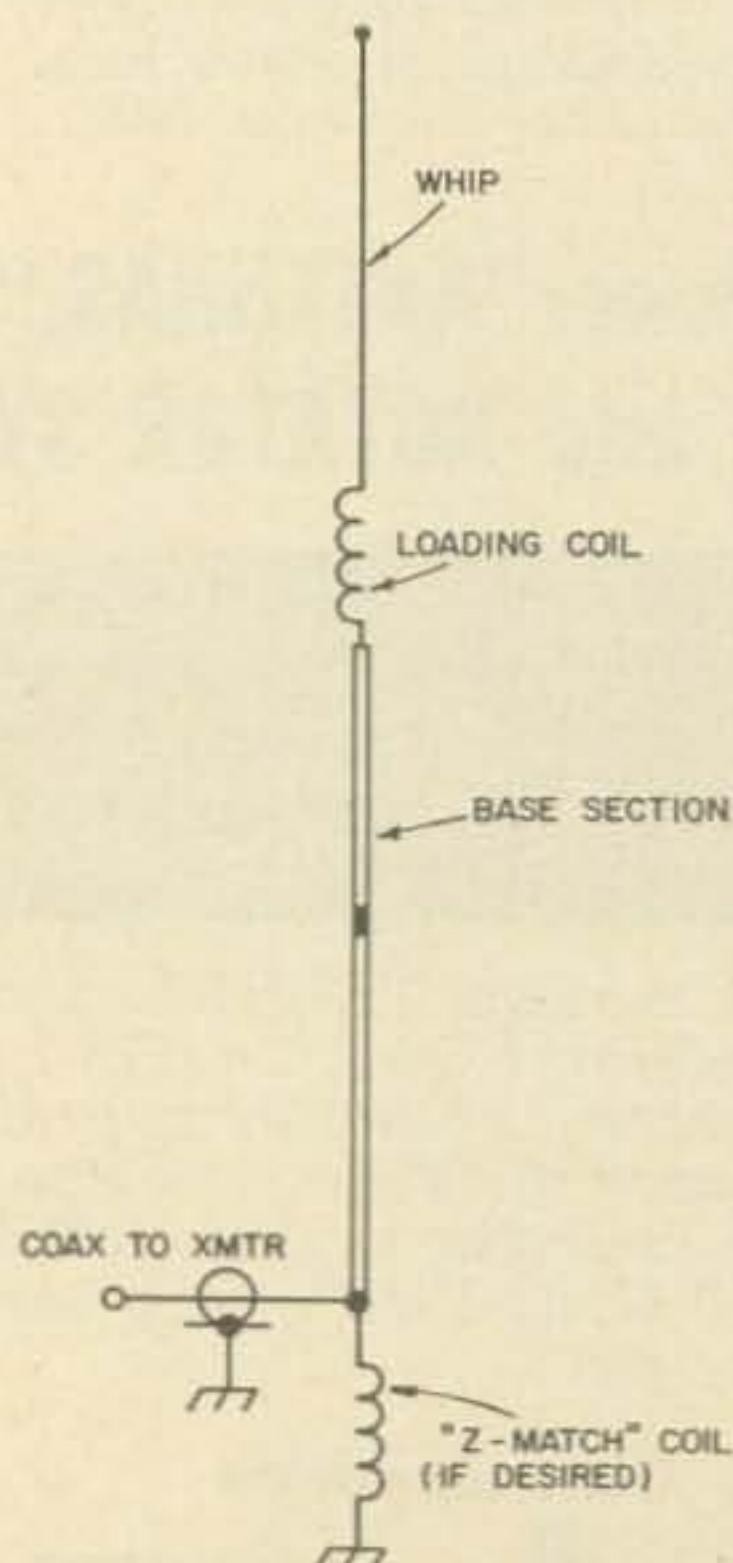


Russ Alexander W6IEL
2890 San Francisco Avenue
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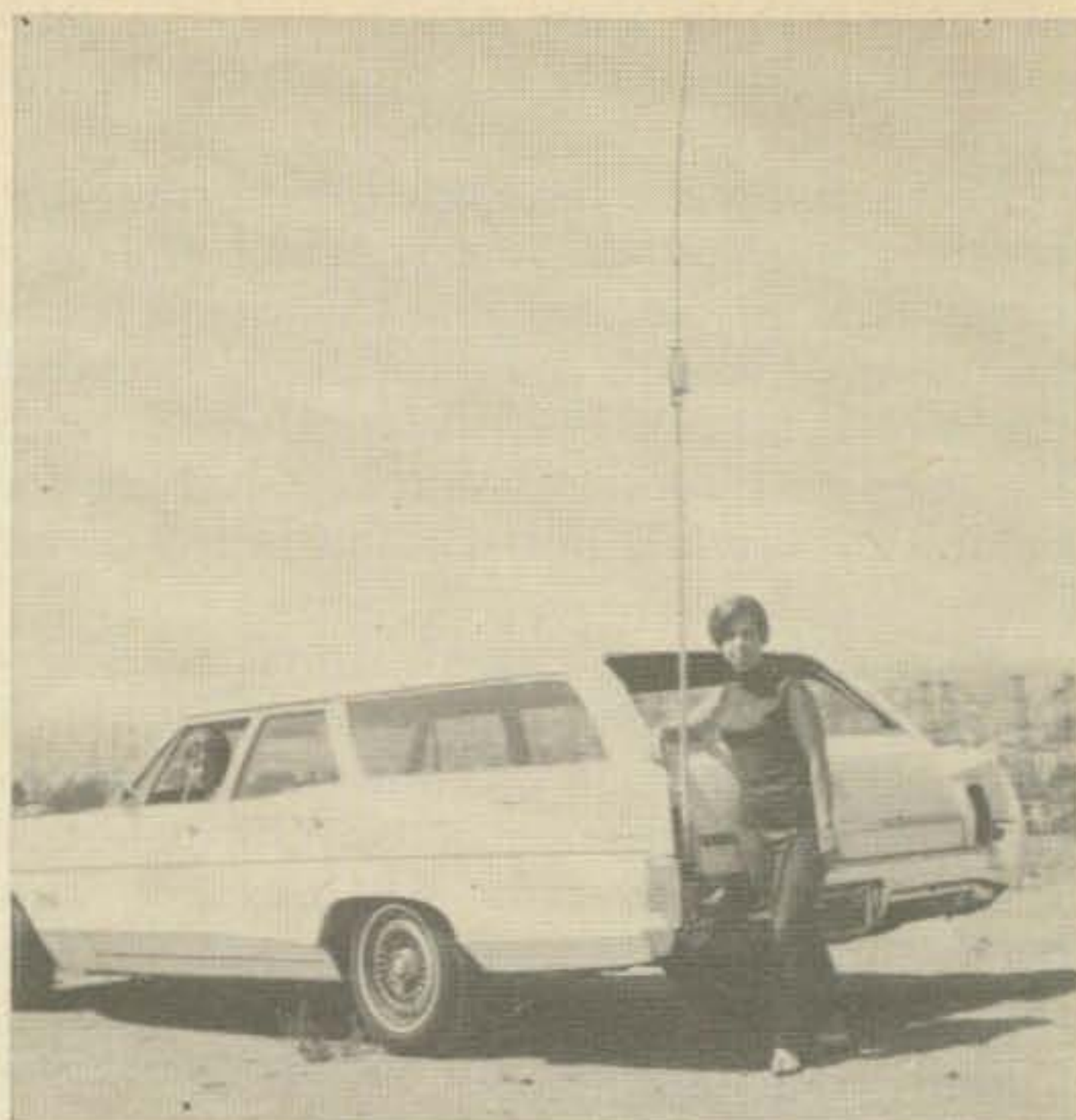
Go-Go-Mobile

40, 20, 25 and 10 for under \$10.

If you've had the urge to go mobile at the least possible cost—particularly regarding the mobile antenna—here's a good, inexpensive way to do it. All the parts are easy to obtain, construction is simple and quick, and a highly effective antenna is the result. The "Hi-Q" coil arrangement has been found very effective, and on field tests, the performance of this unit exceeded that of two popular commercial antennas. Comparative S-meter reports at several hundred miles' distance showed one full S-unit higher, and



Hooking up the Go-Go Mobile antenna with a Z-match.



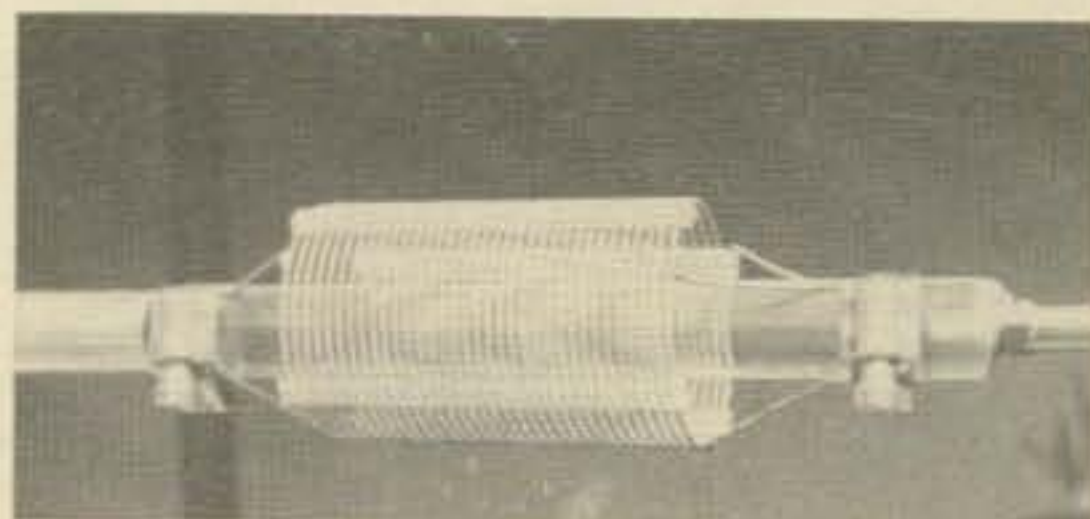
local field strength measurements showed appreciable gain over the commercial units.

The base section is electrical-mechanical tubing (EMT, which is light, strong, and attractive). The top whip is a walkie-talkie, CB replacement unit, or a standard auto radio item—whichever is preferred. With their sliding sections, these units give smooth and rapid adjustment to your exact transmitting frequency.

The unit illustrated here covers 40, 20, 15 and 10 meters by tapping the coil and adjusting the height of the top whip section.

Construction is begun by fitting a plastic or maple rod into the EMT base section tubing and securing it with a self-tapping screw through the tubing into the plastic rod. The next step is to mount the whip by tapping into the top of the plastic rod with the same screw-thread size as provided on the bottom of the whip.

The loading coil is supported on the plastic rod by three wires, top and bottom, soldered 120° apart, on the coil turns at each end of the coil. These wires are then bent toward the plastic rod and clamped in place by the worm-drive hose clamps. One



The loading coil. Note the support wires, which are connected from the first and last turns of the air-wound coil.

Table 1.

Contacts made during final test of mobile antenna project.

Band	Call	QTH	Signal Report
40	W6VX	Brentwood, California	10 over S-9
40	WA6FQI	Fullerton, California	Wants antenna data
40	WB6SEC	Bakersfield, California	Q5-S-15
20	WA7BKW	Billings, Montana	Plus S-12
15	W5PLE	Houston, Texas	"Exceptional Mobile Signal"
10	W6NRV	Fullerton, California	Q-5
10	WB6HVS	Garden Grove, California	Excellent Signal for "Ground Wave"
10	KH6EEM	Honolulu, Hawaii	Q5-S8
10	W4QKK	Winter Park, Florida	Q5-S10 plus
10	WA4WFE	Winter Park, Florida	Q5-S-10
10	W9ELG	Chicago, Illinois	"Terrific Signal"

Note: These contacts were made from the driveway at my home with a Drake TR-4 Transceiver. The SWR was less than 1.5:1 on all bands.

of the three wires on each end of the coil should be extended to provide electrical connection to the base section on the bottom and to the whip section on the top.

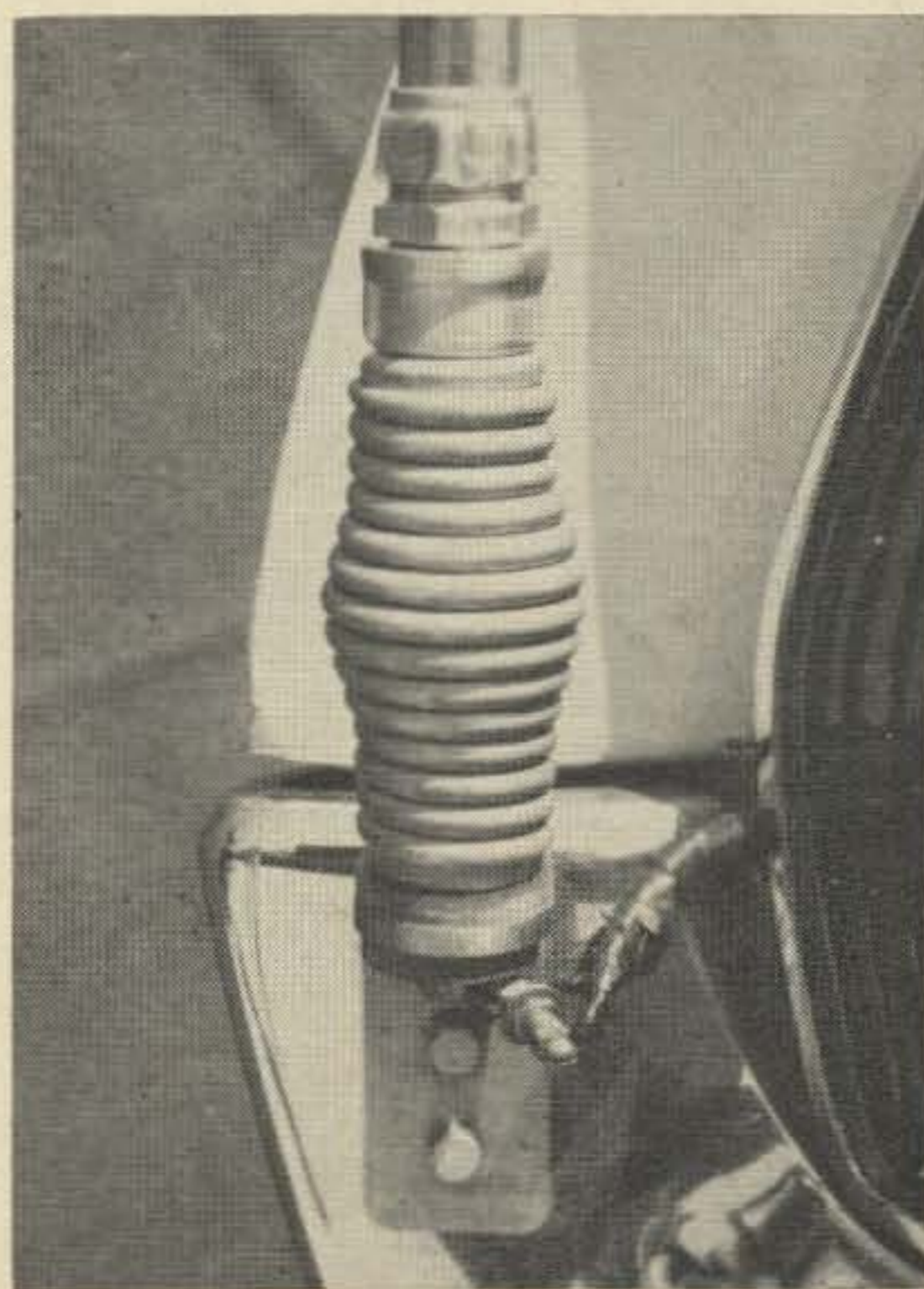
The pipe cap on the base section is drilled with a $\frac{3}{8}$ " hole and a $\frac{3}{8}$ "-24 threaded cap screw is inserted and soldered in place. This is best done over a gas flame, flooding plenty of solder over and around the head of the previously well-cleaned cap screw. Then the EMT base section is fitted with an EMT compression fitting, which is then screwed tightly into the $\frac{3}{4}$ " pipe cap.

The antenna is now ready for installation—run 52-ohm coax between the transmitter and the antenna base, making certain that the coax braid is well grounded. The antenna must now be tuned to your operating frequency; this is best done with an SWR meter and test clips, tapping down a turn at a time until the lowest SWR is obtained. Coarse adjustment may be made with a GDO, if available, followed up with fine adjustments obtained by changing the length of the top whip in increments of $\frac{1}{2}$ " or so. The overall length of the top whip should then be measured for future reference when making an appreciable frequency change within the band in use. After setting the top whip for the correct length for the operating frequency, the sliding section can be easily locked in place with a single wrapping of transparent Scotch tape.

On the antenna illustrated, the 40-meter phone band required all but two of the coil turns, and the top whip was extended to

47½ inches; on the 20-meter band, the coil was tapped down to 10 turns; for 15-meters, 5 turns. For operation on 10 meters, the coil is completely shunted and resonant frequency adjustments are made entirely by adjusting the top whip section. In order to minimize the amount of dielectric in the field of the coil, no cover was used, thereby retaining the highest "Q" and efficiency.

If a spring mount is used with this antenna, a fish line is used to stabilize it and to minimize swaying while under way. Tie the line between the car and the underside of



Construction of the base section of the W6IEL mobile antenna.

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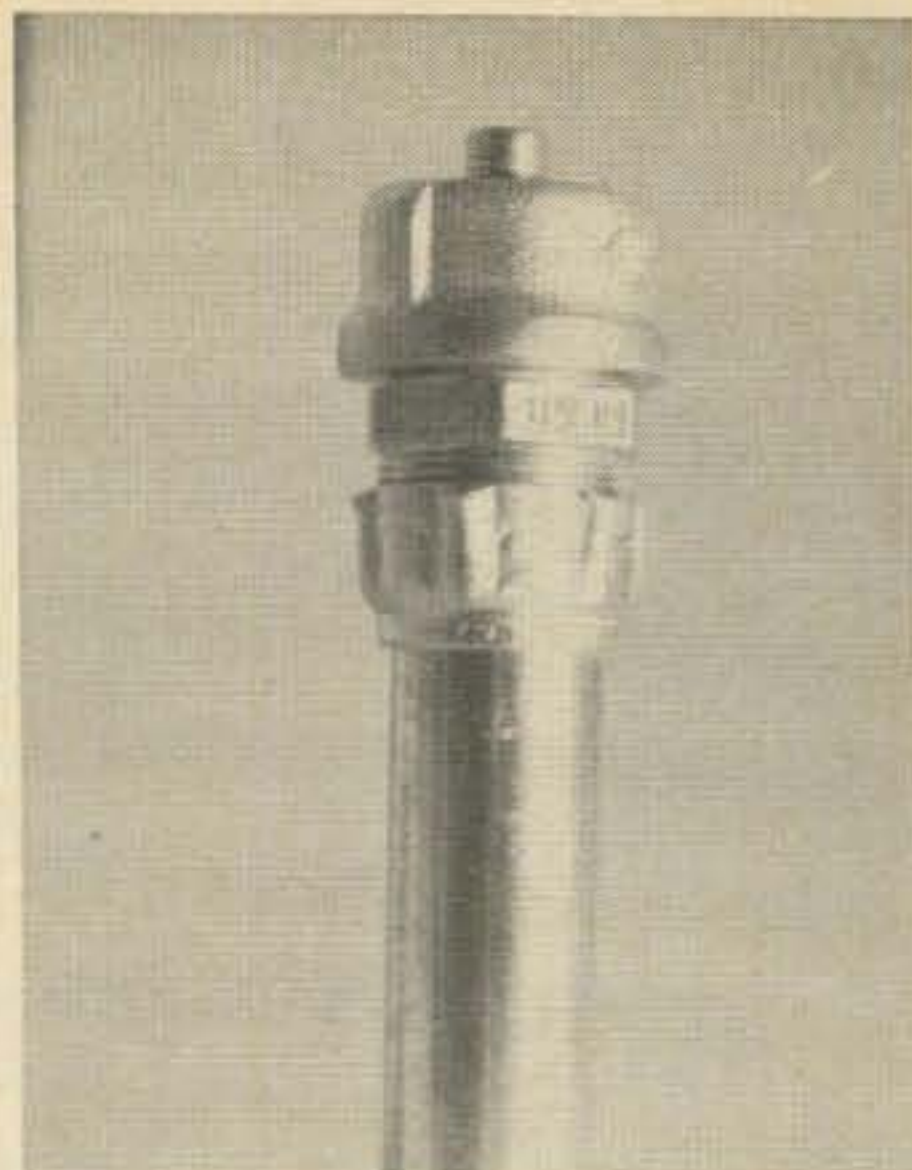
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Base mounting of the mobile antenna, showing the use of a threaded pipe cap.

Mobile Antenna Parts List

Loading Coil— 34 turns, 2½" diameter, 8 turns per inch, Air Dux #2008T. Illumitronic Engineering, Sunnyvale, California.

Coil Support— 10" x 1" diameter solid polystyrene or lucite rod. If plastic is not available use hard maple dowel; wax thoroughly before mounting.

Two worm-drive hose clamps.

Top Whip— CB replacement antenna or replacement auto whip, 50" extended, 11 section, Olson #AA-148, Olson Electronics, 260 Forge Street, Akron, Ohio, 44308.

Base Section— 52" of ¾" diameter electrical metallic tubing (Thinwall conduit—EMT)

1—¾" EMPT connector—Compression type (T & B #5221 or Appleton #96T075)

1—¾" Brass pipe cap

1—¾" x 24 THD cap screw

1 Bumper mount, Allied #86U606

the coil support.

If you haven't gone mobile before, you'll be surprised and delighted at the additional pleasure to be obtained from ham radio and the amazing DX that can be worked using an efficient, center-loading mobile antenna. . . . W6IEL