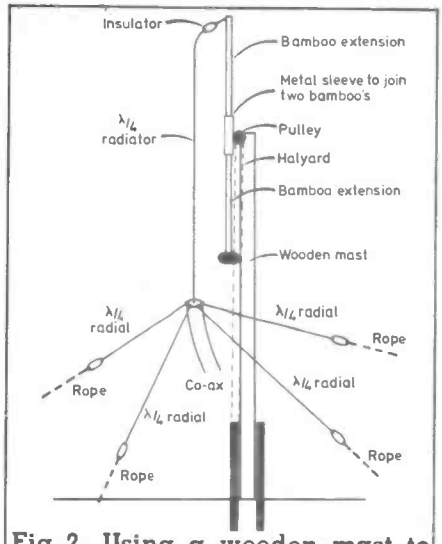

Fig. 2. Using a wooden mast to support an elevated quarter-wave vertical

mended and the top of the aerial can be anchored to a strong bamboo extension drawn up by a halyard attached to the top of the wooden mast. The writer uses two 5m bamboo's inserted into a 2m long aluminium tube to give an effective length of the bamboo section of some 10m. The centre of this is attached tothe halyard and the bottom end pulled vertically downwards by a suitable rope. Hence the top of the bamboo projects some 5m above the top of the main wooden mast.

A variant of the evergreen ¼ ground plane is the 0.32 ground plane, shown in **Fig. 3.** The feed point then becomes reactive and so it is necessary to feed the base via a series capacitor of approximately 100-150pF. A 200 or 250pF max air-spaced variable can be used enclosed in a water-tight plastic box. In this case 75ohm co-ax should be used and the capacitor adjusted (with the aerial lowered for the capacitor to be within reach) until the VSWR is at a minimum at the operating frequency. Raising the aerial to full height has little effect on the optimum setting of the capacitor and an excellent match should be maintained. This extended version of the ground plane aerial provides marginally better low angle performance than its shorter brother.

The omni-directional characteristic (in azimuth) of the vertical aerial is both a strength and a weakness. It is fine from the point of view that every direction can be covered without adjustment — it is bad at discriminating against unwanted signals (except, of course, short skip signals which will be weaker than on a horizontal dipole or inverted 'V').

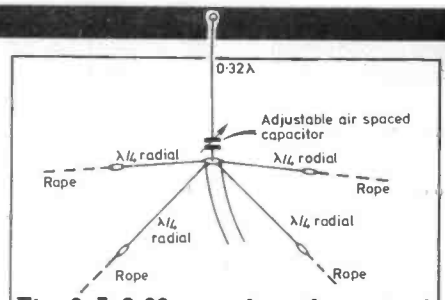

Fig. 3. A 0.32 wavelength vertical matches 50ohm cable when the reactance is tuned out by a series capacitor.

Directivity

Adding a director and/or a reflector is perfectly feasible but then one is restricted to a single direction. It is also possible to erect a circle of

As Sant Kharbanda's qualifications and callsign show, he's no newcomer to radio. As recently retired Chairman of Labgear, he has been working at the other end of the spectrum — on aerials and receivers for home reception of satellite TV. He was clear winner of the ARRL International Phone Contest over 10 consecutive years from 1947 to 1956. He has been a radio amateur since 1936.