

Here's a great little project that can be built literally on the kitchen table. The SPC in the title can also stand for Super Plexiglass Construction.

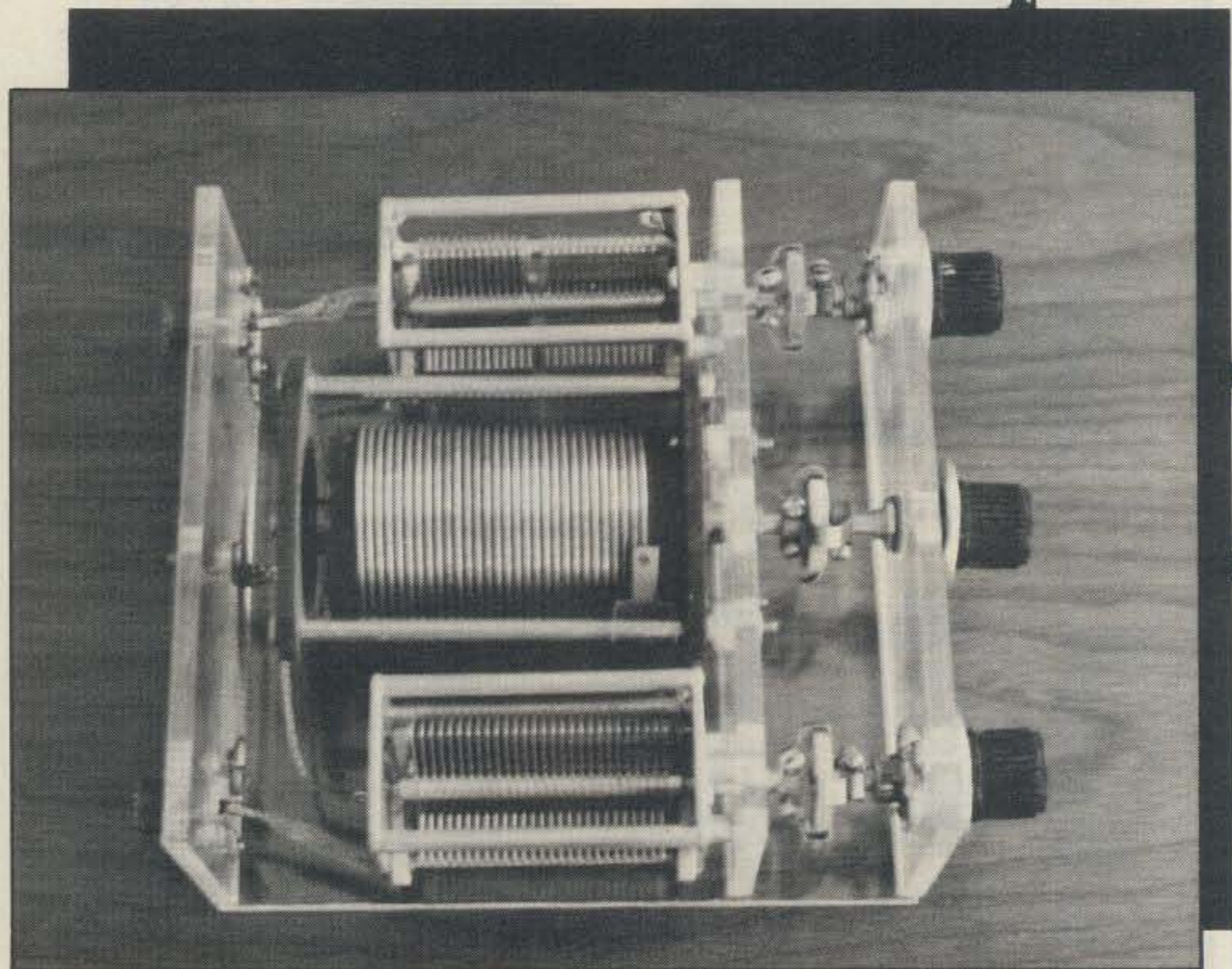
BUILD A CHEAP AND EASY SPC ANTENNA TUNER SERIES PARALLEL CAPACITY

BY JOHN GRAY*, VE3AEH

Antenna couplers or tuners do not necessarily have to be housed in a big, black, expensive metal cabinet for t.v.i. or r.f.i. purposes. This unit is built completely with 1/4-inch plexiglass 7 inches wide, 8 inches deep and 3 1/4 inches high. Any convenient dimensions could be used, provided the wiring is kept reasonably short. This particular size was dictated by the amount of plexiglass on hand. Plexiglass is available in the yellow pages of your telephone directory under residential windows or automotive window firms. For cementing plexiglass ask your supplier for specific instructions; the new exotic adhesives just do not work.

This tuner is an adaptation of W1FB's article in the 1981 *Handbook* and is a bare-bones unit without switches, baluns, and dummy load. All parts are readily available from Fair Radio Sales, 1016 E. Eureka Street, Lima, Ohio 45802. The rotary inductor part number is ACC55471. The two variable capacitors are C-1003/T195. As the "Q" of this tuner is fairly high (good harmonic suppression), vernier drives are a must for C1, C2, and C3. The verniers shown were purchased from Heathkit several years ago and may not now be available. An alternative again would be Fair Radio Sales, part number #TU-10VD.

Construction is quite simple. This unit was built on the kitchen table at the apartment QTH. The use of insulated couplings may seem redundant at first glance, but the prototype model was prone to "hand capacity" effects, a term fondly remembered by us old timers tuning regenerative detector receivers. These couplings again are available from Fair Radio Sales, part #COUN006. The dual 200 pf capacitor is made by sawing the plates of the stator in half with a hacksaw. The rotor shaft is placed in a vise and the two middle plates are removed with a



The completed tuner is a marvel of simplicity and a very inviting construction project.

sharp tap with a small screwdriver and hammer. Do not remove the rotor from the frame; these capacitors have ball bearings, which makes reassembly very difficult.

The shield braid from a piece of 50 ohm cable is used for the simple wiring. In lieu of having an extra connection on the rear panel for a random wire antenna, a banana jack is plugged into the antenna connector.

This tuner will easily handle the output of the popular 200 watt p.e.p. rigs, and to put the icing on the cake, eyeball observation of the tap on the inductor and capacitor settings can readily be seen and are not hidden behind that big, black, expensive metal cabinet.

For those who wish to go bolt for bolt, the total cost is under \$40. □

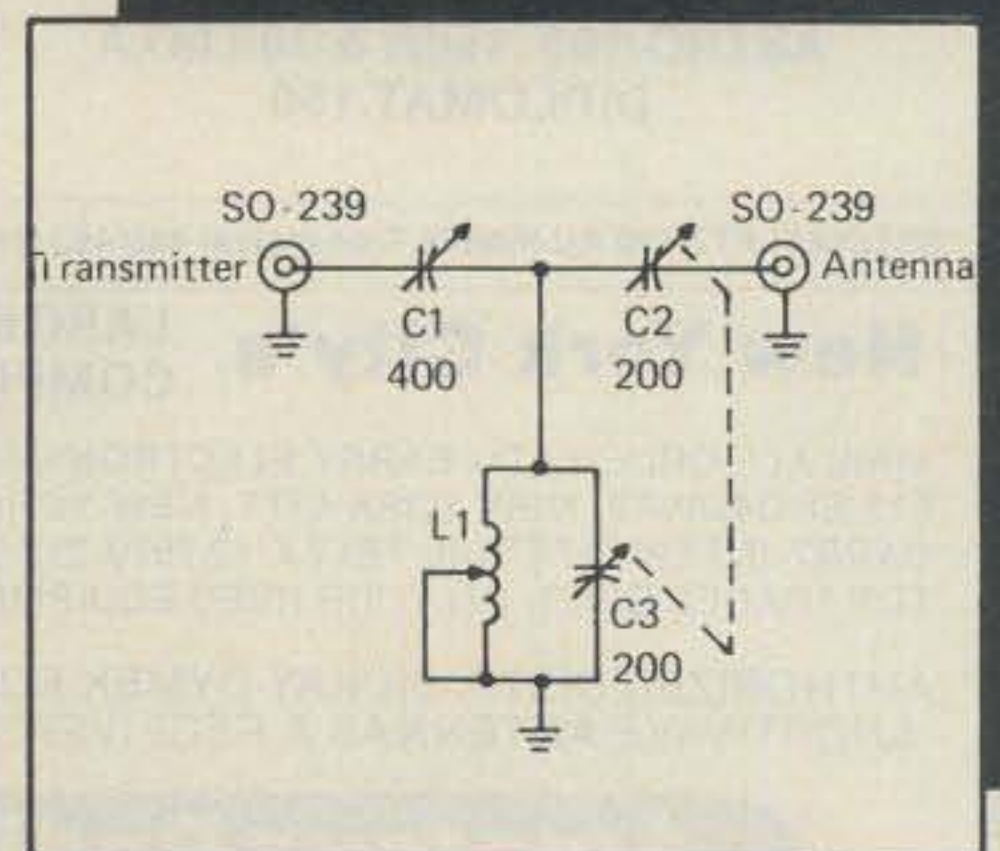
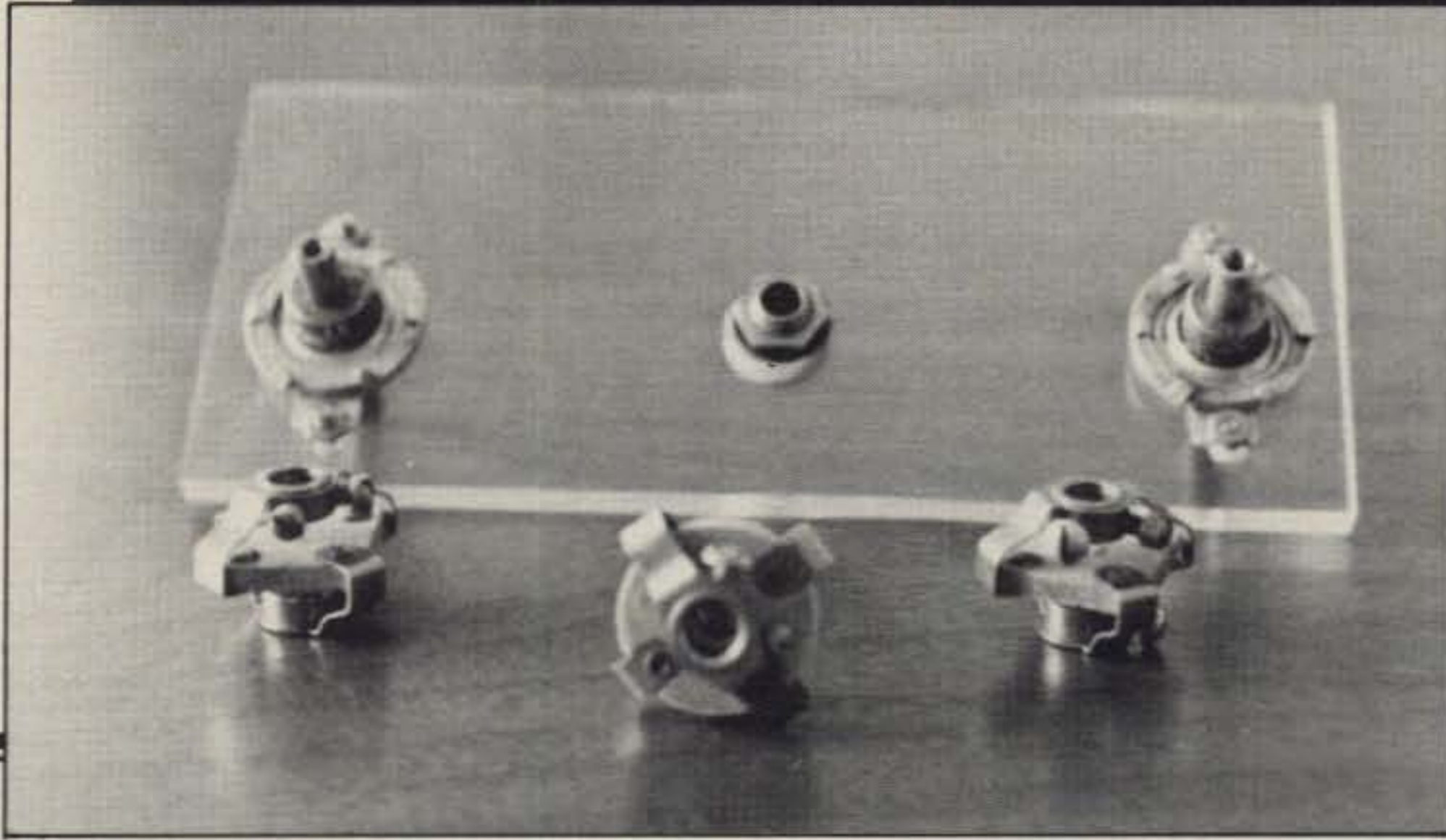
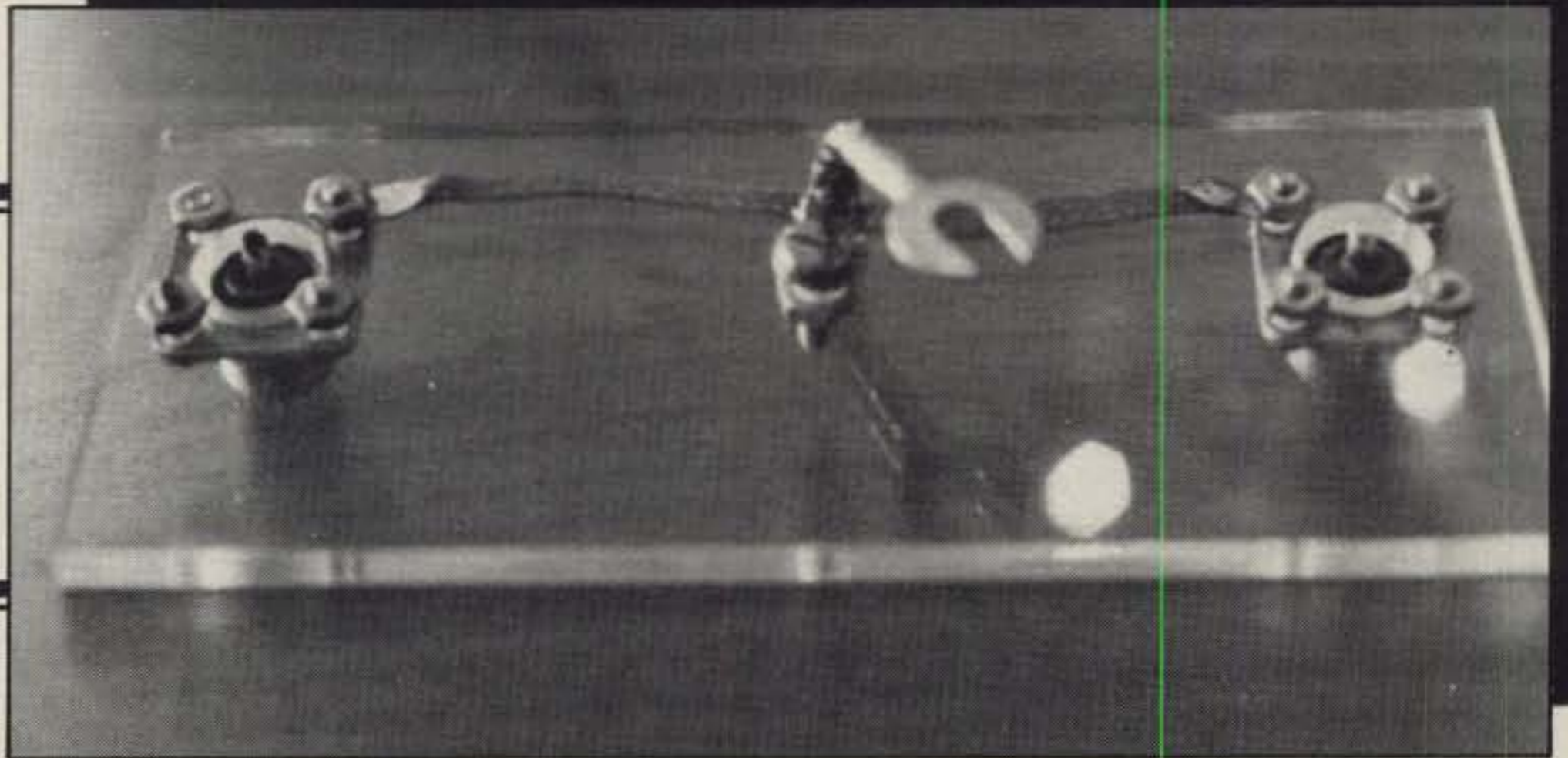


Fig. 1— The simple circuit for the SPC antenna tuner.

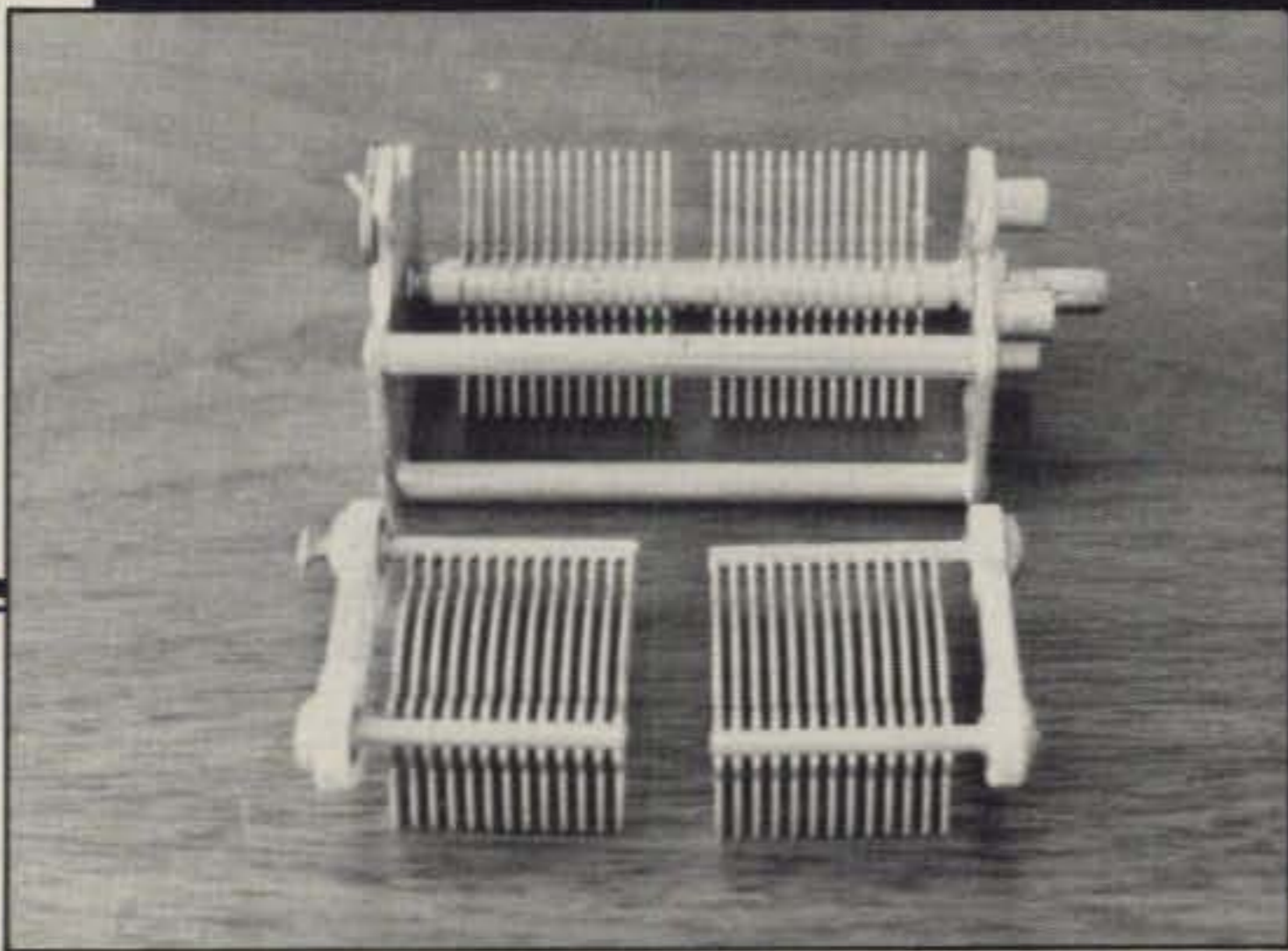
*5166 Lakeshore Road, Apt. 1003, Burlington, Ontario, Canada L7L 1C3



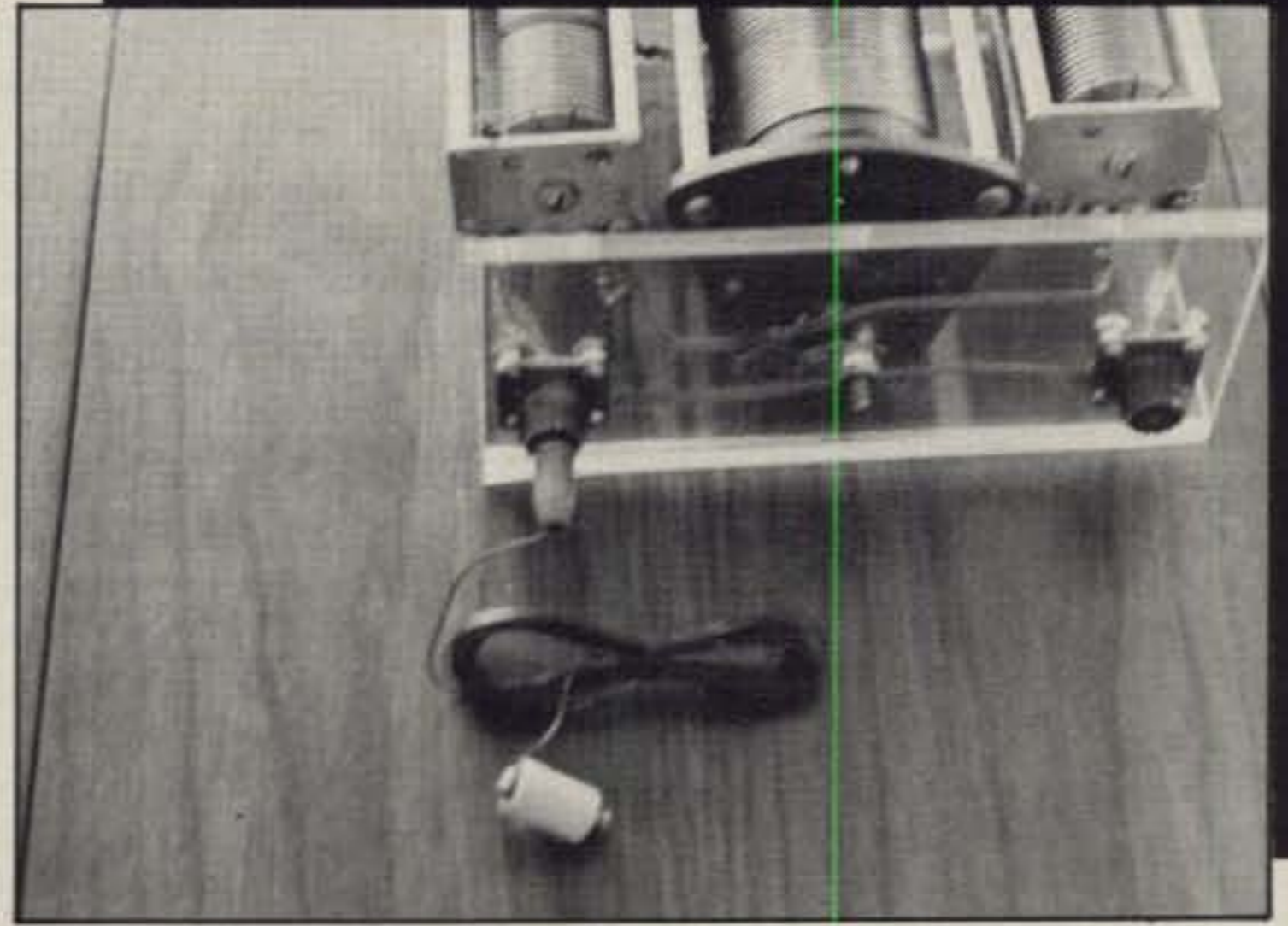
The front panel showing the two vernier drives and the 1/4" bearing for the shaft of L1. The three insulated shaft couplings are in the foreground.



The rear panel view shows the ground assembly. The braid goes from connector to connector, with a center junction for L1/C3. A bolt at this point goes through the panel for external ground connection.



The dual 200 pf capacitor (made from a single unit) prior to installation.



To use this tuner with a random wire antenna, simply plug a banana jack into the antenna connector.