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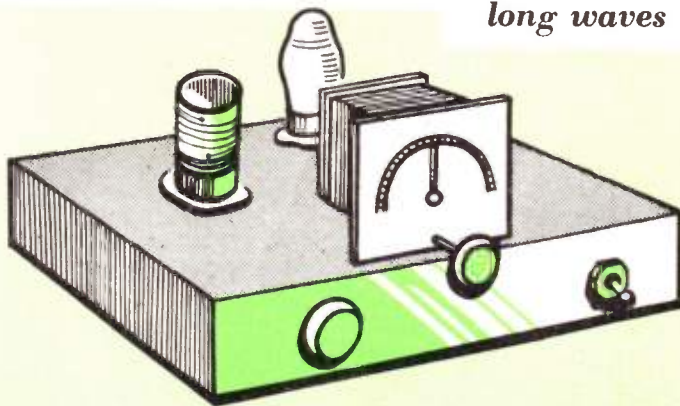
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ONE-VALVE RADIO

*For short,
medium and
long waves*



Designed By F. G. Rayer

ONE-valve receivers are popular, and also cheap and easy to build. A 1-valver which can tune all the short, medium and long wavebands should thus be of particular interest, and the set described here is of this type.

When more than one waveband is required, wavechange switching is generally used, to select various tuning coils. When there are several wavebands, this tends to become complicated, and it is in such switch wiring that beginners, in particular, are liable to make mistakes. To avoid this, plug-in coils are employed in the present design. This is efficient, simple, and has the added advantage that further coils can be made up later, for other bands. Some constructors may not require long waves, while others may wish to provide for short-wave reception only. If so, only the coils for those bands required need be wound.

The circuit appears in Fig. 1, a $\cdot 0005\mu\text{F}$ air-spaced tuning condenser being suitable for 15 to 2,000 metres.

This type of condenser will have about 24 plates. Condensers of smaller capacity will do for short-wave reception only, where a tuning condenser of about $\cdot 0001\mu\text{F}$ to $\cdot 0002\mu\text{F}$ is satisfactory. But when medium and long waves are also to be tuned, $\cdot 0005\mu\text{F}$ becomes necessary.

For short wave tuning, a reduction drive is required. One of the cheapest may be made up from a cord, spindle

drive and drum, and these parts can be purchased easily. Various kinds of ready-made drives and dials can also be obtained, and will be satisfactory.

The reaction condenser is about $\cdot 0003\mu\text{F}$, with a knob of reasonable diameter — say, 1in. A $\cdot 0002\mu\text{F}$ fixed condenser, 2 megohm resistor, on/off switch, and H.F. Choke are also required, with 4 terminals, or twin socket strips for connections.

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FOR ALL HOME CRAFTSMEN
Over 60 years of 'Do-it-Yourself'

4¹/₂^D

One of the best valves is the HL2, cheaply obtainable from surplus stores, and requiring a 4-pin English type holder. In this circuit filament current can be taken from a 2 volt accumulator, a single $1\frac{1}{2}$ V dry battery, or from a 3 V dry battery with a 10 ohm resistor joined in one lead to drop this to 2 V. (A 3 V battery must on no account be used without this resistor.) It is also possible to use most of the 'all-dry' miniature or octal valves, which require a $1\frac{1}{2}$ V dry battery.

About 60V is suitable for H.T. and the type of battery having normal-sized cells is best, since it costs less than the midget kind, and lasts much longer. The battery will in any case have a long life, as there is only one valve.

The coils

Plug-in formers, with pins, can be obtained to wind these. Or they can be made by fitting suitable insulated tubes to the bases of old, defective valves. If paxolin tubes are used, they should be of such a diameter that they are a push-fit on the old valve bases. Two small bolts through tube and valve base will then hold them together.

Satisfactory tubes can also be made by winding glued brown paper tightly round the base, and allowing to dry. A holder to suit is required. A valve-holder will suit the home-made type, but most ready-made plug-in formers have a rather different pin spacing, so that a holder must be purchased to fit.

The coils will be about $1\frac{1}{4}$ ins. in diameter, and the winding table shows the turns to employ. With new formers, the wire is taken down through the

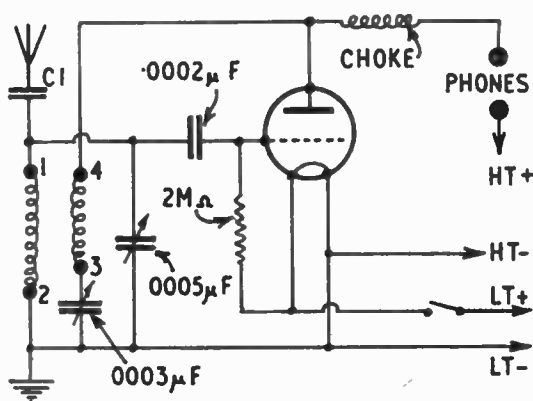


Fig. 1—Receiver circuit

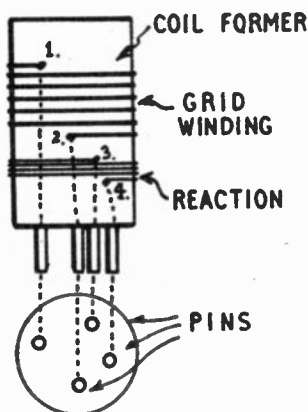


Fig. 2—Tuning coils

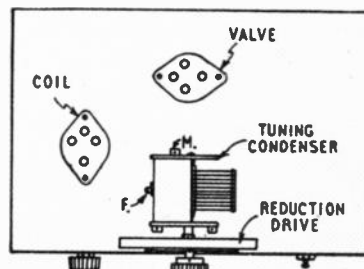


Fig. 3—Top of chassis

hollow pins, cleaned and soldered at the tip of the pin. This can also be done with old valve bases, if the pins are first cleaned out by melting the old solder away.

It is necessary to wire pins and holder correctly, so that the windings function as required. In Fig. 2, the pins are shown as seen when looking at the bottom of the coil, this agreeing with the wiring plan in Fig. 4.

The medium wave coil is perhaps best for a first trial. On the short waves most stations will be found around 19, 25, 31, 41 and 49 metres. The other coils cover trawler and shipping bands, etc.

The S.W. coils have the turns of the grid winding separated by about the diameter of the wire. About $\frac{1}{4}$ in. clear space is left between the bottom of this winding and the reaction winding, and the turns of the latter are side by side.

Chassis construction

This can be made of wood or metal, the latter being best. The chassis needs to be 2 ins. deep, and about 5 ins. by 7 ins. wide, so that it can be bent up from a piece of aluminium 7 ins. by 9 ins. A suitable chassis can also be purchased.

With the metal type, clearance holes for the valveholders and socket strips must be large enough, to prevent short-circuits. The components are fitted as shown in Figs. 3 and 4. In Fig. 3, (M)

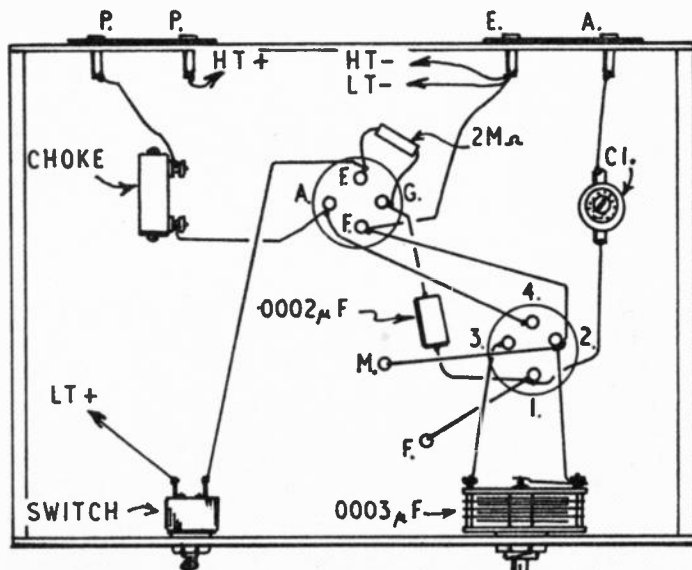


Fig. 4—Wiring plan from underneath chassis

denotes the moving plates connection of the tuning condenser, which will be a tag, terminal, or the condenser frame. (F) denotes the fixed plates tag or terminal, an insulated lead passing down through the chassis from this point to coil holder socket No. 1.

All connections will be clear from Fig. 4, and some of the 18 S.W.G. wire will do well, with flex for battery leads. Wiring between coil holder, variable condensers and valve should not be unnecessarily long. (1) on the coil holder goes to fixed plates of tuning condenser, and .0002 μ F condenser. (2) goes to earth. (3) is wired to the fixed plates tag of the reaction condenser. (4) goes to valve anode.

With the valvholder, (A) signifies Anode (or Plate); (G) Grid; and (F) the filament sockets. If bare connecting wire is used, lengths of insulated sleeving should be placed over the leads, to avoid short circuits.

SIMPLE PAPER FILE



THE quick and simple filing of bills, receipts and the like is of great use in the household. Various ideas have been tried out throughout the land, varying from skewers to bootlaces, folders to boxfiles.

Here is an efficient, handy and quickly made means of dealing with the problem. Take an ordinary exercise book, or better still a slightly larger drawing book, and fasten two pages at a time together, at the edges. Do this with self adhesive, or gummed paper. This will change the book into a collection of pockets, the outside of which can be appropriately labelled.

Everything is then kept neatly together, all for the sake of pence and a few minutes work. (W.J.S.)

COIL WINDING TABLE

Approximate Waveband	Grid Winding	Reaction Winding
200-550 metres	85 turns 32 S.W.G. enamelled	45 turns 32 S.W.G. enamelled
19-60 metres	11 turns 18 S.W.G. bare or enamelled	7 turns 22-32 S.W.G.
9-25 metres	4 turns 18 S.W.G.	3½ turns 22-32 S.W.G.
30-110 metres	20 turns 20 S.W.G.	12 turns 32 S.W.G.
60-220 metres	35 turns 24 S.W.G.	21 turns 32 S.W.G.
1000-2000 metres	270 turns 36 S.W.G. in 3 compact piles of 90 turns each	100 turns 36 S.W.G. in one pile

Aerial coupling

This is provided by the small condenser C1, the value of which considerably influences results. For general purposes, a pre-set condenser of 50 pF or 100 pF maximum capacity is satisfactory. If the aerial is *very short* C1 may be omitted, the aerial socket being connected directly to (1) on the coil holder. With a long aerial, two pieces of insulated wire, twisted together for about 1in. to 2ins. of their length, but not in electrical contact will do.

If C1 is of too large a capacity, for the aerial used, volume will be good, but tuning will be flat, and reaction may not be sufficient, on the S.W. bands. Very small values will, on the other hand, much reduce volume. For this reason it is best to try various values, or to employ a pre-set condenser and try this at various settings.

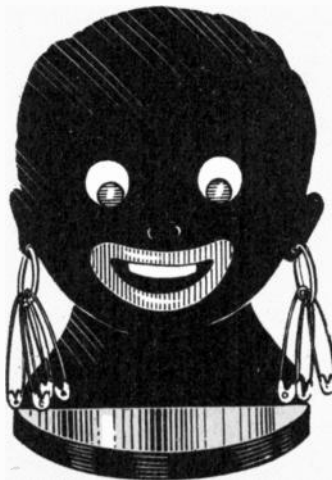
For long-distance reception and weak signals, reaction is used to build up volume. To do this, the reaction condenser is closed until the detector is almost oscillating. The setting of the reaction condensers does not have very much effect with powerful signals. But with weak signals, its correct adjustment will make all the difference.

Careful operation of the tuning and reaction controls is very necessary on the S.W. bands, or only powerful stations will be heard. A suitable aerial for average purposes can be made from 15 to 20ft. of wire, preferably out-of-doors, and well clear of walls, gutters, and other earthed objects.

Should a single waveband receiver be desired, it is only necessary to wind the appropriate coil, and take the ends of the windings directly to valve anode and variable condensers.

A cute novelty

SAFETY PIN HOLDER

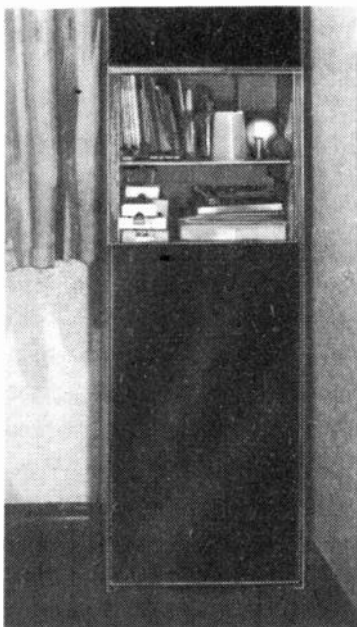


SAFETY pins for baby's napkins are so easily mislaid, that this useful and novel holder will, no doubt, be appreciated by mothers.

Cut the head from ½in. wood and colour with enamel paint. The lips are red, the teeth white and eyes grey and white. The rest of the figure is jet black. The ears are drilled to take two rings of wire which are pushed through and then soldered. Alternatively use curtain rings which should be opened up and then inserted in the holes.

Screw the figure to a circular base of ½in. wood, which should be painted bright red. The pins, as will be seen from the illustration, should be hung on the rings. (M.p.)

**FULL-SIZE PATTERNS
ON PAGE 351**



Cupboard closed and showing shelves for reference books

HAVE you ever thought of making yourself a cupboard for photographic materials, chemicals and accessories, incorporating a door which also serves the purpose of a work bench? Here we have the very thing, actually constructed in the form of two separate units, made by hammer and nails carpentry and simple enough for any amateur handyman to understand.

The carcass is made from 10ins. by 1in. shelving, as are the shelves inside,

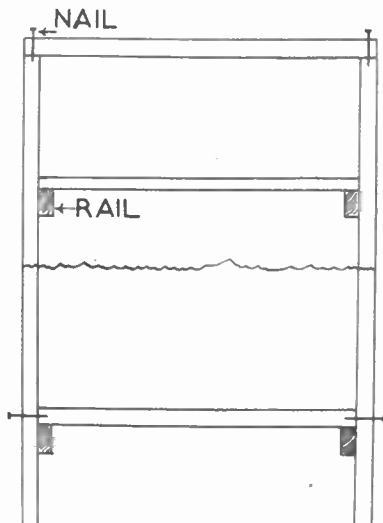


FIG. 1

Combined Bench and Cupboard

By S. H. Longbottom

but you can use 2ins. by 1in. battens in conjunction with hardboard to reduce costs, or if you wish to make the cupboard deeper. The principal feature of the lower cupboard is the door, which, lifting upwards, provides a very convenient table top. This is made from best quality hardboard glued and pinned to a frame of 1½ins. by ½in. wood battens, with two stretchers on the inside as shown in Fig. 3.

After some consideration it was found that the best method of support for this table was by providing independent legs, but the method of fixing will be mentioned later.

In designing a similar cupboard for your own requirements consideration must be given to the items you intend to store away. Tall Winchesters for instance, are about 14ins. deep, demanding

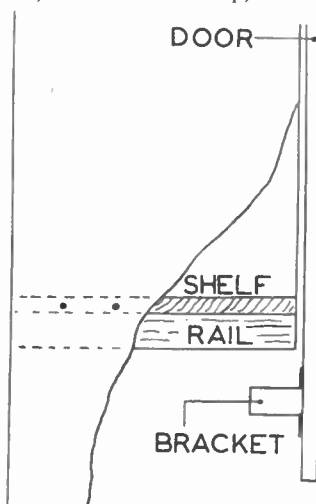


FIG. 2

equal shelf space. Papers, gadgets and smaller bottles can be accommodated on shallower shelves. If you wish to include your enlarger, the lamphouse measurements will determine the depth of the cupboard. Then there is also the question of providing an open shelf for frequently used gadgets, measures, reference books and the like.



The door has been lifted and legs placed in position

The two side pieces have 1½ins. by 1in. rails screwed on the inside for the shelves to rest upon, and these should be cut to give a tight fit, so that no further nailing or screwing will be required to hold them in position. Note that the lowest shelf must be 4½ins. from the base to allow for fittings to be attached to the inside of the door.

Lay the sides on the floor side by side, marking off the distances for your shelf, remembering to allow each time for the shelf thickness. One shelf must be 2ft. 6ins. from the base, so that the door may be fixed at a convenient working height when used as the table top.

Rails are prepared to the width of the sides, tapered at the front end to half their thickness, then attached by screws in the positions marked. With these in position we attach the top by means of 3in. nails driven downwards into the side pieces as shown in Fig. 1. Note that the bottom shelf is fitted inside and nailed through the sides. It is also a good plan to similarly nail the shelf that is to support the door. Incidentally, if you are a really good craftsman, you may prefer to dowel the shelves or house them in a trench, but we are now explaining the easiest method.

With the shelves installed, the entire back is covered with hardboard, fastened by panel pins down the sides and along the top shelf.

The door is next prepared to a suitable size as shown in Fig. 3. Glue and

pin all the stretchers to make a good substantial bench top. A further stretcher may be necessary at the base for fastening the brackets.

When used as a table, the door is supported by twin, independent dowel rods $\frac{1}{2}$ in. in diameter, hence the reason for making the lower shelf $4\frac{1}{2}$ ins. from the floor — we have to allow for the brackets to fit underneath when the door is closed. This is shown clearly in Fig. 2, where a suitable curtain rod bracket has been attached. This method has proved quite successful in practice. Trestle legs would limit the shelf accommodation if folded inside, while chains or other supports would be an encumbrance to working if the door was hinged to open downwards.

Screw the brackets in position to fit in the space underneath the lower shelf when the door is closed. Now hinge the door.

Brackets were also prepared for the feet of the dowel rods to avoid any possible movement, but you need not go to this length since a square piece of hardboard screwed to the feet will answer the same purpose. Fit the feet first, then trim the rods to a correct height, seeing that the top is quite level.

If you wish to make your own brackets, Fig. 4 shows an alternative. Here a cube of wood $1\frac{1}{2}$ ins. square has been drilled to accept the $\frac{1}{2}$ in. dowel rods, a further hole being made at the side for the insertion of a thumbscrew to

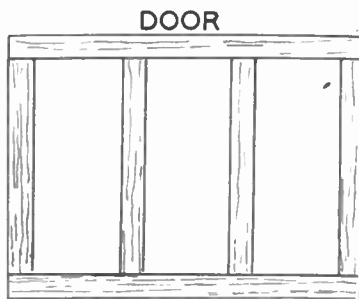
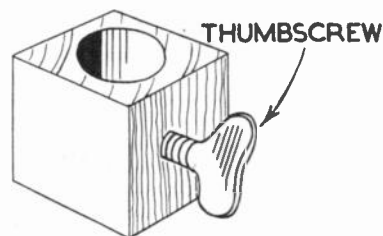


FIG. 3

keep the legs quite firm. Such blocks should be glued and screwed to the door, but screwing will have to be done from the outside. A turnbutton, or spring catch, will keep the door firmly closed when out of use.

The entire fitting may be finished in paint to match existing decorations, but the working table must have further consideration. This depends on whether the intention is to use it as a dry or wet bench. We now have the choice of a variety of coloured, plastic materials, sold in sheet form, or by the foot for fixing by the handyman. Some are self adhesive, others require an adhesive plus a warm, electric iron and are actually 'dry mounted'.

Alternatively, you may adopt the cheaper method of fixing linoleum tiles — these will increase the weight — or of



ALTERNATIVE BRACKET

FIG. 4

making an auxiliary table top for working purposes. If the latter is your choice, fix a small rubber buffer to each corner to prevent the paint from being scratched.

The illustrations show only the lower part of the cupboard, but the other half is fitted with shelves and plywood doors hinged to the carcass in the normal manner, i.e., opening towards the wall. These upper shelves hold a variety of apparatus, books and gadgets but no chemicals whatever. It is better to keep the latter away from sensitised materials.

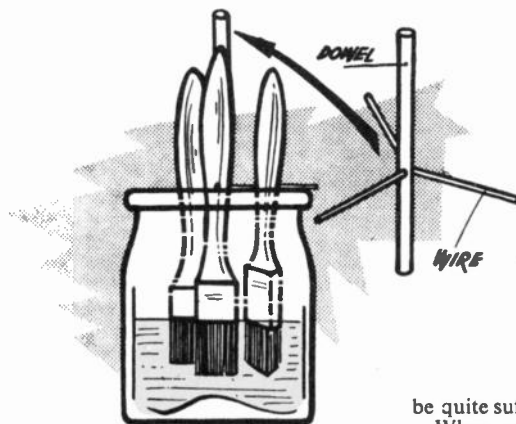
In practice, the cupboard has been found most convenient. Little floor space is absorbed, since it takes a narrow vertical form. Chemicals are removed at the start of operations, and this is the only time the under bench part of the cupboard is used.

Handy holder for Paint Brushes

PAIN'T brushes, directly after use, should have the superfluous paint or varnish squeezed out, be cleaned and then stored in a suitable holder ready for future use. So treated, any good quality brush should give service for a long period.

The holder should be designed to keep the bristles of the brushes clear of the bottom, as the liquid in it contains a degree of sediment which drips from the brushes, and obviously forms a sludge from which they are best free. Moreover, if the brushes are allowed to rest upon the bottom of the holder, the bristles incline to take a permanent curve which lessens their efficiency in work.

For the body of the holder a jam jar may well serve, a one- or two-pound size, according to the size of the brushes. To hold the brushes, a simple gadget is used as shown in the sketches. It consists of a piece of dowel rod about 6 ins. long and $\frac{1}{2}$ in. in diameter through which a hole is bored at about $\frac{1}{2}$ in. from the bottom. A piece of wire is pushed through the hole leaving the rod in the centre of the wire, the length of which is a little in excess of



the diameter of the jar. A second piece of wire is then pushed through a hole level with the first, but at right angles to it. This second wire need extend one side only the same distance as the others. Slightly bend one of the first two wires to give three equal sections as shown in the diagram.

Through each brush, bore a hole, a comfortable fit for the wires. The exact position for the holes should be measured, to ensure that each brush, when on its wire, will be quite half an inch clear of the bottom of the jar.

The jar should have liquid poured in, enough to at least cover the brushes. For most paints and varnishes, household paraffin will be found satisfactory and is much cheaper than turpentine. For brushes used for P.E. paint, it will be quite sufficient to use water.

When painting is finished, squeeze the brushes over a sheet or two of common newspaper to force out as much paint or varnish as possible, wash in paraffin, and then place in the holder. When required again, shake out the paraffin and rub the brush up and down on any spare bit of old wood, the rougher the better, to clean it. It will then be ready for use. (W.J.E.)

MAKING A VIEWFINDER

OF the various types of viewfinder, the large, 'brilliant' type is among the best, as it gives a big, very bright image, so that the expressions of subjects, and other details, may easily be seen. Small viewfinders of the reflecting type, used on box cameras of the older kind, and many folding cameras, reduce the view to very small size indeed, sometimes as little as $\frac{1}{4}$ in. by $\frac{1}{4}$ in. It is impossible to see small detail in

mirror, from the makers of a modern box camera which is fitted with a large finder on top. But other lenses will work in the same way.

To find the correct distance between the lenses, they should be held in line (without the mirror) and a distant scene viewed. If the spacing is too great, or too small, the view will lack clarity, and vertical lines, such as buildings, will

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*By F. G. Rayer*  
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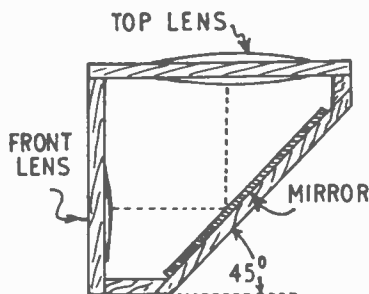


Fig. 1—Side view of finder

these, though it will be visible in the finder described here, which gives a view about $1\frac{1}{4}$ in. by $1\frac{1}{4}$ in.

Such a viewfinder is also useful with many single-lens reflex cameras, which have the disadvantage that the image on the screen disappears when the shutter is operated. It is also helpful, with this type of camera, when the lens is stopped down, out-of-doors, thus making the view on the usual screen very dim and difficult to observe.

The finder can be made from 3-ply, and the method of fixing it to the camera can be adjusted to suit the type of body. With many cameras, it can be attached to the tripod hole, by means of a tripod bush or screw. With others, such as the Korelle, it can be clipped to the slot through which the carrying strap normally passes.

Construction

Both lenses, shown in Fig. 1, are of the same focal length, and so spaced that this distance, shown by the dotted line, is achieved *via* the mirror. Those actually used were obtained, with the

appear curved. When the spacing is correct, however, these defects disappear. This distance is then measured. When making the finder, the distance from one lens to the other, *via* the mirror, as shown by the dotted line in Fig. 1, corresponds to that found by measurement. The only other optical requirement is that the mirror be at 45 degrees,

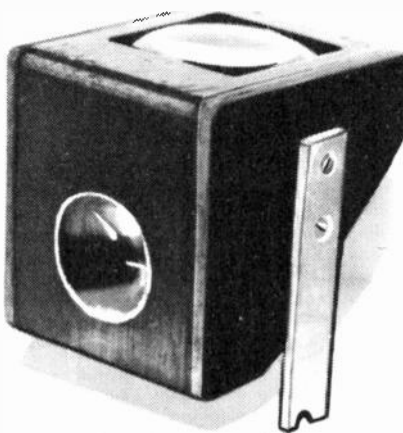


Fig. 2—The completed viewfinder

and the lenses at 90 degrees to each other, as indicated.

In the finder mentioned, the front lens is about 1 in. in diameter, and the top lens is $1\frac{1}{4}$ in. by $1\frac{1}{4}$ in. If the top lens



used is round, then a mask should be cut from ply, and glued on top of the finder. The aperture in it should be square, for 12-on-120 cameras. For 8-on-120 cameras, its sides should be approximately in the ratio of 2:3, (e.g., say 1 in. by $1\frac{1}{4}$ in.).

If the lenses were those intended for a $2\frac{1}{4}$ in. square camera, then the field of view will be correct for the usual 12-on-120 camera. This can easily be checked by comparing the views as seen through the large finder, and visible in the normal camera finder.

The apertures in the finder body are accurately cut, so that the lenses push in tightly, a little Durofix being applied before this is done. A short pin at each corner of the mirror, with adhesive under it, will hold this item secure.

So that stray light is kept out, sides must be fitted to the viewfinder. These are also of 3-ply, glued and pinned in place.

Mounting

Fig. 2 shows the completed viewfinder, with a metal strip screwed to one side, for the Korelle. With other cameras it may be necessary to have the strip on the opposite side, or to drill it for the tripod bush. It is usually best not to drill or otherwise mark the camera itself.

The viewfinder is not suitable for very near objects, in common with all finders of this kind. But for any subject or scene more than about 5 ft. away it is ideal, giving a really brilliant image of good size.

A Word in your Ear

From the Editor

READERS may remember that in our June 5th issue I made an appeal on behalf of a woman reader for a copy of Hobbies No. 5 Special design which was for a tablet of the Lord's Prayer. As the weeks elapsed and no reader came forward with the loan of that particular design, I concluded that searches in this direction had been unsuccessful.

While I was contemplating making a second appeal for this design in these columns, a letter arrived from Mr. Archibald McCabe of Toronto, Canada, offering design No. 5 Special for the purpose which I had mentioned, and I have been pleased to take advantage of this kind gesture. Mr. McCabe has been a keen fretworker for 58 years and his love of the hobby can be gained from the fact that this design has been carefully preserved and is 'as good as the day it was printed'.

My note, also led to some other correspondence on this particular design, and I received a letter from Mr. J. Armstrong of Omagh, Co. Tyrone, N. Ireland, who said he would also very much like to get a copy of it. He says he has 'been after it for years.

A 'PERFECT' PIECE

MR. ARMSTRONG says he has seen this design made up and it is 'certainly perfect'. The maker says he would not take £100 for it.

There is undoubtedly still a great interest in this beautiful example of the fretcutter's art, and thanks to Mr. McCabe it may be possible to reissue this design or something similar. Some of my readers would, I know, welcome the opportunity of tackling something really intricate, and if a design is issued it will be announced in these pages.

Incidentally, apart from offers of our Design No. 2904 which, as I stated in my previous note is still in print, and which is a modified version of No. 5 Special, I also received from a reader another design on the same theme but not published by Hobbies Ltd, and this I have been pleased to pass on to the original inquirer in the hope that it may be suitable to use as a memorial tablet.

THE HOME SHRINE

MANY readers must have made up Hobbies Design No. 1995 for a home shrine, but I recently received details of an adaptation of this particular theme shown in the photograph below.

As can be seen, use here has been made of three such shrines connected to form a miniature church altar approximately 3 ft. wide and with an overall height of 26 ins. Hobbies design, of course, detailed one such single shrine and the ingenious adaptation by Mr. H. Empson of Halifax is to be highly commended.

The subject, indeed, gives opportunity for some very fine fretcutting, and is a

Next week's free Design for a Perpetual Calendar will be the subject for our annual fretwork competition in which prizes to the value of £200 will be awarded.

theme which many church workers might like to work upon. The design sold separately costs 1/-, and the kit for a single shrine (not the three as illustrated) consisting of panels of wood, fillet, hinges and knobs, etc., costs 18/10 from branches, or post free from Hobbies Ltd. Dereham, Norfolk.

SHORT-WAVE TRANSMITTERS

IFREQUENTLY receive requests from readers for details of how to build a simple transmitter and receiver to be used over short distances, but I am afraid that this project is not possible for most people because of the following explanation. Regulations require that the user of any transmitting equipment for speech or Morse code should have a transmitting licence. This licence can only be obtained after a test in radio and Morse has been passed. The Morse test is insisted on even if Morse will not be used.

In view of these facts, instructions for making a transmitter cannot be supplied in our columns. If you wish to investigate the regulations applying to transmitting licences, details may be obtained from The Engineer-in-Chief, G.P.O., London. The examinations require a high standard from the applicant.

HORSE BRASSES

THERE was some neat fretcutting in the April competition which was for the design of a horse brass, and the winner of the senior watch, Frank P. Wyatt of Plymouth had chosen as his motif a bucking bronco — quite a fitting subject. Of the runners-up in this section the entry from W. G. Galer of Finchley, London, was particularly noteworthy for the excellent finish obtained.

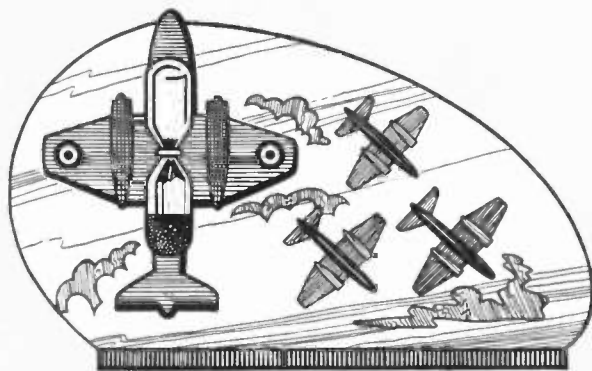
In the junior section the prize watch was awarded to L. B. Austin of Ramsgate, and the lads of the Garforth district of Leeds were well to the fore in the prize list as no fewer than four of them won runners-up pens.

For the June competition we asked readers to sort out their oddments of wood and submit something made from them. But either there were no odd pieces of wood to be found in the workshop — or else the garden kept most people too busy.

Anyhow there were not enough entries of a sufficient standard for the judges to make a decision and the main prizes have therefore been held over.

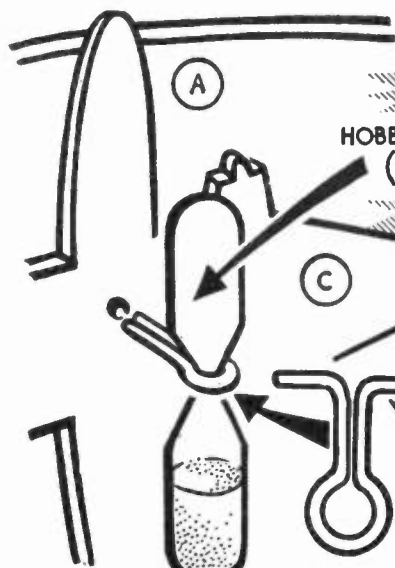


A praiseworthy adaptation of a Hobbies Design



GUIDE TO VENEERS

- H. HOLLY
- PH. PURPLE HEART
- Z. ZEBRANO
- G. GREYWOOD
- E. EBONY



HOBBIES SANDGLASS
(EGG-TIMER)

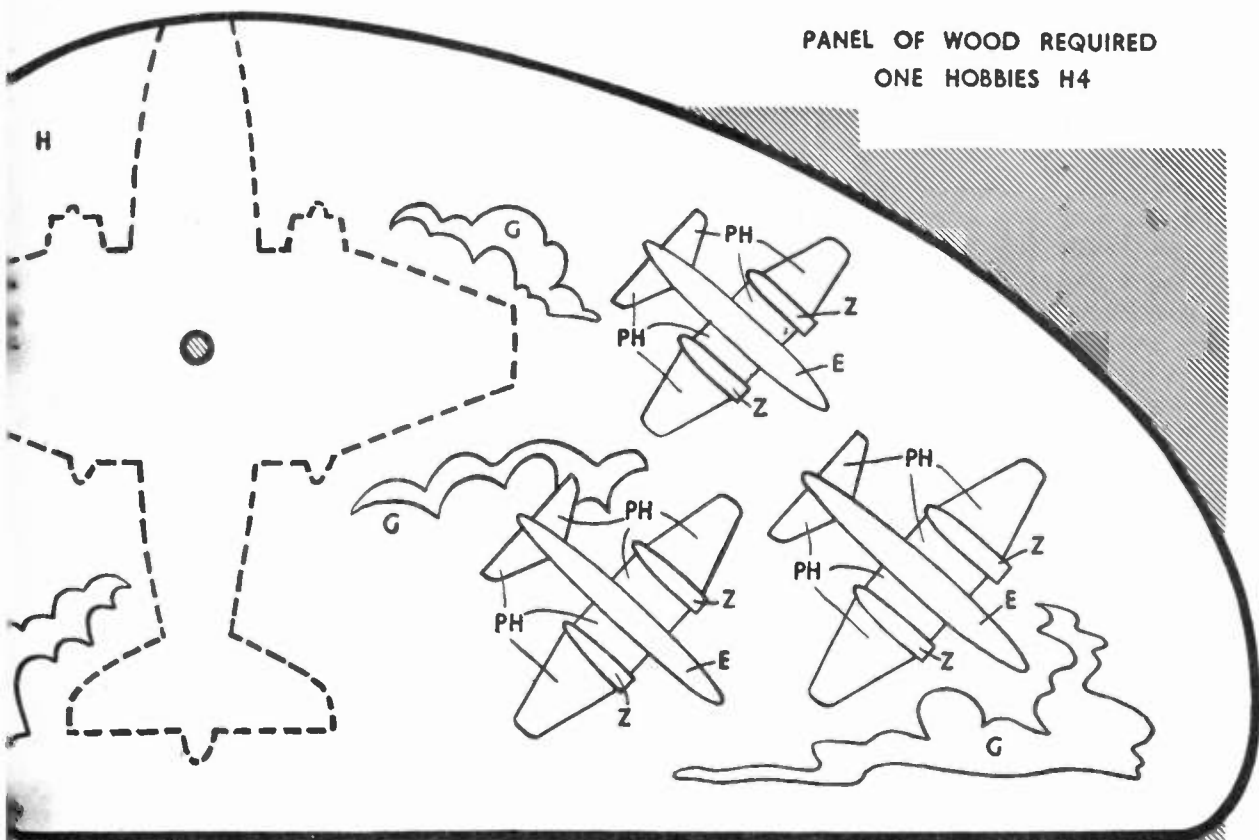
(C)

ENDS OF CLIP
BEND ROUND
BACK OF PIECE
A AFTER INSERTING
THROUGH PIECES C & A

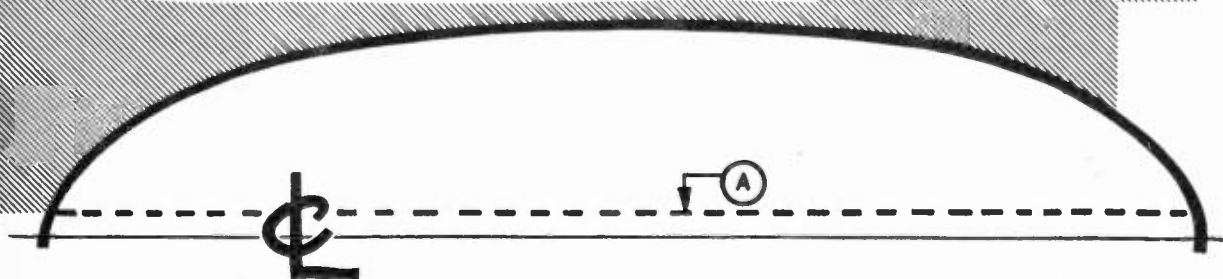
PIECE (C) CUT
ONE 1/4IN.

EGG - TIMER

PANEL OF WOOD REQUIRED
ONE HOBBIES H4



PIECE (A) CUT ONE 1/4 IN. — OUTLINE ONLY



BASE (B) CUT ONE 1/4 IN. HALF ONLY SHOWN



GOOD SPORT WITH RUDD

By A. Sharp

ALTHOUGH included among the species grouped together under the misleading classification of 'Coarse' fish, the rudd, on account of its singular beauty of colouring and the fact that it is, during summer, a free-rising fly-taker, and also a good sporting creature, is worthy of a 'boost' by the all-round angler, who fishes fly and float. Rudd are of very special interest during warm weather, and therefore afford the holiday angler a chance to enjoy some fun. Trout grow indolent and inactive in the dog-days, rudd show liveliness.

The rudd is known by other names, i.e., 'Red-eye' and 'Finscale'. This fish has found at least a couple of lines in poetry:

'The Rudd: A kind of Roach,
all tinged with gold,
Strong, broad, thick,
most lovely to behold.'

It is indeed a beautiful fish. Note the red iris and the deep rich carmine of its lower fins, the golden-bronze tints that mingle and blend in the silver-green of its flanks, and the yellow belly. Altogether a more attractive and striking fish, in appearance, than the roach. It is 'pug-nosed' and its dorsal fin is nearer the tail than in the roach.

Rudd attain a goodly size, the record English specimen being one of 4 lb. 8 oz. taken by a clergyman from a pool at Thetford, or near that place, in Norfolk. Rudd will reach 3 lb. to 4 lb., but a 2½ lb. can be considered a worthy fish. In 1935 a fine specimen weighing 3 lb. 10 oz., was landed from the Delph, at Wisbech. Most anglers will be well content if a catch of rudd averaging 1 lb. is their reward for a day on Broad, mere, or lake.

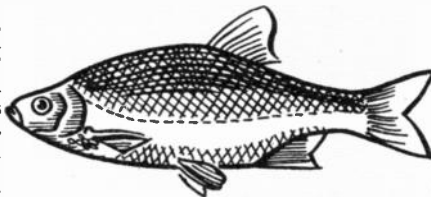
In distribution, the rudd is rather limited. It is met with in lakes, meres, ponds, and the Broads generally, also in a few placid rivers. Some lakes swarm with rudd, of no great size. Slapton Ley, Devon, is a great haunt of the golden fish. The Norfolk Broads and waters of Suffolk — the slow deep streams gliding softly between weed-beds and green rush-margins — are other waters attractive to them. I have seen some lovely rudd in the Glen, Lincolnshire,

and certain Fenland drains are stocked with fish up to 1 lb. and over, frequently taken by roach-fishers. In some Irish loughs rudd are abundant.

In still waters rudd can be caught in shallows or deeps. In hot weather the sandy shallows or open water near weed beds and between lily-pads are favoured spots. Rudd are in their best season from July to October, and if the autumn is warm and mild, up to November. The best time to fish for them in hot sun-bright weather is towards evening, when they feed near the surface.

Shy creatures

Rudd are shy fish, and must not glimpse the angler nor suspect his presence. In still waters as Broads and



The Rudd is a beautiful fish

lakes it means long and accurate casting. When boat-fishing, care must be exercised in approach. Avoid disturbance of the water as much as possible. Bigger fish cruising on the outskirts of a feeding shoal should be watched for, and it is often a good idea to make your initial casts a little nearer to the boat or punt than the spot you are making for, where rings of feeding rudd are 'blebbing' the quiet surface. In shallow waters especially is the utmost caution needed. Do rudd have 'sentinels' posted a little distance from the main shoal — as some birds seem to have when feeding in a flock — to give the alarm when any suspicion of danger is 'sensed'?

Baits include red worms, maggots, paste, bread-crust. When float-fishing, throw in pieces of bread to attract the fish and coax them near the surface. Artificial flies, tipped with a single maggot, are also attractive to these surface feeders.

Some anglers advocate anchoring small slices of dry bread where rudd are collected in likely spots off rushes and weed-beds. The fish soon discover that there is food for the nibbling and gather round. The angler notes the commotion in the water, and occasionally a big fin showing. He then approaches in the boat near enough to make a longish cast over them with his fine tackle and hook baited with a couple of maggots, endeavouring to drop the bait near to the floating bread, but not too close to foul the string with which the bread is buoyed. The bait seized, the line travels out as a fish swims off with its prize. Wait a 'wee' till slack line has been taken up, and then strike. The float, by the way, should be set about 12ins. to 18ins. from the hook. If you cast close enough to a bread buoy that is being nibbled by hungry fish they are almost certain to leave it and go for the maggots on the hook.

Ordinary float-fishing methods with similar tackle as used for roach are chiefly employed in fishing for rudd. 'Fish fine and far-off' is a good slogan when rudd are the quarry.

Fly-fishing

An excellent method of seeking the rudd is with the fly-rod and tackle. The reel line and cast of gut or nylon should be tapered, and the line kept greased so that it floats well on the water — a 'bellying' line that gets water-logged and sinks makes 'striking' when a fish snaps up the lure more difficult — for 'striking' a rudd must be quick, or you've lost your prize. A line that floats nicely, therefore, is a necessity.

Any smallish fly will serve as lure, a black gnat or black palmer, for example. For summer rudd the fly is usually fished 'dry' and intended to float on the surface therefore it must be touched up with a spot of Mucilin or other kind of oil or grease suitable for the purpose, and obtainable from fishing tackle dealers.

Other likely flies include quill gnat, coachman, Tup's Indispensable, red tag, Wickham, and Governor. Some anglers regard the fly for rudd more deadly if the hook of the fly is tipped with a maggot, or a tiny strip of white kid.



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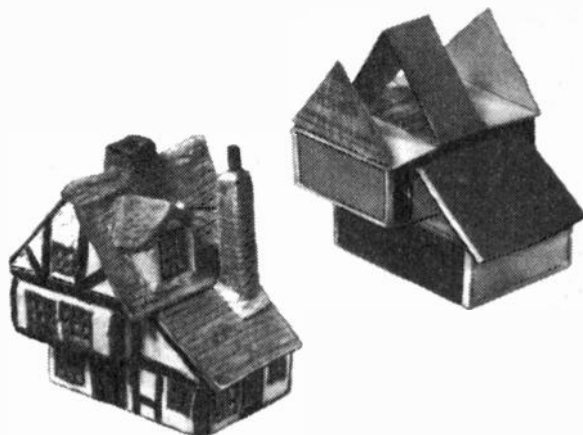
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HOUSEHOLD RECIPES

HOW often does the home handyman say to himself: 'If only I had some product to do such and such a job, or knew how to make one'. It is one of the aims of the *Hobbies Weekly* chemistry articles to fill this want and this week a further series of useful practical recipes is given. Wherever possible everyday weights and measures are used, so as to make the recipes available to as many as possible who have no laboratory facilities.

Damp-proofing cement

Walls of stone or brick which attract damp can be proofed easily with a simple mixture. Even wood may be so treated with it. Simply mix enough china clay with boiled linseed oil to give a stiff mortar-like consistency. Thin this slightly with oil of turpentine (not turpentine substitute), so that a paste which is easily spread with a trowel is obtained. First let the wall dry out in a sunny spell. Then spread a thin layer of the cement. If soil has been removed to proof the base of a wall, do not replace it until the cement has hardened.

This cement has an off-white colour. If a coloured effect is desired, work in enough of any common mineral pigment to give the desired depth before thinning with turpentine. A useful range of non-fading mineral pigments is obtainable at all good oil and colour shops.

Moisture-resisting cement for wood

The seams in casks and other wooden vessels can be made water- and air-tight with a mixture made from glue and linseed oil varnish. Ordinary carpenters' pot glue is used for this. Thoroughly mix two volumes of the melted glue straight from the pot with one volume of linseed oil varnish and apply to the dry wood. The average drying time is about 48 hours, but this varies with the state of the weather and the linseed oil varnish type.

Shellac lacquer

A cheap, high gloss product and which is no trouble to turn out is made by putting into a clean and dry screw top jar 6 fl. ozs. of methylated spirit and 1 oz. of shellac. Screw on the top and shake the contents every so often until the shellac has entirely dissolved.

This lacquer dries hard in a few minutes and so is most useful when quick results are desired. Several coats are used. It gives natural wood a rich colour and may be used indoors or outdoors. Metal objects may also be lacquered

with it. Because it is so handy and quick drying you should certainly keep a jar on hand. See that the screw top is tight, for methylated spirit is very volatile and any loss will result in a stiffer lacquer or even complete drying out and which would need the addition of more meths. to redissolve the hardened shellac. It is an advantage to give the join between glass and screw top a seal of candle wax. This is easily done by holding a burning candle above the slowly rotated jar so that the drops fall regularly along the crevice.

Universal adhesive

A useful household and workshop adhesive which can be used for sticking china, stone, wood, glass or paper is prepared from water, gelatine, acetic acid and methylated spirit. Soak 1½ ozs. of gelatine in 4½ fl. ozs. of water for 8 hours, heat up in a double boiler and stir in ½ fl. oz. of glacial acetic acid. Let the liquid evaporate to about one half its original volume, turn out the flame and stir in ½ fl. oz. of methylated spirit. After letting it cool somewhat, pour it out into a screw top jar.

Window cleaning liquid

Special cleaning liquids are now superseding the old water cleaning method. The cloudy types usually contain a degreasing agent as well as the polishing powder. To make a good fluid of this type put into a large bottle 1 fl. oz. of strong ammonia (specific gravity 0.88 — your dispensing chemist stocks this), 2 fl. ozs. of methylated spirit, 2 ozs. of whiting and 1½ pints of water. Shake up and the liquid is ready. This formula works out a great deal cheaper than the proprietary brands.

Wood to metal to glass cement

If you need to stick wood to wood, metal to metal, glass to glass, wood to metal, wood to glass, or metal to glass, a multi-purpose cement such as the following will help you. Take four parts by weight of melted carpenters' pot glue and mix thoroughly with one part by weight of Venetian turpentine. A tin is useful for this purpose — partly sunk in hot water. Apply warm and leave until hard.

Resistant colourwash

How disheartening to cream- or white-wash your outer wall and then to see it grow shabbier and shabbier as the months go by! The rain is, of course, responsible. By a very simple addition to the wash its resistance may be enor-

mously increased and what had to be a regular chore becomes an occasional job.

To each pound of dry colour add 1 oz. of size and make up with water in the usual way. To each bucket of wash add about ¼ pint of formalin (your chemist sells this), stir well and brush on the walls as usual. Chemists discovered that formalin has the power to make size no longer soluble in water. Hence the size in your wash becomes an insoluble skin on the house wall.

Clear cellulose varnish

A cheap varnish or lacquer of this type is easily made up from scrap celluloid and amyl acetate. Not only may it be used as a normal lacquer, but also for protecting metals from corrosion, since it forms a moisture-tight skin.

Into a clean and dry screw top bottle put 7 fl. ozs. of amyl acetate and add ½ oz. of celluloid cut small. Close the bottle and give an occasional shake until all the celluloid has disappeared by its dissolving in the amyl acetate. Brushes should be cleaned after use by working them in amyl acetate or a mixture of equal volumes of amyl acetate and acetone (both obtainable from your dispensing chemist). This preparation is inflammable, as is the brush washing liquid, and so should not be used near a flame.

Black spirit varnish

This varnish can be used for all types of metal work and is especially useful for cycles. Put into a dry screw top bottle 3½ ozs. of shellac, 1½ ozs. of gum sandarac and ½ pint of methylated spirit. Replace the screw cap and shake the bottle occasionally until the solids have dissolved. Add ½ oz. of spirit-soluble Nigrosine and ½ teaspoonful of castor oil. Again shake occasionally until the Nigrosine has all dissolved (the castor oil dissolves at once). Owing to its methylated spirit content, this varnish is inflammable and should obviously not be used near a flame. (L.A.F.)

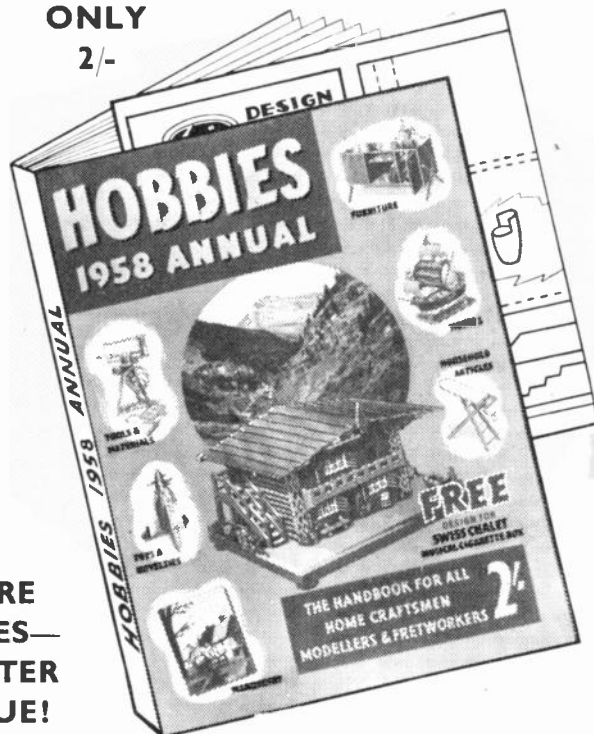
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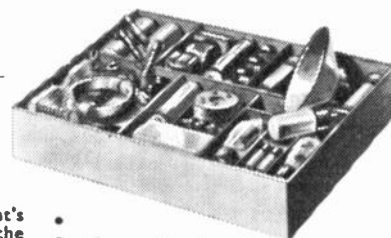
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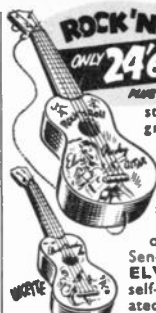
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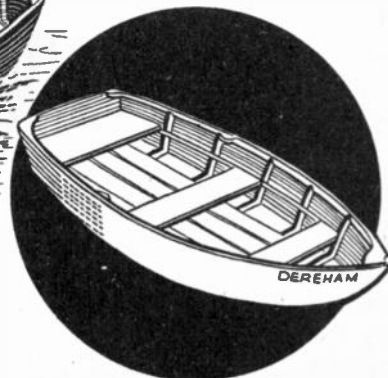


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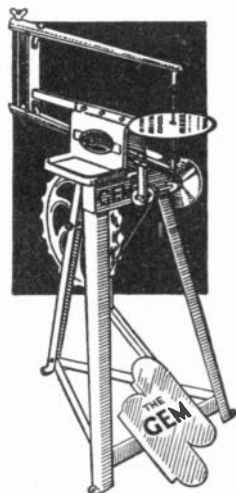
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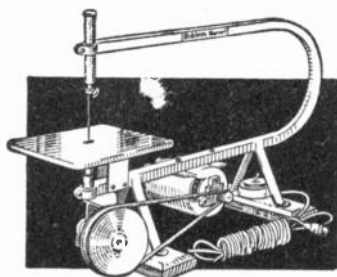
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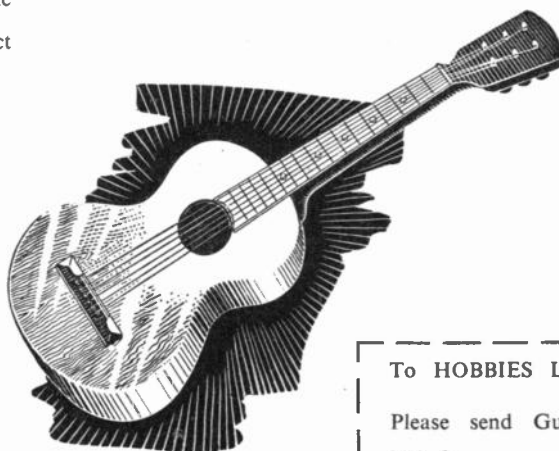
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