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**Author:** Baker Springfield, W4HYY

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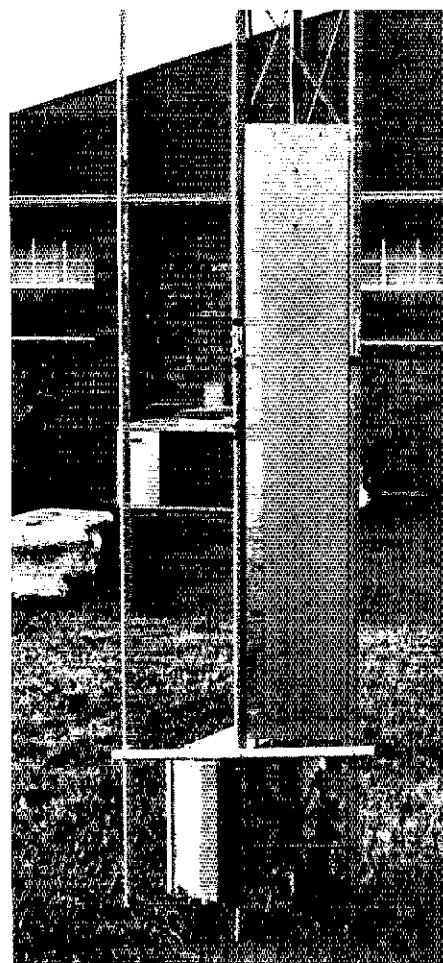
# The Tower Shield

Cover your tower and yourself. Use the Tower Shield.

By Baker Springfield,\* W4HYY and Richard Ely,\*\* WA4VHM

That "attractive nuisance" in your back yard can be a problem. Whether the nuisance is your neighbor's wife or your tower is for you to decide. Legally though, a tower can be classified as an *attractive nuisance* that could cause

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Installed tower shield. Note the holes for using the handles.

injuries unless some precautions are taken. The tower shield should eliminate the worry about one nuisance; the other is your problem.

Generally, *attractive nuisance* doctrine is based upon the theory that one who maintains upon his premises an agency or condition which is dangerous to children of tender years by reason of their inability to appreciate danger and which may reasonably be expected to attract children to the premises, is under a duty to exercise reasonable care to

protect them against dangers of the attraction. With this factor in mind, we should be careful about such items on our property. Serious considerations should be given to anything that is attractive, inviting, enticing, unusual, curious, or interesting. An example might be something painted brightly with a strange or unusual shape on which children could play. If you have anything on your property that could be considered an *attractive nuisance* then perhaps a few changes could alter

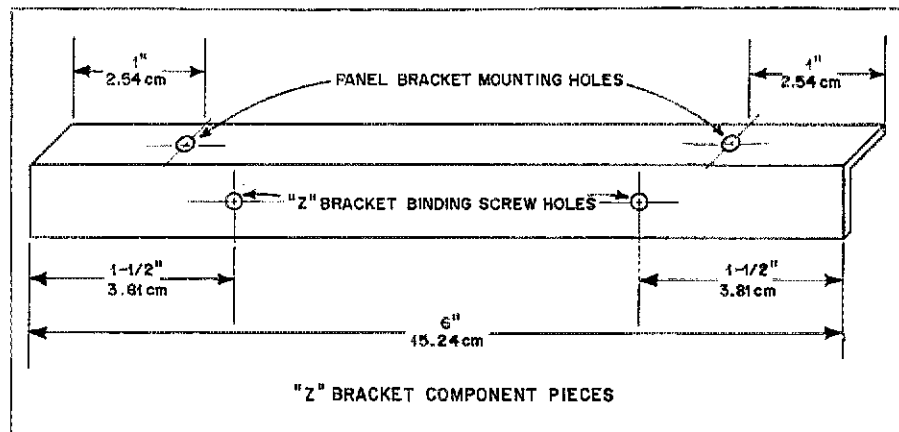


Fig. 1 — Z-bracket component pieces.

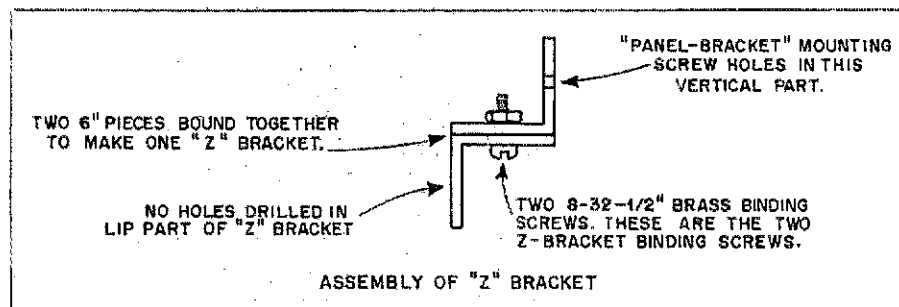


Fig. 2 — Assembly of the Z bracket.

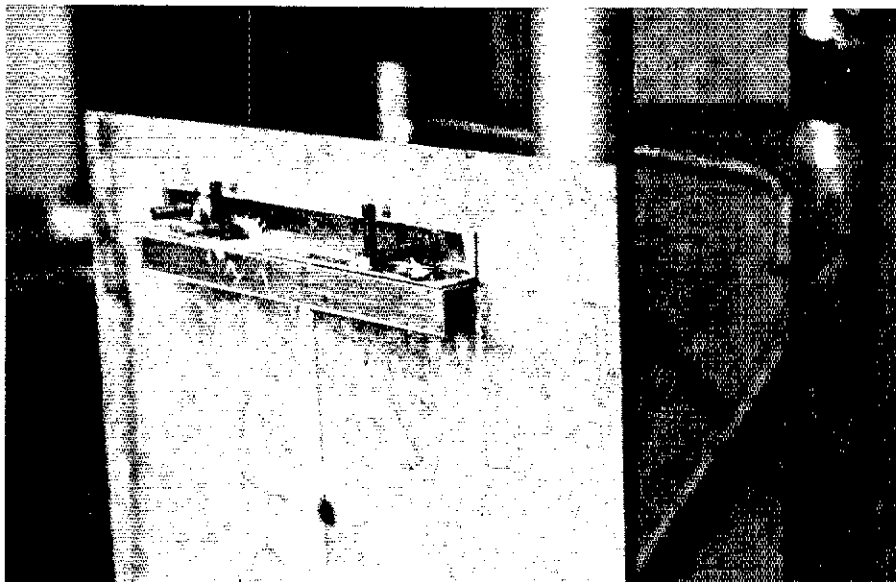
this condition and render it almost unnoticeable, or at least less appealing. Eliminating or reducing the appeal of an object should help in preventing an accident.

### The Shield

The tower shield is simply composed of panels that enclose the tower and make climbing practically impossible. These panels are five feet in height and are wide enough to fit snugly between the tower legs and flat against the rungs. A height of five feet is sufficient in most every case. The panels are constructed from 18-gauge galvanized sheet metal obtained and cut to proper dimensions from a local sheet-metal shop. A lighter gauge could probably be used, but the extra physical weight of the heavier gauge is an advantage if no additional means of securing the panels to the tower rungs are utilized. The three types of metals used for the components of the shield are supposedly rust proof and nonreactive. The panels are galvanized sheet steel, the brackets aluminum, and the screws and nuts are brass. Total cost of all parts was about twenty dollars. The tower shield consists of three panels, one for each of the three sides, supported by two brackets. These brackets are constructed from six-inch pieces of thin aluminum angle stock. Two of these pieces are bolted together to form a Z bracket (see Figs. 1 and 2). The Z brackets are bolted together with flat-head (binding-head) brass machine screws.

The panels were laid flat for the measuring, marking and drilling. The first measurement is from the top of the upper mounting rung on the tower to the top of the bottom rung. These mounting rungs were selected to position the panel on the tower. This distance from rung to rung was then marked on the panel. Using the same size brass screws and nuts, the top vertical portion of each Z bracket is bolted to the panel. The mounting-screw holes were drilled about one inch from the end of the Z brackets so that an offset clearance occurred between the Z-bracket binding-screw holes and the panel bracket mounting-screw holes. The panel holes were drilled to match the Z-bracket holes.

The panels are held on the tower by their own weight. They are not easy to grasp because they fit snugly between the tower legs. If the need exists for added safety against deliberate removal of the panels, this can be accomplished by means of tie wires. A small hole can be drilled in the panel just above, just below, and in the center of each Z bracket. Run a piece of heavy galvanized wire through the top hole, around the Z bracket, and then back through the hole just below the Z



Panel with mounted Z bracket.

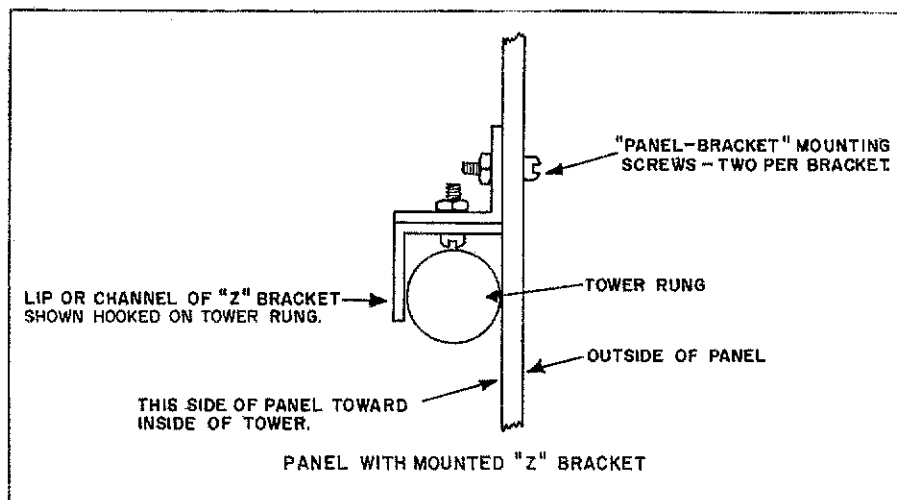


Fig. 3 — Installation of the shield on a tower rung.

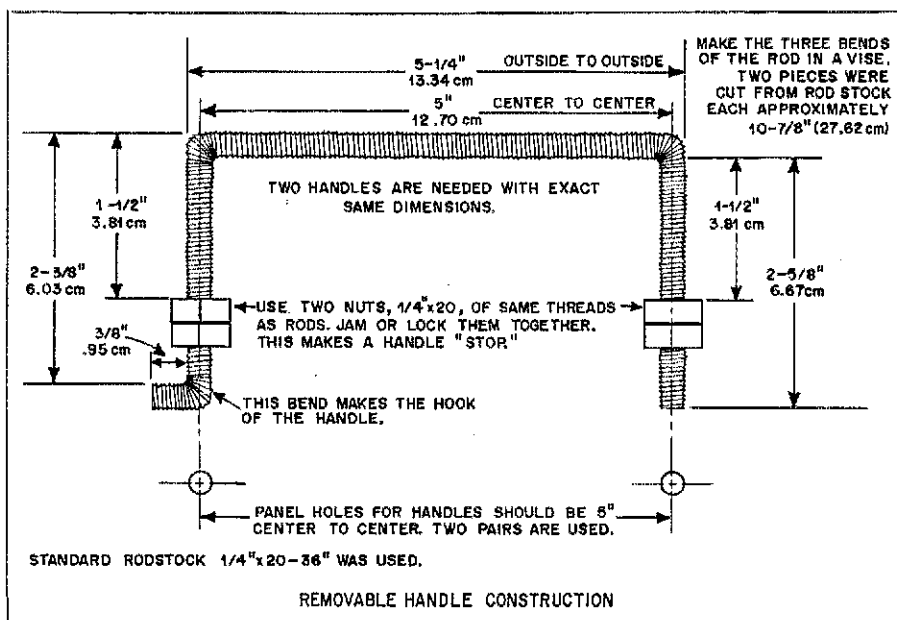


Fig. 4 — Removable handle construction.

bracket. Twist together the two ends of the wire. One tie wire should be sufficient for each panel, but use two if desired.

The completed panels are rather bulky and difficult to handle. A feature that is useful if the panels have to be removed often for tower climbing or accessibility is a pair of removable handles. The removable handles can be

constructed from one threaded rod and eight nuts. The two pairs of handle holes were drilled in the panels a few inches below the top Z bracket and several inches above the bottom Z bracket. For panel placement or removal, the handles are hooked in these holes in the panels. The hook, on the top of the handle, fits into the top hole of each pair of the handle holes. The

handle is optional, but for the effort required it certainly makes removal and replacement much safer and easier.

This tower shield is most simple but effective! Better ways can be devised, but this is a basic guide. The low cost and simplicity make the tower shield well worth the protection and security that most hams need! Can you really afford the lack of this protection?

QST

## Strays



Miss Pennsylvania, Connie Horness, sends a message while Andrew Doles, WBUDG, watches at the recent American-Canadian Sports Show in Cleveland's Public Auditorium. Miss Ohio, Susan Banks, also got on the air during the ten-day event.

### NEW BOOKS

□ *A Sourcebook of Modern Transistor Circuits*, by L. G. Cowles. Published by Prentice-Hall, Inc., Englewood Cliffs, NJ. Hard-cover version 6-1/8 X 9-1/4 inches. Page count, inclusive of index, 360. Price at the time of this report, \$17.50.

Here is another of those neat books which is written in plain electronics language — the distinctive mark of Prentice-Hall and its authors. Any radio amateur with a motivation to learn what solid-state circuitry is all about should be pleased with the narrative and information available in this book.

There is no visible sign in the volume that the material is hackneyed. The circuits do not appear to be lifted from

industry application notes and data sheets — a refreshing turnabout in this period of editorial proliferation! Mathematical solutions to design problems are offered throughout the book, but only where it is necessary. If you can handle basic high-school algebra — you're in!

Chapter 1 treats practical transistor theory, with coverage of integrated circuits, feedback, gain-impedance relations, power dissipation, heat sinking, and transistor gain. Single-stage amplifiers are discussed in chapter 2. Chapter 3 gets into the design of two-stage amplifiers of all popular types. FETs are the theme of chapter 4, and MOSFET amplifiers are the subject of chapter 5.

Next come power supplies and regulators (chapter 6), and from there the author migrates to low-noise amplifiers

and preamplifiers in chapter 7. Audio power amplifiers are highlighted in chapter 8, and linear integrated circuits are focused upon in chapter 9. The remaining eight chapters deal with filters, tuned amplifiers, video amplifiers, diode circuits, oscillators, inverters, and age circuits. Coverage is provided on the subjects of transistor switching circuits and lab instruments and methods. The book contains an appendix.

Schematic diagrams are present in large numbers throughout the book. In most instances the author has provided practical component values for his examples, suggesting that most of the circuits could be "lifted" and applied by the amateur or professional. But, the information is there for those who wish to actually *design* a circuit for use in a specific project.

The paper grade and binding of this book seem to be "top drawer." Although the price may seem a bit high when comparing it to what one pays for amateur publications, any ham who takes his *technical* pastime seriously should be delighted to add this publication to his personal library — or, perhaps one could persuade the boss to acquire a copy for the firm's library! — WICER



The Directors picked "Using the Double Balanced Mixer in VHF Converters" as the best article in March 1975 QST. Here its author, Edward L. Meade, Jr., K1AGB, belatedly claims the Cover Plaque from New England Director John C. Sullivan, W1HHR.