwheel adding mechanism inside this machine. He had been trying for years to develop a real adding machine at a price for everyone... even in war-poor Europe. NOT another flat pocket adder that requires you to read long instructions before you can begin to operate it. Instead... he wanted a real, desk type adding machine... that anyone could operate, even a child... that would be automatic... fool proof... and, above all, within the pocket-book of everyone! He found the answer after studying the spinning wheels inside electric computing machines. He came upon a way to let a person's hand supply the "power" to the wheels... instead of electricity! Just imagine! He invented an adding machine designed so that the gentlest touch makes the wheels inside turn! After one complete turn... the first

wheel automatically trips the next wheel... just like \$200.00 electric machines! Nothing to remember. Nothing to do but press down the numbers to be added. Everything else automatic! When the Italians... famous for smaller automobiles and smaller motorcycles... started manufacturing this revolutionary new smaller, non-electric adding machine, offices and individuals in Rome, Venice, Florence tried it. WHAT ACCLAIM IT MET WITH! Everywhere it added the longest columns of figures within seconds of the speed of electric machines. Giant companies gave it to secretaries... officers, salesmen. Efficiency of entire companies improved. Mistakes were cut down. And from individuals came even more glowing stories. Instantly adding became a pleasure instead of an aggravating chore. Households became better managed... budgets stuck to... bills checked... mountains of figures added in no time... mistakes a thing of the past! And when this remarkable adding machine was imported to this country, the acclaim was just as great! For here at last was what every home... every office... every store has been waiting for. The perfect, small, easy to use, automatic, desk model adding machine... in beautiful silver tone and blue finish, with big, easy to read numbers and at a price so incredibly low that not a family or store or office can afford to be without it!

**FREE TRIAL OFFER**

How would you like to try this amazing new gleaming metal adding machine in your home, your office or your store entirely without risking a penny? We want you to actually test it against automatic, electric adding machines. Compare it for speed, ease of use and accuracy. You must agree that it is almost as fast... and just as easy to use... you must agree that it will save you endless time trouble, mistakes and money every week... or it won't cost you a penny. Just push the numbers down. See how the most gentle pressure of your hand turns the wheels inside. See how it adds up to 9,999,999 automatically. And see how just a flick of the clearing bar on the side makes the numbers inside the answer window all whirl back to seven zeros... instantly! Put this amazing adding machine on your desk. See how instead of being too busy to add... or in too much of a hurry to be bothered with a complicated pocket adder... from now on you will check every calculation... check all your bills, statements, estimates, inven-

ories, budgets, reports... each in seconds... and never make costly mistakes again! If you are in business, see how this precision adding machine will save you its unbelievable low price a hundred times over. Give one to every secretary, every clerk, every person who ever adds. See how it cuts out trips to your book-keeper, saves time, improves the efficiency of your entire company. You must be convinced that ADDIPRESTO is one of the most valuable and useful inventions you ever used or it won't cost you a penny.

**Supply Still Very Limited  
Mail Free Trial Coupon  
TODAY**

Yes, it is impossible for you to appreciate the beauty, speed and efficiency of ADDIPRESTO until you actually see it and use it. Let us send it to you for one week's completely free trial.

The price of ADDIPRESTO is only \$14.95. Remember, it is a real adding machine with spinning wheels and automatic mechanism... the same type as \$200.00 office computing machines. But ADDIPRESTO works from the pressure of your hand without electricity! It will save you its remarkable low cost many times over. Because you will USE it... over and over... day after day. Don't confuse it with flat, hard to use, complicated pocket adders.

However, the supply of genuine ADDIPRESTO machines is strictly limited. The factory in Europe cannot meet the demand. You must mail the free trial coupon below at once. ADDIPRESTO is not yet sold in stores. Act now and get yours by mail.

**ADDIPRESTO is shipped with  
protective plastic cover and  
GUARANTEE CERTIFICATE.**

**GUARANTEE**

This original ADDIPRESTO is precision-made from the finest quality materials, and will give you a lifetime of accurate, effective performance. Unconditionally Guaranteed against defects in material or workmanship.



**FOR THE FIRST TIME  
—Your Own Personal  
Desk Model Automatic  
Adding Machine!**

Now you can keep ADDIPRESTO on your desk at home or office and never add anything in your head again. In SECONDS... perform almost any adding chore. No more costly mistakes. ADDIPRESTO's spinning wheels and computer type mechanism do the 'figuring' automatically!

**PROVEN IN USE**

Don't confuse this desk-model real adding machine with flat pocket adders. ADDIPRESTO is used by offices, stores, institutions, for adding jobs that demand true speed and accuracy. Used by giant corporations. Saves time, saves mental work, saves money. A real adding machine.

**MAIL THIS NO-RISK TRIAL COUPON**

**OLIVER GARFIELD CO., INC., Dept. SL 49-A  
108 E. 16th St.  
New York 3, N. Y.**

Yes, I want to try ADDIPRESTO, the new Italian Office Type Adding Machine. I will use the machine for one week without risk to me. It must be everything you say it is or I may return it and you will refund my money at once, no questions asked, and I will have used the machine entirely free.

- I enclose \$14.25 (check or money order) as payment in full. This way I save over \$1.00 in postage and handling charges. Same guarantee... same 7-day FREE trial!
- You may bill me for \$14.95 (plus postage and handling) after my 7-day FREE trial period.

NAME.....

ADDRESS.....

CITY..... ZONE..... STATE.....

- QUANTITY BUYERS SAVE! 2 Machines only \$13.95 each.  
3 to 5 Machines only \$12.95 each.

**AGENTS! SALESMEN!**



**THE BIGGEST MONEY-  
MAKER YOU HAVE  
EVER KNOWN!**

ADDIPRESTO is the greatest goldmine you ever saw. Simply show this beautiful, gleaming metal adding machine with spinning wheels and automatic trip mechanism... the same type as \$200.00 electric computers. Then make this eye opening demonstration: add a 6-INCH LONG COLUMN OF FIGURES in 30 SECONDS! After that there's no selling... no arguing. You can't keep people from buying! It's true. 8 out of 8 sales is nothing. Every home, every office, every store needs it. Send for yours today and get started to the biggest money you have ever known. There is no competition. There is no other machine like ADDIPRESTO.

**MAIL COUPON NOW!**

**Just Imported:**

# THE FISH LURE GUARANTEED TO CATCH FISH! OR IT COSTS YOU NOTHING!

Works in Lakes, Ponds, Streams, Salt Water. Saves You Time, Work, Money and Disappointment. Perfect for Amateurs, Experts, Trollers, Casters, Shore Fishermen. Catches All Kinds of Fresh Water Game and Pan Fish Plus Salt Water Fish!

## WORKS WHERE OTHER LURES FAIL!

**What It Will Do for You :**

- CATCHES MORE FISH
- CATCHES ALMOST ALL KINDS OF FISH
- SAVES YOU MONEY ON OTHER PLUGS, BAIT AND LURES
- SAVES YOU WORK OF DIGGING WORMS, CATCHING MINNOWS, ETC.
- CATCHES THE FISH THAT WON'T BITE ON WORMS, BUGS, PLUGS, SPOONS, CANNED BAIT, FLIES, CUT BAIT OR SPINNERS!

FROM PARIS, FRANCE, COMES NEWS OF AN AMAZING fish-catching lure. The world's first truly 'live action' lure that's guaranteed to catch more fish . . . catch bigger fish . . . and catch fish when everything else fails . . . or it costs you nothing.

A Beautifully made lure that saves you hours of work digging worms, catching minnows or other live bait! . . . saves you the endless expense of continually buying expensive plugs, spinners, flies and other fancy equipment designed to catch YOU instead of fish . . . lets you make your fishing trips

more fun, more exciting and lets you enjoy every minute you're fishing from dawn till dusk . . . with more and bigger catches.

### A French Invention

The secret is a scientific 'live-action' tail that had never been patented before. Developed by a French sportsman who named it VIVIF, this wonder-working 'live-action' lure is the result of years of testing all kinds of lures on all kinds of fish . . . and watching the fish react to each lure under water. From these studies came VIVIF, the lure that works when everything else fails. VIVIF is now being used by over 350,000 fishermen in 25 countries who rave over VIVIF.

From all over come reports of record making catches . . . of fish biting where all other lures failed . . . of the sureness, the simplicity . . . the effectiveness of this miracle lure. Think what this means to you. Now at last you can catch every kind of fresh water game fish as well as salt water fish . . . and never spend a penny for fancy plugs, spinners or flies again. You can do away with digging for worms, catching bugs, frogs or minnows. You can cast, troll, shore fish . . . all with equal success. You can go out after . . . and come back with . . . bass, pike, pickerel, perch, bream, trout, walleyes, salmon, red tuna, striped bass, bluefish, weakfish, and do it time after time without any previous experience.



### PHOTO PROOF!

Fish just can't resist the amazing VIVIF with its patented "Live-Action" tail! VIVIF caught this 40 lb. salmon for Mr. G. F. Coleman and 1st prize in a fishing contest.

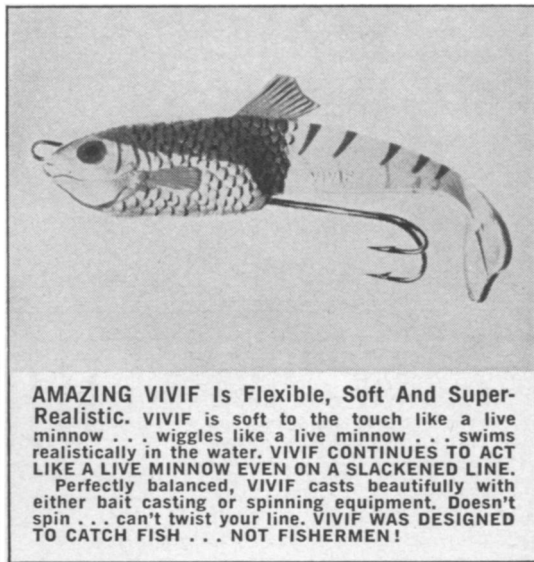
### Marvel of Design

Not just another stiff plastic or wood lure that 'looks good' but doesn't work. VIVIF is made of life-like latex and is the world's most life-like lure in the water . . . works better than live bait! Color combinations have been scientifically selected by fish in actual tests. Acts and wiggles like a live minnow.

### VIVIF IS IMPORTED SUPPLIES ARE STILL LIMITED

To get your VIVIF now, mail Free Trial Coupon at right. U.S. supplies are still very limited and are not yet sold in stores. Order now to be sure you'll have your VIVIF in time for your next fishing trip. Only if you act at once can we guarantee to fill your order immediately. Shipment of famous VIVIF is on its way from France. Don't delay. Mail Free Trial Coupon Today.

Each VIVIF is sent to you in a FREE clear-plastic container with Full Money Back Guarantee.



AMAZING VIVIF is Flexible, Soft And Super-Realistic. VIVIF is soft to the touch like a live minnow . . . wiggles like a live minnow . . . swims realistically in the water. VIVIF CONTINUES TO ACT LIKE A LIVE MINNOW EVEN ON A SLACKENED LINE. Perfectly balanced, VIVIF casts beautifully with either bait casting or spinning equipment. Doesn't spin . . . can't twist your line. VIVIF WAS DESIGNED TO CATCH FISH . . . NOT FISHERMEN!

## FREE TRIAL OFFER MONEY BACK GUARANTEE!

No longer do you have to come home empty handed from your fishing trips. Avoid the costly mistake of using those "flashy" plastic and wood lures that 'look good' to you but fail to catch fish. Try amazing VIVIF . . . the French lure designed to attract and catch fish . . . without risking a penny.

All you do is mail the no-risk free trial coupon below. When you receive your VIVIF, use it anywhere you like . . . use it as often as you wish to

prove its fantastic fish-catching powers.

See for yourself how VIVIF looks and acts in the water. See how easily it casts . . . how it moves through the water as realistically as any live minnow . . . even on a slackened line!

Put VIVIF to every test. If you don't agree it is the finest lure you've ever used . . . if it doesn't catch more fish and bigger fish, you have used it entirely free. It won't cost you a penny.

Over 350,000 Amazing VIVIF'S Now Catching Fish Throughout The World. Be The First In Your Area To Own One.

### MAIL FREE TRIAL COUPON TODAY

Harrison Tackle Company, Dept. 4-SNL  
8-16 Kingsland Avenue, Harrison, New Jersey

Please send VIVIF Lures checked below for FREE TRIAL. If VIVIF does not catch more fish, bigger fish and make fishing more fun . . . you will refund my money including postage.

Quan.	Size	Weight	Color Comb.	Model	Price	SAVE
.....	2 1/4"	1/6 oz.	Green-Silver-Red	V-1	@ \$1.35	} ALL 4 THIS SIZE FOR \$4.95
.....	2 1/4"	1/6 oz.	Black & Gold	V-2	@ \$1.35	
.....	2 1/4"	1/6 oz.	Green-Gold-Red	V-3	@ \$1.35	
.....	2 1/4"	1/6 oz.	Red & White	V-4	@ \$1.35	
.....	3"	1/3 oz.	Brown Silver-Red	V-51	@ \$1.65	} ALL 4 THIS SIZE FOR \$5.95
.....	3"	1/3 oz.	Black-Silver-Red	V-52	@ \$1.65	
.....	3"	1/3 oz.	Green-Gold-Red	V-53	@ \$1.65	
.....	3"	1/3 oz.	Red & White	V-54	@ \$1.65	
.....	5 1/2"	2 1/2 oz.	Green & Yellow	V-101	@ \$2.49	} ALL 3 THIS SIZE FOR \$6.95
.....	5 1/2"	2 1/2 oz.	Red & White	V-102	@ \$2.49	
.....	5 1/2"	2 1/2 oz.	Blue & Silver	V-105	@ \$2.49	

- PAYMENT ENCLOSED. Send VIVIF'S Postpaid! I save all C.O.D. Charges. (Money Back Guarantee on all VIVIF'S)
- SEND C.O.D. I will pay postman price of VIVIF'S plus C.O.D. postage. (Money Back Guarantee on all VIVIF'S)

NAME .....

ADDRESS .....

CITY ..... ZONE ..... STATE .....

SPECIAL OFFER  ONE OF EACH DIFFERENT SIZE VIVIF LURE ALL 3 FOR ONLY \$4.95

CANADIAN CUSTOMERS: Order from Harrison Tackle Company 146 Wellington Street, W., Toronto, Ontario.

**GET MORE FUN OUT OF FISHING**

Here is a photo of a Frenchman who used VIVIF. The pike is 18 1/2 pounds. In England VIVIF holds a world's record. In 25 foreign lands VIVIF is catching fish for delighted fishermen. Already reports from fishermen in this country are coming in . . . reports saying VIVIF is the greatest lure they ever used. 350,000 fishermen can't be wrong. Test the magic powers of VIVIF yourself without risking a penny. VIVIF takes the luck out of fishing, lets you have more fun out of fishing . . . because you catch more fish.

## ELECTRONIC ROOM DEODORIZER

With the flick of a switch there's magic in the air. Electronic room deodorizer neutralizes and kills offensive odors. Makes any room air-fresh with a delightful scent.

No bottles—no liquids—no spray—no wicks. Complete with deodorant block.

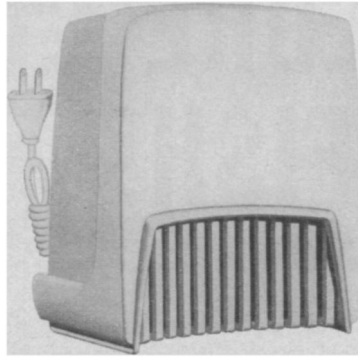
**\$3.95**

Postpaid

Additional Blocks 49¢ Each

Pine, Lavender, Old Spice and Floral

John Surrey, Ltd., 11 West 32nd St., Dept. SN-11, New York 1, N. Y.



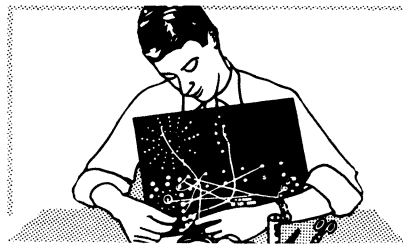
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Machines with . . .

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EQUALS THE ORIGINAL GENIAC® electric brain construction kit (1955) PLUS many improvements and additions: over 600 parts—including 116 improved patented wipers so that all switches work well. Instead of covering only 33 machines, BRAINIAC gives full specifications for 151 computing, reasoning, arithmetical, logical, puzzle-solving and game-playing machines . . . all 33 GENIACS (1955), 13 TYNIACS (1956), and 105 BRAINIACS (1957-58), etc.

**THIS IS BRAINIAC!** With our Brainiac Kit K 17, you can build over 150 small electric brain machines and toys which "think," compute, reason, and display intelligent behavior. Each one works on a single flashlight battery . . . is FUN to make, FUN to use and play with, and TEACHES you something new about electrical computing and reasoning circuits. All connections with nuts and bolts—no soldering required. Originated and produced exclusively by Berkeley Enterprises, Brainiac is the result of 8 years' design and development work with miniature mechanical brains including: Geniac (see "Geniacs: Small Electric Brain Machines and How to Make Them" by Edmund C. Berkeley, 64 pp., published by Geniac Project, a partnership with Oliver Garfield discontinued September 1955), Tyniac (1956), Relay Moe (automatic relay machine playing tit-tat-toe—pictured in Life Magazine, March 19, 1956), Simon (miniature automatic digital computer with 129 relays—see "Simple Simon" by E. C. Berkeley in Scientific American, November, 1950), Squee (electronic robot squirrel—see "Light Sensitive Electronic Beast" by E. C. Berkeley in Radio Electronics, Dec. 1951), etc.



**WHAT CAN YOU MAKE WITH BRAINIAC KIT K17?** Over 150 machines including—LOGIC MACHINES: Syllogism Prover, Intelligence Test, Boolean Algebra Circuits, Douglas Macdonald's Will Analyzer. A Simple Kalin-Burkhart Logical Truth Calculator, etc. GAME-PLAYING MACHINES: Tit-Tat-Toe, Nim, Wheeled Bandit, Black Match, Sundorra 21, etc. COMPUTERS: To add, subtract, multiply or divide using decimal or binary numbers. Forty-Year Calendar, Prime Number Indicator, Money-Changing Machine, etc. CRYPTOGRAPHIC MACHINES: Coders, Decoders, Lock with 15,000,000 Combinations, etc. PUZZLE-SOLVING MACHINES: The Missionaries and the Cannibals, Age-Guessing Machine, Submarine Rescue Chamber, Daisy Petal Machine, Fox-Hen-Corn & Hired Man, Uranium Space Ship and the Space Pirates, The Three Monkeys Who Spurned Evil, General Alarm at the Fortress of Dreddeerie, etc. QUIZ MACHINES: History, geography, trigonometry, grammar, statistics, calculus, etc.

**WHO IS EDMUND C. BERKELEY?** Author of "Giant Brains or Machines That Think," Wiley 1949, 270 pp. (15,000 copies sold); Author of "Computers: Their Operation and Applications," Reinhold, 1956, 366 pp.; Editor & Publisher of the magazine, *Computers and Automation*; Maker and Developer of small robots; Fellow of the Society of Actuaries; Secretary (1947-53) of the Association for Computing Machinery; Designer of all the Tyniacs and Brainiacs, more than half of the 33 Geniacs (1955); Designer of the patented Multiple Switch Disc and other features in the 1955 Geniac kit.

### WHAT COMES WITH YOUR BRAINIAC KIT . . .

#### Complete Plans, Instructions, Explanations & Hardware:

- Every part needed to build Geniacs, Tyniacs, Brainiacs—over 600 pieces including control panel, multiple switch discs, jumpers, improved wipers, bulbs, sockets, washers, wire, battery and special tools.
  - Complete description of 151 experiments and machines.
  - Over 160 circuit diagrams including 46 exact wiring templates.
  - Manual "Tyniacs: Small Electric Brain Machines and How to Make Them" by Edmund C. Berkeley, 1956, 48 pages—includes Introduction to Boolean Algebra for Designing Circuits.
  - "How to Go From Brainiacs and Geniacs to Automatic Computers" by Edmund C. Berkeley.
  - Dr. Claude E. Shannon's historic 1938 paper given before the American Institute of Electrical Engineers: "A Symbolic Analysis of Relay and Switching Circuits," 12 pages.
- only \$17.95 . . . why pay more?

BRAINIAC KIT (1958 Model) K17 . . . the kit with limitless possibilities—backed by an organization of 10 years standing in the computer field . . . \$17.95 (For shipment west of Mississippi, add 80¢; outside U. S. add \$1.80)

7-Day Full Refund Guarantee If Not Satisfactory

### MAIL THIS COUPON

BERKELEY ENTERPRISES, INC.  
815 Washington St., R179, Newtonville 60, Mass.

Please send me Brainiac Kit K 17. (Returnable in 7 days for full refund if not satisfactory—if in good condition.) I enclose \$\_\_\_\_\_ in full payment.

My Name and Address are attached

## Questions

**ELECTRONICS**—How long did it take radio waves to make the round trip to Venus? p. 211.

**MEDICINE**—What is the cause of galactosemia? p. 217.

**PHYSICS**—What is the maximum curve a pitcher can expect to give a baseball? p. 213.

Photographs: Cover, Cargill, Incorporated; p. 211, U. S. Army; p. 213, General Electric Company; p. 215, Columbia University; p. 218, National Institute of Neurological Diseases and Blindness; p. 224, Devonair Products.

## Do You Know

Resistance to neutron absorption makes *zirconium* the ideal structural metal for nuclear reactor cores.

An aluminum *submarine* which will plumb ocean depths three miles below the surface and make extensive deep-sea exploration possible is being designed.

*Vitamins*, such as vitamin C and vitamin K, when taken in excess, may produce toxic symptoms.

## MICRO-ADS

Equipment, supplies and services of special interest to scientists, science teachers and students, science-minded laymen and hobbyists. 25¢ per word, payable in advance. Closing date 3 weeks prior to publication (Saturday).

SNL, 1719 N St., N.W., Washington 6, D. C.

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PARKWAY PHOTOCOPI BALL POINT PENS especially for Accountants, Draftsmen, Engineers, Office Personnel, Students Enclose \$1.00 for five samples. Parkway Pen Company, 4322 N. Figueroa St., Los Angeles 65, Calif.

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NEW 48-PAGE SCIENCE CATALOG FREE Microscopes, biological supplies, laboratory glassware, telescopes, fossils, minerals, entomological supplies, books. Special 9-piece dissecting kit in finished wooden case. \$2.95 postpaid. Research Scientific Supplies, Inc., Dept. 823, 126 West 23rd Street, New York 11, N. Y.

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NEW LIQUID CASTING PLASTIC, CLEAR COLORS. Embed real flowers, minerals, biological specimens, delicate instruments, electronic parts. Also cold setting resins and fiberglass for laminating, casting, molding, coating. Manual 25¢. Castolite Company, Dept. DI-30, Woodstock, Illinois.

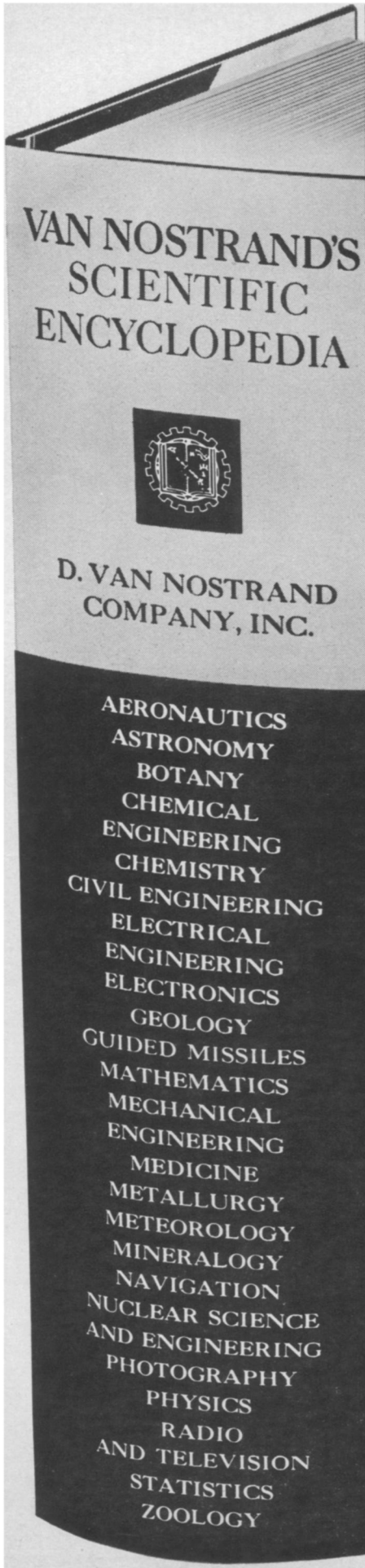
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WANTED—EXPERIENCED JUNIOR-HIGH school science teacher to write text-workbooks in science for grades 7 and 8. Write McCormick-Mathers Publishing Co., P. O. Box 2212, Wichita 1, Kansas.

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Additional Selection Desired \_\_\_\_\_  
Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_