

15¢

\$5.50 A YEAR

July 11, 1959

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SCIENCE NEWS LETTER

®

THE WEEKLY SUMMARY OF CURRENT SCIENCE



Sky's Looking Glass

See Page 23

A SCIENCE SERVICE PUBLICATION



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... no 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... keeps 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... and yet 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-

stories, 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 79-B
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 \$14.95 (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!

Special Tool Bargains—Save Up to 50%

Comparable With Radios Listing At \$75.00 Without Batteries!

8 TRANSISTOR "Majestic" POCKET RADIO

MADE IN U.S.A. **\$29.95** INCLUDING BATTERIES

MAJESTIC 8 transistor radio—never before available at this low, low price. Has unbreakable Styrene plastic case in your choice of ebony black or creamy white—earphone attachment outlet—3 position metal stand-up easel and carrying handle. Built-in antenna is OMNI-DIRECTIONAL. Radio plays equally well regardless of position. Powerful 8 transistor superheterodyne circuit has full tuning range of 540 to 1620 kilocycles. Brings in distant stations without station overlap. Clear, full distortion-free tone that can be turned up to amazingly high volume. Plays in trains, plane, car, steel construction buildings—anywhere! Each complete with warranty registration card for factory service and repair. Limited quantities . . . order NOW for prompt delivery!



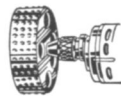
Perfect Protection Against Dirt, Water, Chemicals! Smoke Vinyl COVERALLS In Handy Fold-A-Way Pack. Most comfortable, toughest wearing coveralls! Custom designed one piece, roomy cut tear-resistant construction. Full length zipper, durable, lightweight, 100% water-proof! Not affected by oil, grease, mildew or ordinary chemicals. Guaranteed not to crack, stick or peel in temperature as low as 30 degrees below zero. Ideal for Fishermen, Outdoor Workers, Game Station Attendants, Hunters, Farmers, Delivery Men, Golfers, Gardeners, Heavy House - Cleaning, Chores, etc.



\$3.98

In Small Medium & Large Specify when ordering.

Fits Any 1/4" Electric Drill

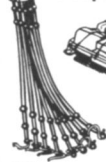


Hardened Steel ROTARY RASP

Rasps, Shapes, Planes, and Mixes in a Jiffy! No home, farm, garage or shop can afford not to have this ingenious Rotary Rasp. Snap into the chuck of your 1/4" electric drill and it's ready to use. Perfect for fast Shaping of furniture; Rasping of wood, plastic, fibre, etc.; Planing of floors, boards and Mixing of oils, paints or other heavy liquids. 2 3/4" in diameter—13/16" wide. A terrific import from West Germany.

\$1.98 plus 25¢ pp. & hdlg.

Safe & Secure Car Top Carry! Neoprene TY-DOWN KIT



Stop tying and untangling some rope while trying to load your car top carrier. The ingenious TY-DOWN KIT, consists of 8-3/4" lengths of cumberbund some rope while trying to load your car top carrier. The ingenious TY-DOWN KIT, consists of 8-3/4" lengths of cumberbund some rope while trying to load your car top carrier. The ingenious TY-DOWN KIT, consists of 8-3/4" lengths of cumberbund some rope while trying to load your car top carrier.

\$2.25

plus 25¢ pp. & hdlg.

New! At Our LOWEST PRICE!

SUPREME HOLE SAW Automatic SLUG EJECTOR



7 Hole Saws in One

Fits any electric drill, drill press, lathe, motor. Automatic slug ejector pops out slug immediately. This saw works three times as fast as other hole saws that sell for twice as much! Cuts 1", 1 1/4", 1 1/2", 1 3/4", 2", 2 1/4", and 2 1/2" holes cleanly, accurately. Cuts wood, plastics, metals, formica, wall board, etc. Consists of sturdy alloy tool head, 7 finest quality shatterproof blades, automatic slug ejector and 1/4" drill bit. Imported!

\$2.49

only plus 25¢ pp. & hdlg.

4 PIECE HIGH CHROME SPEED SET

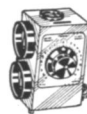


Another of Scott Mitchell's famous tool bargains! The original \$42.50 price is right on the package, but you pay only \$9.95! A wonderful buy for advanced hobbyists, carpenters, construction workers, factories, machine shops! Made of high quality, specially hardened steel, with turned down shanks to fit all 1/4" electric drills. Zip through hardwoods, aluminum, iron, plastics, even the toughest steel! Sizes 3/8", 3/4", 7/8", 1". Come in numbered pocket, snap closure roll.

Extra Special! 11 Pc. Set, Reg. \$99.50, NOW ONLY \$29.95 plus \$1 pp. & hdlg. Same features as 4 pc. set. Sizes 9/16", 5/8", 1 1/16", 3/4", 13/16", 7/8", 15/16", 1", 1 1/8", 1 3/16", 1 1/4".

PERMACEL HEAVY VINYL PLASTIC ELECTRIC TAPE Resists abrasion, water, acids, alkali and corrosion. Pliers cut guaranteed. 1/2" wide, 108 ft. roll. Reg. \$2.98 NOW **\$1.69** ppd.

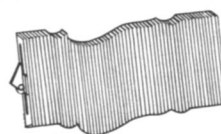
"Hoppy" Split-Image Transit Revolutionary LEVEL & INCLINE MEASURE



IDEAL FOR: Leveling and Grading Model Train Tables, Contour Plowing, Carpentry, Brick Laying, Cement Work, Surveying, Gutting, Foundation Work, Yard Grading, Plumbing, Duct Installation, Shelving, Irrigation. This amazingly accurate instrument indicates level and incline down to a fraction of an inch. Makes bubble type or string levels obsolete. It not only indicates level, but shows exactly how much correction is needed. Just one person, using the split-image transit and target supplied with it, can perform any leveling, incline-measuring job quickly, easily, accurately—measures incline down to 1/4" in 25 feet, ppd.

\$6.95 CARRYING CASE—Fitted Heavy Plastic, Leather-Like Carrying Case with Brass Lock—\$3.25 ppd.

Quickfit CONTOUR MARKER



Amazing New Tool for Making Patterns to Fit Any Irregular Shape! A real boon to all Machinists, Carpenters, Linoleum Layers and Do-Your-Selfers! This handy new tool gives accurate measurements of hard-to-fit contours in an instant. Saves hours of time—assures perfect work without waste. Simply lay "Quickfit" against object to be fitted, push the sliding fingers into each groove or notch, snap lock—and presto! you have a perfect template to lay out your work. There are 19 solid lifetime aluminum "fingers" per inch—over-all size 10"x4 1/4"x3/8".

\$5.95

plus 25¢ pp. & hdlg.

Water ON or OFF at SAME TEMPERATURE—SAME PRESSURE with SHOWER ECONOMIZER Saves Water, Fuel, Money!



Set your shower to temperature and pressure desired—then shut it off by a slight tug of the "E-conomizer" chain. After you're all soaped up, another gentle tug of the chain restores the EX-ACT same temperature and pressure as before! Fits all showers, screws on in a minute. Made of solid brass—heavy chrome plated. Unconditionally guaranteed for 2 years—precision made to last a lifetime! Perfect for homes, resorts, schools, hotels, motels, apartment houses, institutions, trailers.

\$3.95 plus 35¢ pp. (3 for \$10.85—plus 50¢ pp. & hdlg.)

Gov't Surplus WEBBED TOW CABLE Originally made for U. S. Air Force. Never used. Test proven for towing trucks, cars, etc. 13 ft. long with extra heavy duty spring snap cable 3/4" wide. Nylon reinforced cable is 1/4" thick and 13/4" wide at ends. Use for emergency, keep in car for emergencies. **\$1.95** plus 35¢ pp. & hdlg.

GOVERNMENT SURPLUS BELOW MFR'S COST — DUPONT NYLON CORDS

Light, strong, durable, quick-drying. Will not rot or mildew. Ideal for indoor or outdoor use. Camping, boating, hunting, clothes line and Venetian blinds. Perfect for tent ropes, light anchors, deer cord, trout lines, crabbing, etc. Unused.

OUTWEARS ORDINARY ROPE 10 TO 1 NYLON BRAIDED CORD

1 1/16" dia., 100 lb. test, white, 11/2¢ per ft. 1 1/8" dia., 375 lb. test, white, 2¢ per ft. 3/16" dia., 550 lb. test, olive drab, 2¢ per ft. In 50, 100, 200, 300, 400, 500 ft. and over lengths.

NYLON BRAIDED LINE

1/4" dia., 1000 lb. test, olive drab, per ft. in 30, 40 and 50 ft. lengths only—3¢

NYLON ROPE

5/16" dia., 1000 lb. test, per foot—12¢ 3/8" dia., 2700 lb. test, per foot—17¢ 7/16" dia., 3800 lb. test, per foot—20¢ 1/4" dia., 1200 lb. test, per foot—8¢ All in any length up to 1200 feet

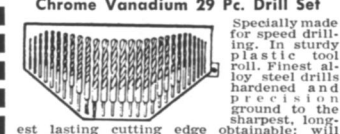
NYLON FISH LINE

Proven best by experienced fishermen. Heat stretched. Will not kink, twist or unravel. 25 lb. test, 300 ft. Reg. \$1 per spool. NOW **50¢**

NYLON WEB STRAPS

Perfect for passenger safety belts, luggage straps, car towlines, car carrying straps, boat trailer straps, etc. Tie heavy equipment and machinery with great ease and safety . . . at far less cost. Just the thing for the garage or workshop. 3" wide, 3000 lb. test, per foot—10¢ 1 1/4" wide, 6000 lb. test, per foot—16¢ In 5, 6, 8, 10, 12 foot lengths.

Chrome Vanadium 29 Pc. Drill Set



Specialty made for speed drilling. In sturdy plastic tool roll. Finest alloy steel drills hardened and precision ground to the sharpest, longest lasting cutting edge obtainable: will easily and cleanly bite through hardwoods, plastics, aluminum, iron and the toughest steels. Full jobber length. Sizes by 64th from 1/16" to 1/2". Also available with Turned Down Shanks to fit all 1/4" drills. In individual pocket roll.

\$6.49 ppd. **\$8.95** ppd.

60 Pc. Set Wire Gauge Chrome Vanadium Drills

Top quality high test Chrome Vanadium Drills designed for speed drilling through tough steels, woods, plastic, iron and aluminum. Precision ground, long-lasting cutting edges. Nos. 1 through 60. A \$14.95 value—NOW, **\$5.40**. Same set above available with Huot Index Container. Only **\$6.65**. Also available 61-80 set of high quality drills, in plastic kit with marked pocket for each drill. Only **\$2.50**. All above drill sets plus 35¢ pp. & hdlg.

One of our BEST Values!

2.9 AMP HEAVY DUTY 1/4" RAM DRILL with Jacobs Geared Chuck & Key Reg. \$39.95—Our Price **\$14.95** plus 50¢ pp. & hdlg.

Ask any expert and he'll always say "RAM for Heavy Duty Work." Not just an ordinary 2 1/4 or 2 1/2 amp unit, but a powerful full 2.9 AMP, drill to do every heavy duty job in home, shop or industry. Built to take years of rough-tough use. Newer, more rugged motor gives 1/2" capacity in hard wood and 1 1/4" capacity in steel with a full speed of 1200 R.P.M. Durable, mirror finished, lightweight aluminum housing. Features Universal, series wound AC-DC motor; heavy duty multiple Thrust Ball bearings; automatic release trigger switch with locking pin; 6 ft. 2 conductor, UL approved cord and plug. Standard 115 v. AC-DC. This powerhouse measures 9" in length yet weighs only 3 1/2 lbs. If you've ever needed a drill or find that your present 1/4" job just won't do the things you expect of it, ORDER THIS 2.9 AMP, 1/4" RAM DRILL TODAY! Limited quantities.

Steel Jaw HAND VISE

This handy folder for pro as well as amateur has STEEL JAWS 1 1/4" wide which open up to a full 1 1/2". An ingenious V-slot in one side is ideal for holding round object. Overall length is 6 1/2" with 4" varnished wood handle.

75¢ ppd. plus 15¢ pp. & hdlg. (3 for \$2.00 ppd.)

Revolutionary New Fishing Invention! CHUMM SINKER

Makes Fish "Zero In" On Your Hook

New sinker can be instantly loaded with salmon, sardines, dog or cat food, cod liver oil etc., that spreads a "Chumm Slick" advertising your bait. Fish can't help following it regardless of tide. Don't carry a dead sinker . . . use CHUMM SINKER that's a sure-fire fish getter any time!

- Unique construction eliminates snagging & sinker losses
- Lets you feel slightest nibble right away
- Attracts fresh and salt water species
- Easy to clean—easy to refill

Chumm Sinker is scientifically designed—exhaustively tested—used by top fishing experts. You've never used anything like it! PATENT PENDING. Order now for years of fishing pleasure . . . for gifts to your friends!

Set of 3 for Salt Water **\$2.98** plus 35¢ pp. & hdlg.

Set of 3 for Fresh Water—1 oz., 2 oz., 3 oz. **\$2.98** plus 35¢ pp. & hdlg.

Both Sets—6 units—\$5.50 plus 35¢ pp. & hdlg.

10" F-VISE SAFETY WRENCH

1 ton tested, non-slip grip . . . yet releases at a FLICK of the finger. Safe! No more skinned or bruised knuckles! Whether working in an almost inaccessible place or out in the open, the 2,000 pound tested, non-slip grip of this all-purpose wrench can be released with a flick of the finger. Made of high grade alloy steel, with heat treated jaws, work of any size up to 1 1/4" can be held securely.

\$1.79 plus 21¢ pp. & hdlg.

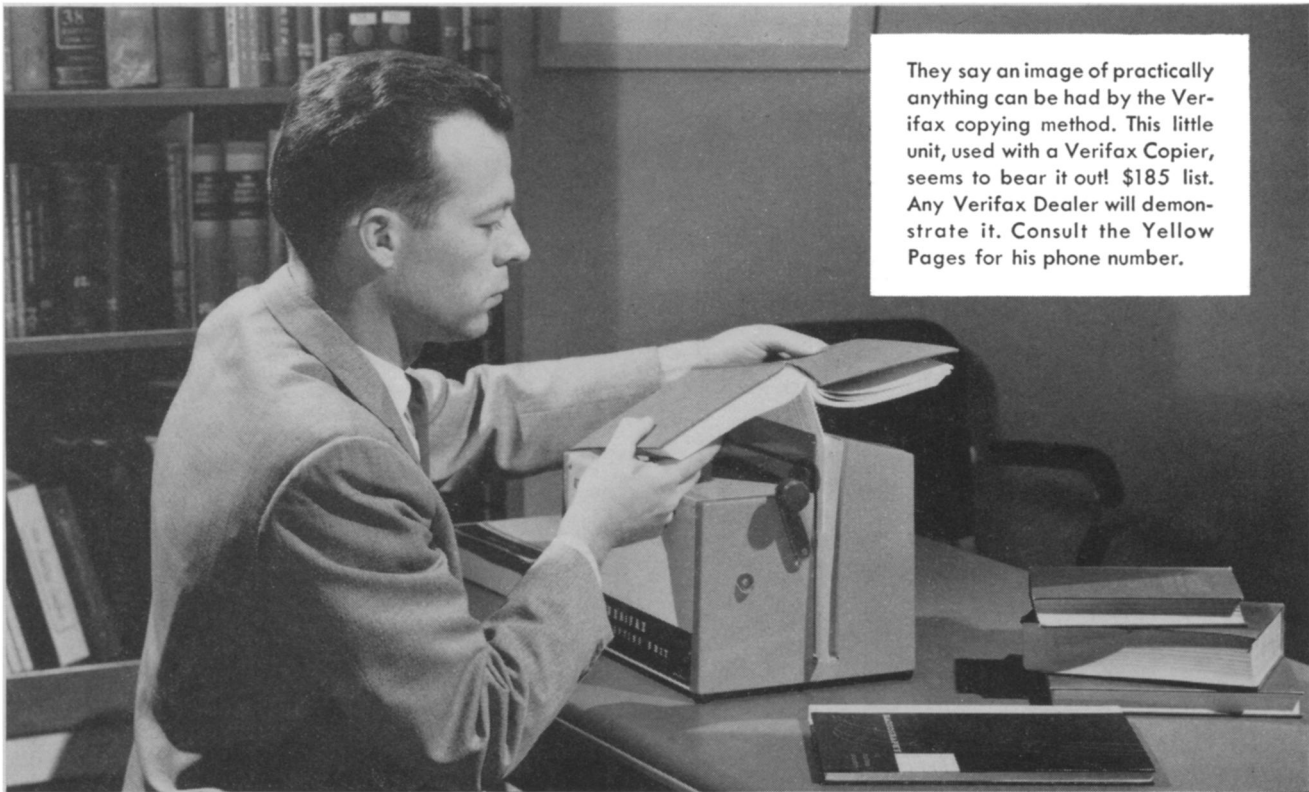


IMPORTANT Order Today and Save. Minimum order \$1.00. Send Check or M.O. C.O.D. orders plus fee. Money Back Guarantee. Protects you against risk.

SCOTT-MITCHELL HOUSE, Inc. Dept. 2407—415 South Broadway, Yonkers, N. Y.

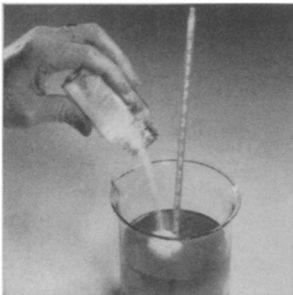
Kodak reports on:

copying as you go . . . a way to stiffen oil . . . a nice material to coat with photographic emulsion

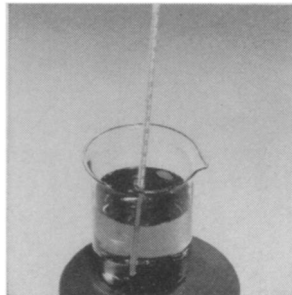


They say an image of practically anything can be had by the Verifax copying method. This little unit, used with a Verifax Copier, seems to bear it out! \$185 list. Any Verifax Dealer will demonstrate it. Consult the Yellow Pages for his phone number.

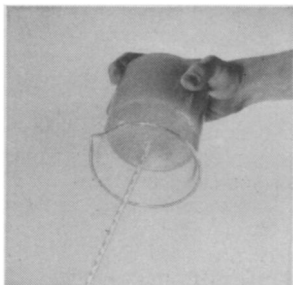
Look, ma! Practically no hydrogenation!



1. Into a liquid triglyceride such as cottonseed oil put a small percentage of monoglyceride made from any saturated fat.



2. Heat to about 75°C and cool.



3. The oil becomes a stiff solid. The crystalline matrix holds the oil for prolonged periods with practically no leakage.

This works only with exceptionally pure monoglycerides such as we make by molecular distillation in carload quantities. To find out more, write Distillation Products Industries, Rochester 3, N. Y. (Division of Eastman Kodak Company).

Flatness

Complexity, complexity! Rest the mind on a simple product, a photographic-emulsion-bearing rectangle 6.0 millimeters thick, 190 millimeters wide, 215 millimeters long, and flat within 0.00002-inch per inch. We mean: **Nowhere on the surface bearing the emulsion will it be possible to draw a circle of one-inch diameter containing a point of the surface more than 0.00002-inch distant from the plane of the circle.** Though achievement of such flatness is not simple, that is none of the user's business.

The user's business is to know the path of a man-made object moving across the sky and to know it with the best precision that man can currently master for the task. The work requires dimensional constancy of the material which bears the image.

That material is glass, a substance known to the Phoenicians and since improved. Our kind alters its linear dimensions by 0.00045% for each degree Fahrenheit of temperature change. Polyester, the most dimensionally stable of commercially available plastics, is called "stabilized" when its temperature coefficient is brought down to twice that. For the hardened steel from which gage blocks are made, the linear expansion coefficient is down to 0.00056%. Steel is opaque and does wicked things to sensitive emulsions.

George Eastman quit his job as a bank clerk in 1881 when he found he could coat emulsion on glass and sell it. That's how our whole business started. Don't think of the photographic plate as an antique, however. To find out how wrong that would be, try putting a question to Eastman Kodak Company, Special Sensitized Products Division, Rochester 4, N. Y. For one thing, you could ask about those ballistic camera plates announced above.

Price is subject to change without notice.

Kodak
TRADE MARK

This is another advertisement where Eastman Kodak Company probes at random for mutual interests and occasionally a little revenue from those whose work has something to do with science