

How to Make Your Radiovisor

Radiovision

By C. FRANCIS JENKINS

This is the fourth in a series of articles prepared for Science Service by C. Francis Jenkins, radiovision pioneer inventor. Copies of the issues of the SCIENCE NEWS-LETTER containing the previous articles may be obtained from Science Service for 15 cents each.

The pieces of the radiovisor frame made according to the directions in the previous article are now ready to assemble.

Under the ends of piece A, the base board, nail the two pieces C, the 8-inch strips; and in the slot of piece A, flush with the end, glue or otherwise fasten piece E. See the illustration. On the bottom of piece B, the motor board, screw the 6-inch piece D, equi-spaced endwise, 2 inches from the far edge with the holes to the right. See the illustration. Then assemble the two by putting the strip on the motor board into the slot in the base board.

Now fasten the scanning-disc shaft-bearing block piece F, with an end flush with the long edge of the base-board and parallel to and 5 inches from the end of the board, with two screws up through the base-board into the block. A hand drill will help a lot. See the illustrations for all these details.

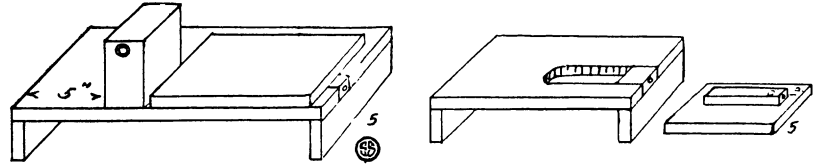
A cast-brass or cast-iron shaft bearing may be substituted for the brass bushed wooden block if one can be found or made.

Now that the frame is made and assembled, the scanning disc can be made.

Some will wish to save time and work by purchasing the scanning disc ready made, but by carefully following these directions it can be made satisfactorily.

For the scanning-disc, cut a 12-inch diameter disc out of almost any thin material, like sheet iron, "tin," brass, aluminum, millboard, cardboard, or even heavy paper. The best result will be attained by first putting a 5/16-inch hole in the center of a roughly-cut-out disc, mounting it on the shaft on which it is finally to be used, then turning it slowly while holding a knife-blade, or other sharp tool, against the disc six inches from the center of the shaft. With the point held steady on a block or the like, a scratch can be made on the disc which is a true circle, about 12 inches in diameter. A sharp pencil will do to mark paper or cardboard, of course.

With tinner's snips, if metal, or scissors, if cardboard or paper is



used, a disc will be cut out along this circular scratch. But before doing this, divide the circle into 48 equal spaces. With a pair of dividers this can be sufficiently accurately done although it is tedious, and takes time to do well. Take the disc off the shaft to lay out these 48 dots on the circular scratch. The 48 spaces will be a little less than 3/4-inch separated. Next draw radial lines from the center of the disc to each of the 48 equi-spaced dots on the circle.

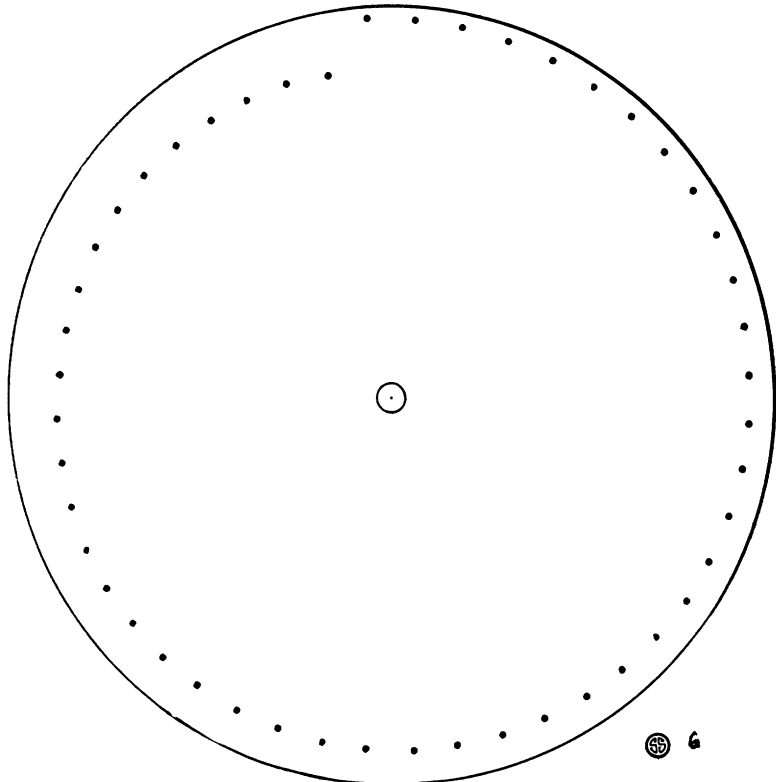
Now put the disc back on the shaft, held tightly thereon with the nuts, and tie on the outer end of the shaft a shoe-maker's thread, a fish-line, or similar string not easily stretched. Wrap the string around the shaft a few times so it will "stay put." Into a loop at the other end of the thread put a pencil or scratcher held steady, perpendicular to, and touching the disc near the bottom edge. By turning the disc a spiral

line is drawn on the disc because the thread wraps up on the shaft, shortening it as the disc is rotated. The spiral should begin about 1/4-inch from the edge and make a complete turn. The beginning and the end of the spiral will be a little less than 3/4-inch apart.

Where this spiral line crosses the radial lines is where the 48 scanning holes are to be drilled if the disc is metal, or punched if the disc is paper.

The spirally located scanning holes should be about 1/32 of an inch in diameter. Theoretically this is too large, but it will give a brighter picture, and like the method of laying off the scanning disc spiral, is not sufficiently wrong to be noticeable.

If you are using a paper disc, you can punch the holes by breaking a needle in two and use as a punch, on the sawed off end of a block of wood. The pieces punch (*Turn to next page*)

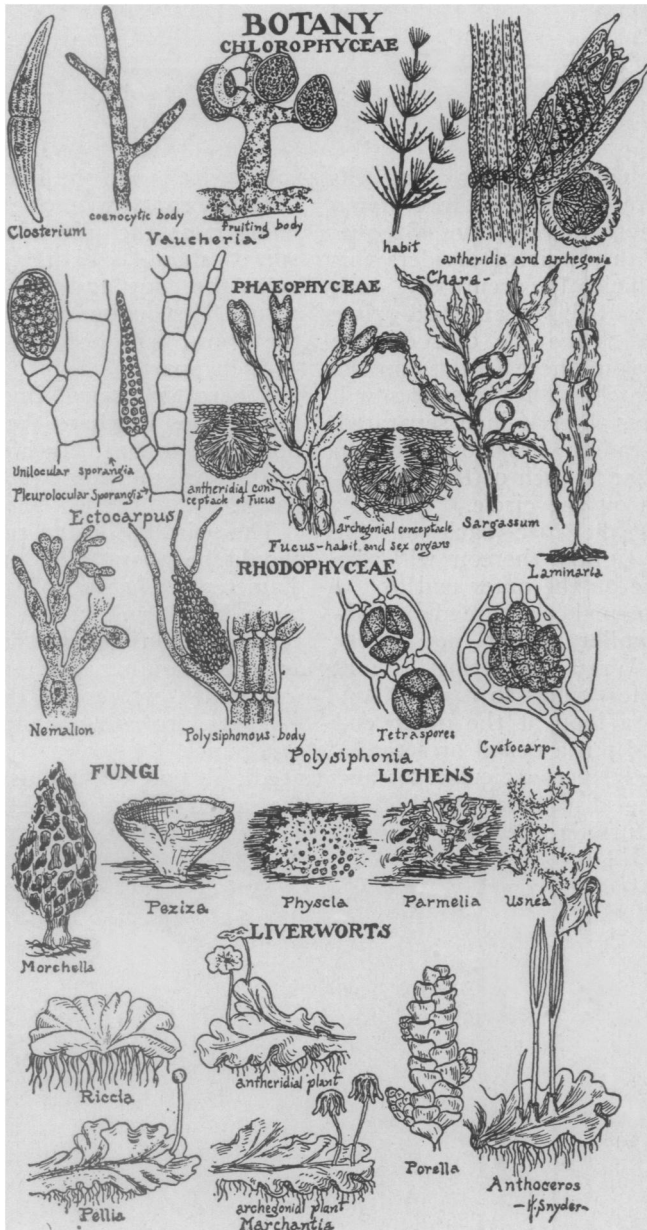


High School Teachers—

Write for your copy of

Turtox Botanical Pricelist

Contains illustrations similar to this one



Free to teachers and educational officials



The Sign of the Turtox Pledges Absolute Satisfaction

General Biological Supply House

(INCORPORATED)

761-763 East Sixty-ninth Place

Chicago

Illinois

Radiovision—Continued

out, leaving a clean hole, if the punching is done in the end of the block against the grain of the wood.

With the scanning disc back on the shaft, mount the neon lamp close behind the disc at the top. A very convenient lamp holder can be made of a piece of wire wrapped about three times around the end of a broomstick with a separation that fits the threads in the screw base of the lamp. Push the straight portion of the wire into a hole in the shaft-bearing block, and bend the wire so that the spiral holder stands up like a Christmas candle holder.

Science News-Letter, October 6, 1928

Christmas Cards

OF WOOD

Thin, silvery slices of wood, beautiful in tint and texture and daintily decorated, to convey your Christmas greetings.

Send \$1.00 for sample set of five and illustrated circular.

ROMEYN B. HOUGH CO.
LOWVILLE, N. Y.

GOLD FISH: Imported Japanese, Chinese and American.

Artistic, durable aquariums, suitable for beautiful homes, conservatories, laboratories, etc. We make to order any size aquarium wished for. Fish foods, nets, aquatic plants, etc. Interesting circular gratis.

PIONEER AQUATIC COMPANY
Racine, Wisconsin

Staff of Science Service—Director, Edwin E. Slosson; Managing Editor, Watson Davis; Staff Writers, Frank Thone, James Stokley, Emily C. Davis, Jane Stafford; Librarian, Minna Gill; Sales and Advertising Manager, Hallie Jenkins. Board of Trustees of Science Service—*Honorary President*, William E. Ritter, University of California. Representing the American Association for the Advancement of Science, J. McKeen Cattell, *President*, Editor, Science, Garrison, N. Y.; D. T. MacDougal, Director, Desert Laboratory, Tucson, Ariz.; M. I. Pupin, Professor of Electromechanics, Columbia University, New York City. Representing the National Academy of Sciences, John C. Merriam, *President*, Carnegie Institution of Washington; R. A. Millikan, Director, Norman Bridge Laboratory of Physics, California Institute of Technology, Pasadena, Calif.; Dr. David White, Senior Geologist, U. S. Geological Survey. Representing National Research Council, Vernon Kellogg, *Vice-President and Chairman of Executive Committee*, Permanent Secretary, National Research Council, Washington, D. C.; C. G. Abbot, Secretary, Smithsonian Institution, Washington, D. C.; Harrison E. Howe, Editor of Industrial and Engineering Chemistry. Representing Journalistic Profession, John H. Finley, Associate Editor, New York Times; Mark Sullivan, Writer, Washington, D. C.; Marlen E. Pew, Editor of Editor and Publisher, New York City. Representing E. W. Scripps Estate, Harry L. Smithton, *Treasurer*, Cincinnati, Ohio; Robert P. Scripps, Scripps-Howard Newspapers, West Chester, Ohio; Thomas L. Sidlo, Cleveland, Ohio