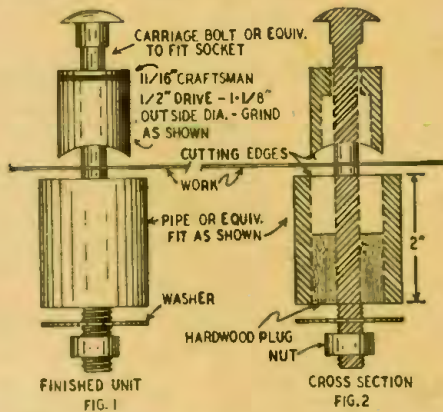


TRY THIS ONE

TUBE SOCKET PUNCH

This socket punch is easily made and can cut about 20 holes before it needs resharpening.

To make the cutter, grind a socket from a socket-wrench set to the shape shown in the drawing. The outside diameter of the socket is $1\frac{1}{8}$ inches (for a $1\frac{1}{8}$ -inch hole), but a larger or smaller size may be used if desired.



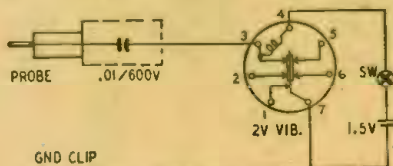
The die for the cutter is made of a piece of thick-wall pipe cut off square. It should fit snugly around cutter but not bind, if the hole is to be a clean one. Force a hardwood cylinder halfway into the pipe and drill it accurately through the center for a snug, sliding fit for the bolt.

Choose the bolt to fit the drive hole of the socket without any play. If the socket has a square drive hole, use a bolt with a square collar that can fit into it.

JOHN KWIETINSKAS,
Duquesne, Pa.

SIGNAL GENERATOR

An excellent signal generator can be constructed from a surplus 2-volt vibrator. It provides a.f. and r.f. signals for trouble-shooting and aligning of re-



ceivers. It is compact and easily carried around, and the operating cost is low because it uses only a $1\frac{1}{2}$ -volt battery. A volume control can be added to control the output.

JOHN ŽVERLOFF,
Akron, Ohio

HANDY TOOLS

Hacksaw blades can be ground into small sharp knives that are useful around the workshop. Facial tissue can be cemented to a piece of broken blade to get into places that a pipe cleaner cannot reach.

ELMER C. CARLSON,
Brooklyn, N. Y.

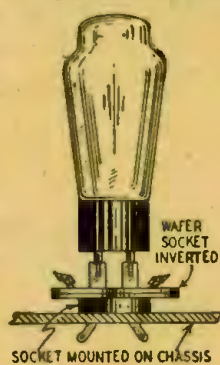
FOR EASY SOLDERING

When it is necessary to solder a lead or component to a chassis and solder with rosin flux will not stick, try using Kester aluminum solder. I have used this a number of years and have not been troubled with corrosion. It will even adhere—but not too well—to that white brittle metal often used for phono tone arms and dial drums.

THOMAS RUMNEY,
Toronto, Canada

TEST-POINT ADAPTER

Test-point adapters may be made cheaply from midget wafer tube sockets.



Remove the tube from the set and plug it into an inverted wafer socket. Then plug the whole back into the socket on the chassis. The prongs from the wafer socket project and can be hooked onto easily with pee-wee or crocodile clips. The receiver can, in most cases, be tested without removing it from the cabinet.

JOHN ŽVERLOFF
Akron, Ohio

TUBE REMOVER

A sewing-machine screw driver is the basis of this novel tube remover. To make it, hold about $\frac{3}{4}$ inch of the screw driver blade in a vise and bend it sharply 45 degrees.

Slip the bent end of the screw driver blade between the base of the tube and its socket. A little leverage on the handle will force the tube out easily.

OSCAR E. MALECH,
San Francisco, Calif.

CLEANING SPEAKERS

An easy way to remove iron filings and bits of metal from between the voice coil and field pole of dynamic speakers is to pass alternating current through the field coil. This demagnetizes the core and permits the small bits of metal to be shaken or blown out.

W. HARVEY MERWIN,
Jensen Beach, Florida

SELENIUM RECTIFIER HOLDER

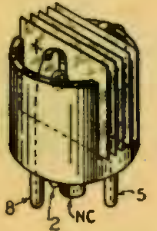
Here is a new way to install selenium rectifiers in radios designed for vacuum-tube rectifiers. Cut a slot the width of the new unit in a tube base to within $1/16$ inch of the bottom. Solder insulated leads to the terminals and fit the entire assembly into the slot. Pull the wires through the prongs in the base and

solder them. The wires should be pulled tight to hold the rectifier firmly in place.

After the circuit wiring is changed, plug the new rectifier into the tube socket.

GEORGE J. DASKO,
Oka, Quebec

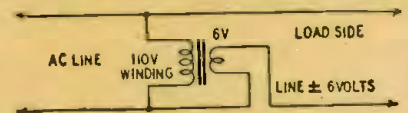
(Another method of installing a selenium rectifier was suggested by R. V. Johnson of Chicago, Illinois. It is to solder a tube prong to each strap attached to the unit. The rectifier is installed by merely plugging it into the tube socket after rewiring the set. Many parallel suggestions have been made by servicemen and experimenters. —Editor)



VOLTAGE BOOSTER

Where low line voltage causes poor reception on receivers, a toy or filament transformer can be used to boost the line voltage to close to its normal rating.

The required transformer secondary voltage depends upon the amount of increase desired, and can be varied in



many toy transformers. The 2 windings must be connected to add voltages and to prevent bucking—correct connections can be determined with a voltmeter.

GEORGE PURAINEN,
Sudbury, Ontario

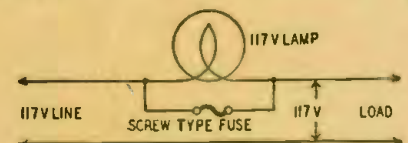
STRIPPING LITZ WIRE

Do you have trouble stripping insulation from Litz wire and the fine wires commonly used on pickups and headphones? If so, try passing a lighted match slowly under the end of the wire. This will char the insulation sufficiently to permit it to be pulled off. Use care so that the fine wires will neither char nor melt.

FRED PEARSALL,
Medford, N. Y.

SHORT INDICATOR

A light bulb connected in parallel with the fuse connected to the service bench is a good short-circuit indicator. If the fuse melts, the lamp will light. The



lamp should be a small one, that will not impair the action of the fuse. A $7\frac{1}{2}$ -watt bulb is adequate.

JOHN A. FLOR,
Milwaukee, Wis.