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to buy desperately needed equipment such as ART-13, BC-348, BC-224, BC-342, BC-312, ARC-1, BC-788, I-152, T-17MICS, BC-221, R5/ARN-7 or components. In fact, we'll buy any parts or accessories no matter how small. For speedy, efficient service and a real honest deal, phone, wire or write:

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WATCH FOR

announcement

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75, 20, 10, 11 Meters (Not a Converter)

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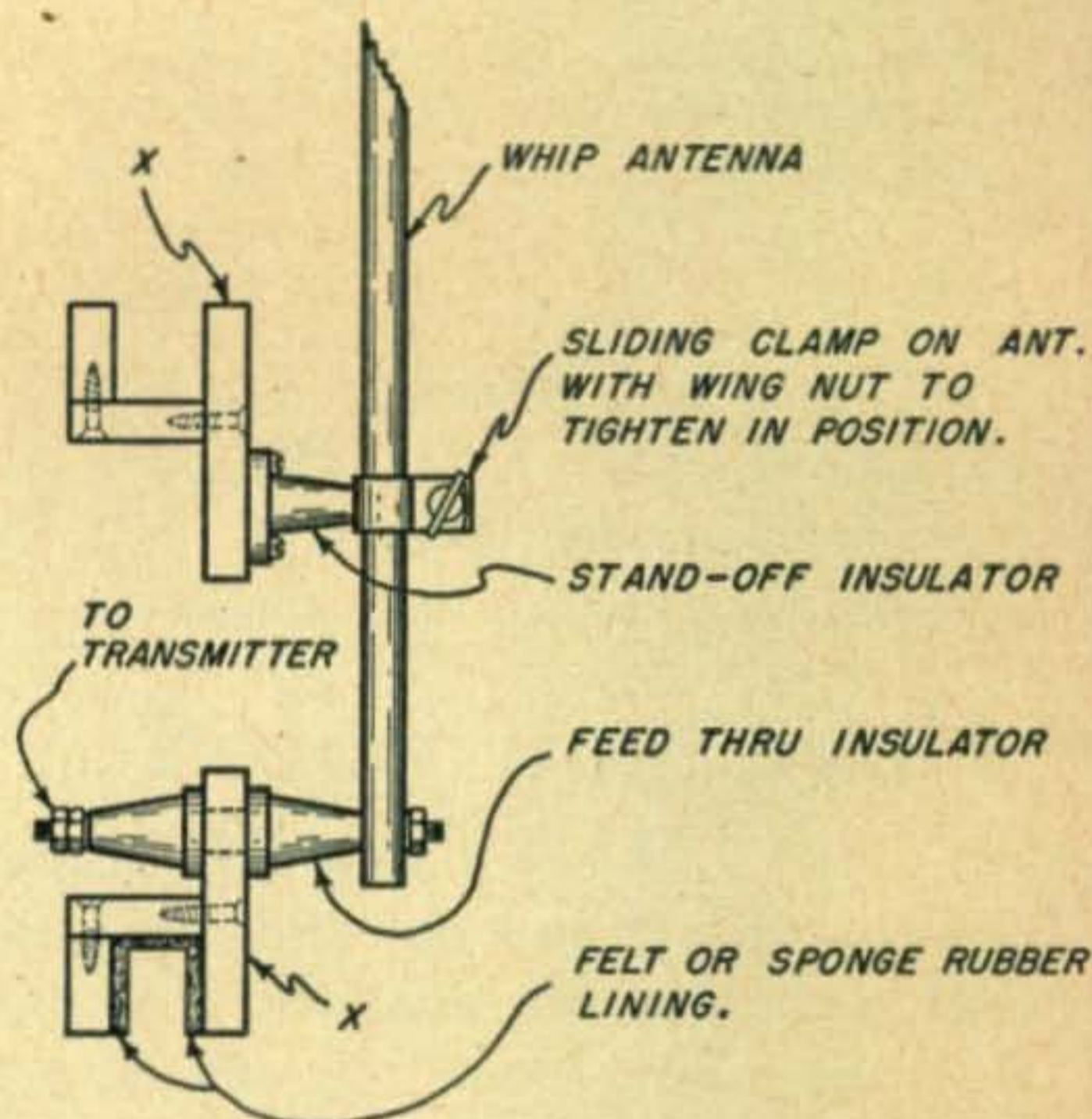
TRANS-WORLD RADIO-TELEVISION CORP.
6639 S. ABERDEEN ST. CHICAGO 21, ILL.
Phone: AUstin 7-4538

NOVICE SHACK

(from page 84)

the *RCA Ham Tips*. Called the "Twomobile" by its designer, W2OQN, the unit is a complete 145 mc transceiver, (*Transceiver: Transmitter-receiver*) so called because parts of the circuit are used both for receiving and transmitting. The audio stages feed a two inch speaker when receiving and serve as a modulator while transmitting.

Using a total of eight tubes and a voltage regulator, the "Twomobile" features a superregenerative/superheterodyne receiver, consisting of a 6AK5 r.f. stage, 12AT7 oscillator/mixer, voltage regulated by an OA2, 6C4 superregenerative second detector feeding the 6AU6-6AQ5 audio amplifier/modulator stages. The three tube transmitter circuit consists of a 6AK6 oscillator/doubler, 6AK6 doubler, and 5763 doubler output stage, and has an output of a watt and a half, which has been sufficient for many mobile-to-fixed-station contacts up to thirty-five miles.



X -- MADE OF WOOD -- MAKE 2 -- DIMENSION OF OPENING TO FIT OVER TOP & BOTTOM SILLS OF CAR WINDOW -- GLASS COMPLETELY OPEN.

Fig. 3. An easily removable car window mount for mobile antennas. A piece of plywood, slightly smaller than the glass in the car door, with the insulators mounted on it may be substituted for the brackets. Lower the glass and insert the top and one edge of the plywood in the slot remaining. Then raise the glass to hold plywood in place. Naturally, this is not recommended for very heavy antennas, etc.

More information on the "Twomobile" may be obtained from the January-February, 1952, edition of *RCA Ham Tips*, available from your dealer or from: Tube Department, RCA, Harrison, N. J.

Mobile Antennas

It takes a lot of courage or perseverance to drill holes in an automobile body to mount a mobile antenna—especially if it is your father's car. Bumper mounts can be installed without drilling; therefore one can be mounted permanently, and the antenna itself, plus a length of coax connected between it

and the transmitter through a slightly opened window, added whenever desired. Figure 3 also shows how temporary window mounts may be used.

An efficient all-band mobile antenna is very difficult to design, but the one sketched in Fig. 4 has possibilities in covering the three Novice bands. As a quarter-wave "Marconi" antenna for the 27 mc band is about 103 inches, the whip length should be that long. It so happens that a "Marconi" antenna may be any number of quarter waves long, and the 145 mc band is approximately five times twenty-seven mc; so the 103 inch length will work quite well as a five-quarter wave antenna on 145 mc.

An eight foot whip is a poor radiator on the 3.7 mc band under any circumstances; however, its efficiency can be improved greatly by the addition of a loading coil. The easiest place to put it is between the base of the whip, but the nearer the top of the whip it is placed, the more effective it is. Remembering that the whip will work on 145 mc when it is any number of quarter waves long, the whip can be cut at either twenty or sixty inches and the coil inserted. Then the loading coil and the rest of the whip can be used for 3.7 mc, and the coil shorted out or removed for 27 mc. Other articles in this issue will give details on adjusting the loading coil for best results.

Miscellaneous

Donald G. Colley, Santa Monica, California, poses a problem that has probably worried almost every person who has recently applied for an amateur license. He writes: "... went to the F.C.C. examining point in Los Angeles a couple of weeks ago, took

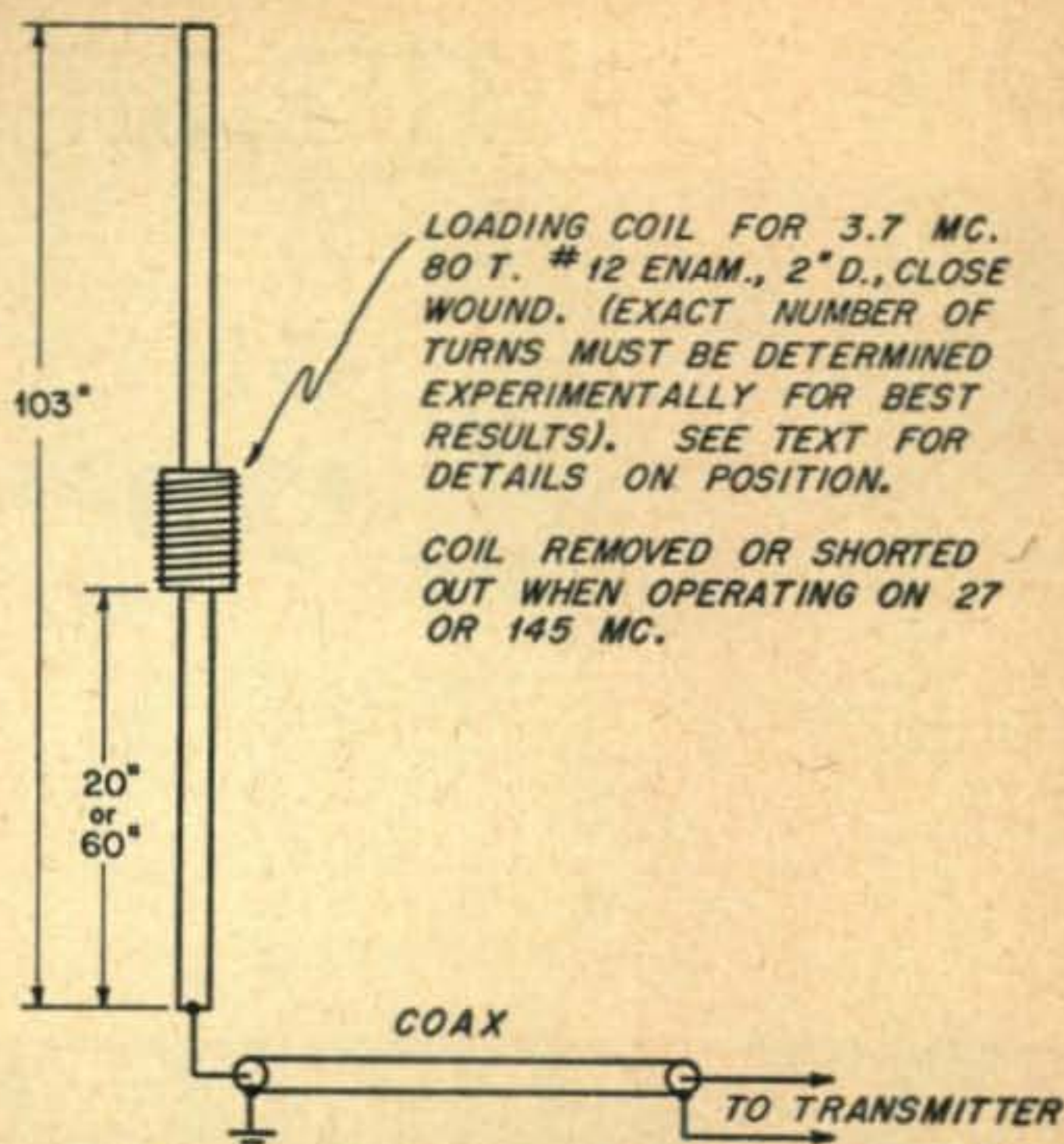


Fig. 4. A suggested novice band mobile antenna. the Novice examination, passed it, and then found out that it would take the F.C.C. from three to six months before they would get around to issuing me a license!

"Is there anything that can be done to speed up the extremely slow processes of the F.C.C.? They certainly can dampen the enthusiasm of a beginner in ham radio."

(Continued on page 122)

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