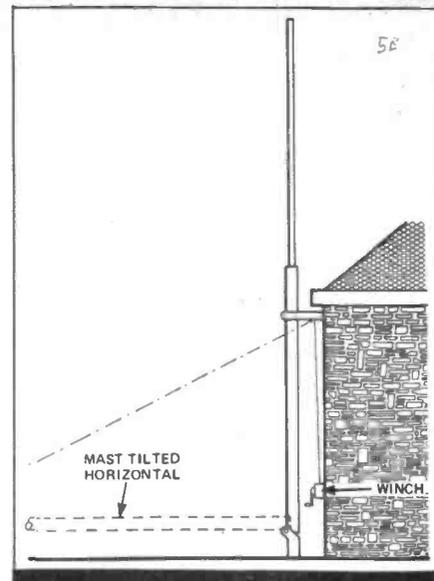


winch, mounted onto a ground post set in a concrete base so that the mast, when closed down, can be tilted down to the horizontal. This feature has the chief advantage that the mast and aerial can be quickly raised up or lowered down to ground level even by one person. Telescopic masts of this type, such as the *Altron SM30* are made up of two 15 foot sections of galvanized steel tube, and all extendable up to a height of 30 feet, excluding the rotator and aerial.

This type of mast has a very slim silhouette and can be self supporting with small HF or large VHF aerials, depending on local conditions. Fig. 5B shows the slimline mast mounted against a wall so that it can be lowered down away from the wall. In small spaces, this is sometimes a more practical way to mount a telescopic mast. The *Altron SM30* retails at about £240.00 including VAT and UK mainland carriage and is unique in that it is made up of 15 foot sections for easy transportation and low closed height.

If heights over 30 feet (excluding aerial and rotator) are needed or large aerials are to be fitted then a tower is going to be necessary. Fig. 6 shows a typical

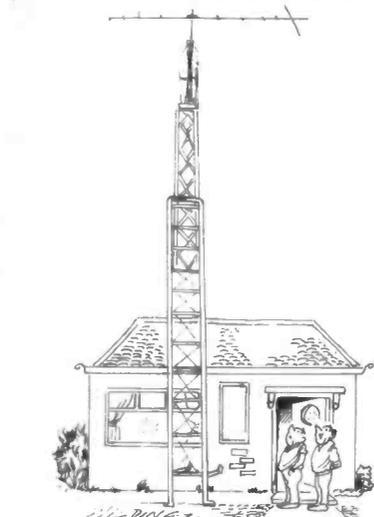


telescopic lattice tower mounted on a ground post so that it can be lifted horizontal. Lattice towers are sometimes referred to as *Versatowers* which is in fact the trade name of Western Electronics Ltd, a firm that makes lattice towers. They are usually fabricated from steel tube braced with rods and extended, as well as tilted by cable and winch.

When to guy

The 'lattice' sections are usually of triangular form parallel over the whole length. These sections can be 20 feet long as made by Western or 15 foot long as in the *Altron* series of towers by Allweld engineering. Although towers are, by their construction, more costly than a telescopic tubular mast price; (ranges from £363.00, the *Altron AT32PM* mcm tower up to over £1,000) they can carry much larger aerials to heights up to 120 feet. Generally though, at heights over 56 feet, they should be guyed. The ground post needs to be set into a suitable concrete base and manufacturers usually specify what these should be. Some sizes of telescopic tower can be mounted against a wall when space is limited but loads on the wall should be taken into account on this type of installation. Like the mast, the tower can easily and quickly raised or lowered as well as tilted to the horizontal using the appropriate winch.

Like any mechanical structure, a mast or tower is designed to operate within certain load limits; such as wind loads, and in the next part, we will look into these.



When applying to the local planning authority, it helps to refer to your structure as a 'mast' rather than as a 'tower'

long periods. Under such conditions the piston seal can deteriorate and fail. Replacement of these can be an expensive business.

Mechanically operated telescopic masts and towers are the most popular with radio amateurs. See Fig. 5 and 6. Winch and cable operating is fairly simple and there is not much to go wrong with the system if it is left extended for long periods.

Fig. 5A and 5B show a slimline telescopic mast consisting of two sections operated by a cable and

