

Hobbies

WEEKLY



VOL. 114

NUMBER 2947

Start now building this GRAND CLASS 'A' TEAM RACER

Accurate Scale Plans
are on page 63

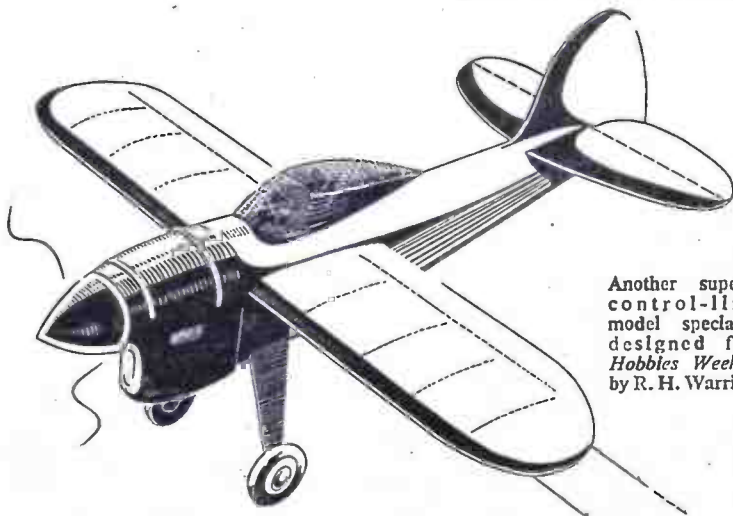
THE official Class 'A' for control line team racers calls for a minimum wing area of 70 sq. in. and a maximum motor size of 2.5 c.c. A maximum fuel tank capacity of 15 c.c. is also specified, and the official line length is 42ft. There are also minor regulations governing the size of the fuselage and 'pilot'. All team racers have to carry a dummy 'pilot'.

High Speed

Our Class 'A' team racer has been designed to meet all these requirements and also to be capable of taking any suitable motor of between 1 c.c. and 2.5 c.c. Fastest times will, of course, be recorded with the 2.5 c.c. motors, but the smaller motors will have a longer flight duration on the 15 c.c. fuel tank. With a good 2.5 c.c. motor, top speed should be in the region of 70 m.p.h.

Study the plan and the constructional sketches carefully before commencing construction. The plan is reproduced one third full size, and so full size drawings of the wing and tail unit must be prepared by scaling up, or you can purchase a full size plan separately. Build the wings first as these are probably the easiest component and also the one in which the control system is housed.

The wings are built by pinning out the leading and trailing edges directly



Another superb control-line model specially designed for *Hobbies Weekly* by R. H. Warring

over the plan and then cementing in the tips and rib stock. The ribs are simply lengths of $\frac{1}{16}$ in. by $\frac{1}{16}$ in. balsa cemented in notches in the spars. The tip is a piece of $\frac{1}{16}$ in. by $\frac{1}{16}$ in. balsa cemented in place. Note that you will have to block up the trailing edge $\frac{1}{16}$ in. above the plan to get correct alignment of the ribs.

When the wing has set you can form it to a symmetrical aerofoil section entirely by glasspapering—Fig. 2. Note, however, that the centre section which fits through the fuselage is left square.

At this stage you can fit the control assembly.

The bellcrank is cut from 18 S.W.G. aluminium, or similar material. Mount on a small piece of ply which is cemented between the two centre ribs. The position of this is given on the plan. The pivot point should actually come $2\frac{1}{2}$ ins. back from the leading edge of the wing.

Couple up the 20 S.W.G. lead out

All correspondence should be addressed to The Editor, *Hobbies Weekly*, Dereham, Norfolk.

THE MAGAZINE FOR MODELLERS,
HANDYMEN AND HOME CRAFTSMEN

4^p

Fully detailed instructions for Making a Sure-shot Catapult

A CATAPULT in the wrong hands can be a dangerous weapon, but catapulting is an art not confined solely to small boys. In America they have taken this hobby quite seriously and there are many adult clubs of 'slingshot' enthusiasts which hold regular contests and target-shooting tournaments. One of the requirements of a particular club is that no member can be less than fifty years old!

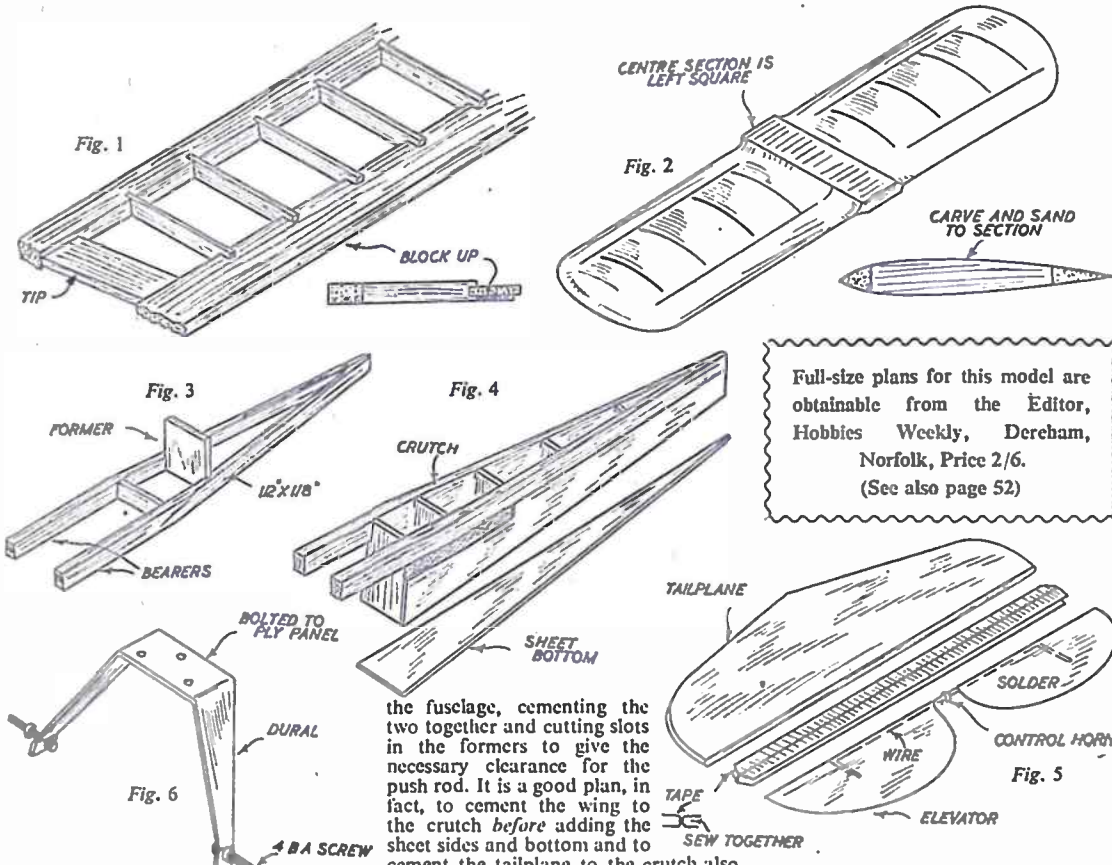
The type of catapult the American

at their upper ends (Fig. 2) and the rubber strip passes through these slots, down over a screw eye and back to the sling itself. This enables the rubbers to be replaced readily, or alternative rubbers of different power to be slipped in place at a moment's notice. The screw eye used must be a stout one and properly screwed in place. It should be located far enough down the handle so that the stretched rubbers do not interfere with the clearance between the

then take the two ends through the notches in the arms and loop over the screw eye.

Ammunition

For accurate shooting, steel balls are best. Irregular objects like stones never fly true. With practice you should be able to achieve similar accuracy with a catapult firing steel balls as with an air pistol—with probably greater penetrative power.



Full-size plans for this model are obtainable from the Editor, Hobbies Weekly, Dereham, Norfolk, Price 2/6. (See also page 52)

wires and the 16 S.W.G. push rod. The lead out wires pass through holes punched or cut in the port wing ribs and emerge through aluminium tubes set in the tip. Make off the ends, as shown on the plan. Sheet cover the centre section, top and bottom, cutting a slot for the pushrod to emerge. Check for free movement. The wings can then be covered with stout tissue, water-sprayed and doped.

The fuselage is built on the crutch principle. The crutch is comprised of $\frac{1}{2}$ in. by $\frac{1}{2}$ in. hardwood bearers in front scarf-jointed to $\frac{1}{2}$ in. by $\frac{1}{2}$ in. balsa at the rear. Two cross spacers of $\frac{1}{2}$ in. by $\frac{1}{2}$ in. balsa are cemented in place, and also the formers, cut from $\frac{1}{2}$ in. sheet. The fuselage is actually assembled inverted over the plan (Fig. 3).

The Sides

The sides are cut from $\frac{1}{4}$ in. sheet, to the dimensions given, and also cemented in place. Trim up as necessary but do not yet add the $\frac{1}{2}$ in. sheet fuselage bottom (Fig. 4).

You can then assemble the wing to

the fuselage, cementing the two together and cutting slots in the formers to give the necessary clearance for the push rod. It is a good plan, in fact, to cement the wing to the crutch before adding the sheet sides and bottom and to cement the tailplane to the crutch also at this stage and hook up the complete control system.

The tailplane and elevators are cut from medium hard $\frac{3}{8}$ in. sheet balsa. The elevators are mounted on 18 S.W.G. wire, as shown in Fig. 5—and then hinged to the tailplane with a double-tape hinge. This is made by sewing two strips of tape together down the centre. The 20 S.W.G. control horn is soldered to the 18 S.W.G. wire before this assembly is completed.

Checking the Control System

Check the complete control system hook-up for accurate alignment and easy working. The elevators must be neutral with the control plate central and the required elevator movement—about 25 degrees up and down—must be obtained without binding. The tank and undercarriage are then added before completing the fuselage sheeting.

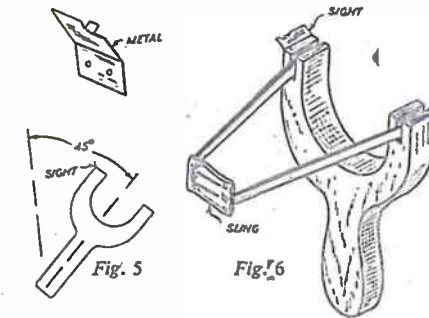
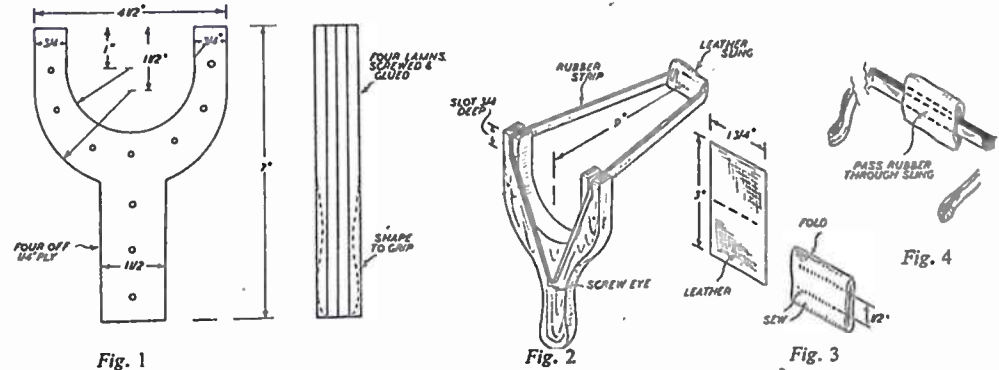
The tank is fixed between the bearers just under the wing position. The feed pipe should project through former (A) when it can be coupled up to the motor with plastic tubing. The dural under-

carriage—Fig. 6—is bolted to a piece of $\frac{1}{2}$ in. ply and then cemented in the fuselage immediately under the tank. Pack with scrap balsa, if necessary.

The upper decking of the fuselage is formed from a block of balsa 12 $\frac{1}{2}$ ins. by 1 $\frac{1}{2}$ ins. by $\frac{1}{2}$ in. Cement in place and then carve and glasspaper down to shape. Cut away the cockpit and fit the 'pilot'—either carved from block, or purchased. Complete the cockpit assembly with a plastic bubble canopy cemented in place, or a simple celluloid windshield and balsa headrest fairing. Cement the $\frac{1}{2}$ in. sheet fin securely in place.

The beam-mounted motor is bolted on to the bearers in the inverted position, lining up the thrust line as on the plan. The cowling for this motor is carved from solid balsa, hollowed out. The cowling is held in place with rubber bands passing from suitable slips around the top of the fuselage. The front of the fuselage is finished to circular section to conform to the lines of the $\frac{1}{2}$ in. diameter spinner fitted over the propeller.

(Continued on page 52)



club members use is generally a commercial item but can readily be duplicated by a woodworking enthusiast. Proportions follow very closely those given in Fig. 1. Unlike the model depicted, however, the fork is usually made from solid wood, $\frac{1}{2}$ in. thick on average. Four laminations of $\frac{1}{2}$ in. ply glued and screwed together will have adequate strength. The remaining details of our model then differ considerably from 'standard' American practice.

Slotted Arms

The two arms of the fork are slotted

arms of the fork.

The sling is made of leather, preferably of the softer variety. This is folded over and sewn (Fig. 3), and the catapult rubbers then pass through the centre of the sling (Fig. 4).

The Rubber

Normally $\frac{1}{2}$ in. square rubber is used for catapults. This can be accommodated quite well on this particular design, made up into a single loop of rubber giving a distance of 9 ins. between the form and the sling in the unstretched position. The square section rubber will pull down into the slots quite readily when stretched.

A longer lasting rubber can be made from a number of strands of $\frac{1}{2}$ in. strip rubber. Strip rubber is generally about $\frac{1}{2}$ in. thick, so that six strands would be equivalent to one strand of $\frac{1}{2}$ in. square rubber. Actually six strands of $\frac{1}{2}$ in. strip rubber will give more power than one strand of $\frac{1}{2}$ in. square.

Having decided the cross section of the rubber to use, make up one large loop of strip rubber so that when folded up into the required number of strands it is the right length to fit the catapult. Thread through the sling—

Simple Sight

A simple metal sight can be fitted to one arm of the fork, as shown. This sight is bent at 45 degrees (Fig. 6) and screwed to the side of the fork. When the sight is vertical the catapult is at the right angle and the two notches in the sight can be used to line up the target. (352)

Getting a Weather-beaten Effect

Here is a tip if you are making a model fort or anything that needs to look weather-beaten. Before painting, coat the model with glue and throw on cork bits such as grapes are packed in. When the glue is hard, paint over in the usual way. The same tip can be used with good effect to represent a shrubbery.

REPLIES OF INTEREST

Shove Ha'penny Board
I WOULD appreciate your advice on how to prepare the surface of a new shove-ha'penny board. I have made one out of dry Honduras mahogany and am at a loss as to how to get the right surface. (G.T.—Eastbourne).

WITH hardwood like Spanish mahogany and beech, the only finish necessary is glasspapering. Honduras mahogany, however, is of coarser grain and we consider the best finish would be to rub over after glasspapering, with Johnson's furniture wax. Several applications may be necessary, but a good surface should result. Alternatively you could fill up the grain with a good woodfiller and go over the surface with a french polish rubber until a shine results. This would be quicker, of course.

ginning to wear off through cleaning, they are of solid copper. I would much prefer the copper to the plating, and would be obliged if you will tell me how I can remove the latter. (C.M.—I.O.M.)

THE silver plated surface could be removed from the ornaments by boiling in caustic solution, but this is rather a dangerous operation, and if the articles are not very large we suggest you remove the remains of the plating by rubbing briskly with pumice powder applied by a moistened rag. Finish off by cleaning up the copper surface by polishing with rottenstone and oil, and finally with rouge powder (polishing rouge). To prevent subsequent oxidising, the polished copper could be clear lacquered.

on the roof. We have tried putting a layer of hardwood on the roof, which has helped, but on very cold nights it drips just as badly. (R.C.—Nantwich).

ABOUT the simplest and certainly the cheapest remedy would be to cover the roof with a layer of straw about 3ins. or more in thickness. You may be able to work this in underneath the board already installed. The straw should be packed down tightly to be really effective. It would also be of advantage to improve if possible the ventilation within. There is now a special paint on the market, which aids greatly in condensation problems, and it would be rather valuable we think, if you used it to coat the inside of the roof.

Ventriloquism

COULD you tell me of a book on the Art of ventriloquism? (J.T.—Pudsey).

AVERY good book is The Whole Art of Ventriloquism, by the late Arthur Prince. Ellissons of High Holborn, or Gamages or Hamleys (sports and games department) could probably offer a book on the practical side of the subject. The Arthur Prince book was sold by Will Goldston, Leicester Square, London.

Stopping Condensation

WE have purchased a double-deck bus converted into living accommodation and shall be glad if you could suggest a way to stop condensation

Removing Plating

I HAVE two ornaments and find that beneath the plating which is be-

Completing the Class 'A' Team Racer

(Continued from page 50)

Painting

A good paint job will considerably improve the appearance of your team racer. Glasspaper the fuselage down perfectly smooth and then cover with tissue. This will provide an excellent base for applying cellulose dope, in any colour. Spray the dope on for best results. At least six coats will be required for a good finish.

If a glow plug motor is used it is necessary to fuel proof the whole model. This should be applied according to the instructions issued with the proofer. Leave ample time to dry.

Handling the Model

In flying, the model should handle like a normal 'sports' control-liner with smooth response to handle movement. The balance point will vary according to the weight of the motor used. The best position is on the front line, although it does not matter much if it comes forward of this. Try not to get the balance point ast of the front line, however.

Smaller Motors

Using smaller motors it may be

necessary to screw small blocks to the hardwood bearers to reduce their width. With low power, too, it is recommended that the motor be

mounted with slight sidethrust pulling against the direction of the flight circle. No rudder offset should be needed. (340)

HOBBIES FLYING MODEL AIRCRAFT PLANS

HIGH WING RUBBER-DRIVEN MODEL. PROVED PERFORMANCE. 25IN. WING SPAN

NOVEL PUSHER TYPE RUBBER-DRIVEN PLANE. GOOD FLYER. 3IN. WING SPAN

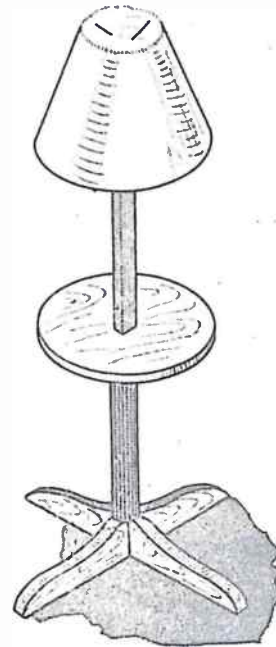
SIMPLE CONTROL LINE MODEL. SUITABLE FOR 1.5c MOTORS. FAST JOIN. WING SPAN

MODERN HIGH PERFORMANCE GLIDER. 44 IN. WING SPAN

CLASS A. TEAM RACER. SUITABLE MOTORS 1c TO 2.5c. TOP SPEED (2.5c) OVER 70 M.P.H.

Full-size plans for any of these models are obtainable, price 2/6 EACH from The Editor, Hobbies Weekly, Dereham, Norfolk. Back issues containing full building instructions, 6d. each.

Full instructions for A STANDARD LAMP WITH A DIFFERENCE



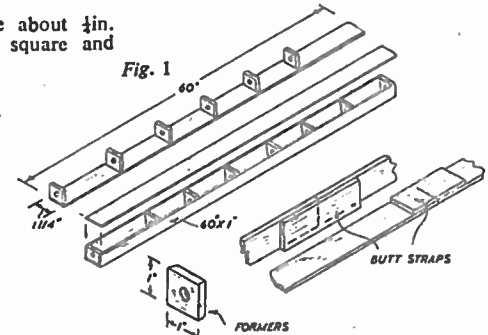
However, get at least two, and preferably three joints in the first 2ft. length of the final tube. These joints will then be hidden in the completed assembly. The other joint can be glasspapered down so that it will barely show, provided it is well made.

are glued around the square tube, as indicated. These dowels terminate flush with the bottom of the circular table and, being 21ins. long, leave 3ins. of plain standard length at the extreme bottom end. It is around this part that the legs are assembled.

Four leg pieces are required, cut from

The Formers

The formers should be about 1/4in. thick. They are all 1in. square and should be drilled out with a 1/4in. diameter hole through the centre. It is a good plan to fit a length of flex through the tube before adding the final side, as it will be much more difficult to thread the flex through the tube once completed. Former spacing is not critical. Locating these 6ins. apart will be quite adequate. Make sure, however, that one comes exactly 24ins. from what will be the bottom end of the standard.



HERE, indeed, is a standard lamp with a difference, and although it may appear at first to be difficult in construction, this is not the case. The standard itself is a square tube, built up from 1/4in. thick material in

The standard is fitted with a circular 'table', arranged at a convenient height.

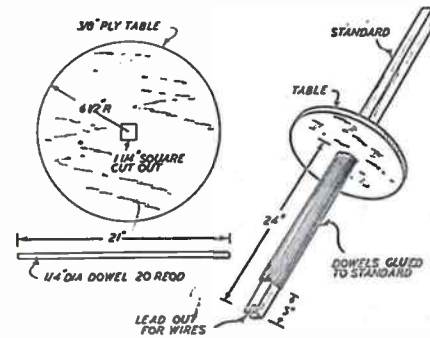


Fig. 2

Fig. 3

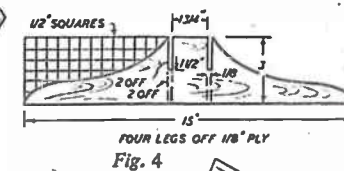


Fig. 4

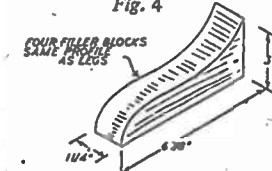


Fig. 5

1/4in. ply to the dimensions given in Fig. 4. These are slotted as pairs, so that they can be assembled, one pair slotting into the other, to leave a 1 1/4in. square channel in the centre. Into this channel is glued the standard.

Completing Assembly

Assembly is completed by gluing the standard in place and then adding filler blocks, cut to the same profile as the legs—Fig. 5. Use a cut-out leg to trace the pattern of the filler blocks. The whole assembly

(Continued on page 55)

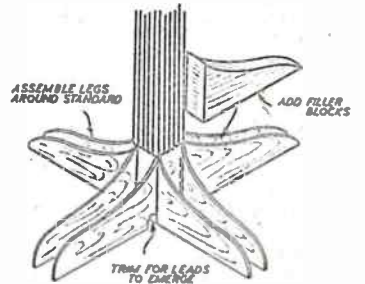


Fig. 6

the form of a long thin box, with internal formers for stiffening.

For the standard you will require two strips 60ins. by 1 1/4ins. by 1/4in., and two strips 60ins. by 1in. by 1/4in. If you cannot obtain material long enough, then it is a simple enough matter to join two shorter strips by means of a butt-strap—Fig. 1. These straps should be staggered along the length of the tube and not all occur at one point.

This table is cut from 1/4in. ply and is 13ins. in diameter—Fig. 2. A square is cut out of the centre so that the table can be slid over the standard. Its actual position is shown in Fig. 3.

Dowels Needed

To complete the lower part of the standard in a decorative manner—and also provide additional support for the table, a number of 1/4in. diameter dowels

Like experimenting with radio? MAKE A SHORT WAVE 1-VALVER

SHORT wave signals travel great distances, and European stations can be picked up with ease, with the simplest 1-valve set. Except when reception conditions are poor, American and more distant transmissions can also be received at good volume. When conditions are good, it is quite possible to receive transmissions from as far away as Australia, still using the single valve set. In addition to commercial stations, amateur transmitters will be heard on 20, 40 and 80 metre bands. (These are usually most active during the weekends). It will, therefore, be seen that quite a lot of interest may be obtained with even a small S.W. receiver.

The set described here uses one valve

'Hobbies' radio articles are specially contributed by F. G. RAYER, who is well-known for his writings on the subject

also be purchased from various sources, and there is no reason why these should not be used. Many of these coils employ a base of different type to that shown, and no standard base exists. Because of this, the coil-wiring instructions provided by the manufacturer must be followed, if such coils

very low wavelengths. It should be smooth in operation and have a fairly large control knob.

The tuning condenser must be air-spaced, and can have a capacity of from .0001 mfd. to .0002 mfd., though .00015 mfd. is preferable, if to hand. If it is not the type fitted with an internal reduction drive, then such a drive must be added, or tuning will be extremely difficult. A great variety of such dials and drives are obtainable, and that selected will not influence efficiency, though accurate tuning will be more easy with a drive of good quality.

The small radio-frequency choke can be of any kind intended for S.W. use, or can be wound by putting 200 turns of 36 S.W.G. or similar wire on a 1/2 in. diameter former. The on-off switch, .0002 mfd. grid condenser, and 3 megohm grid leak are standard parts of the usual type. If the .005 mfd. condenser has terminals, these will provide a convenient method of connecting the phones.

Short Wiring

All the connections are shown in Fig. 2, and those between the holders and condensers should be as direct and short as possible, if very low wavelengths are to be tuned. Fairly stout wire should be used—20 S.W.G. or so. Flex is used for the battery connections, and the length of these is immaterial.

The joints may readily be soldered if the tags are clean, and cored solder and a really hot iron used. The iron should not be kept in contact longer than necessary to make the joint.

Making the Coils

As mentioned, ready-made coils can be purchased; also ribbed formers with pins, which can be wound at home. Coils can also be made as in Fig. 3 by pressing into service the bases of old, damaged valves. (If no such bases are to

hand, it will be necessary to purchase them). Ebonite or paxolin tubes which are a tight fit over the valve bases are also required. These are pushed in position and made secure by drilling completely through both tube and valve base, and adding a short 6 B.A. or similar bolt, with the nut inside. The ends of the windings are taken down inside the former, and soldered to the pins, following the numbering given in Figs. 2 and 3. As the pins are hollow the wires are threaded down through them and soldered at the tip, excess projecting wire then being snipped off.

Turns to Use

The formers mentioned will be approximately 1 1/2 ins. in diameter. Using 20 S.W.G. wire, ten turns for the grid coil (Fig. 3) will tune from approximately 19 to 40 metres. The wire may be bare, as each turn is separated from its neighbour by about the diameter of the wire. A 1/2 in. space is left, and seven turns of 28 S.W.G. (or similar) insulated wire put on, for reaction, with turns closely side by side. Both windings are in the same direction, as illustrated.

A second coil, covering approximately 13 to 25 metres, can be made by having four turns on the grid winding, with three turns for reaction. Other details as already given, except that only 1/2 in. space is left between windings.

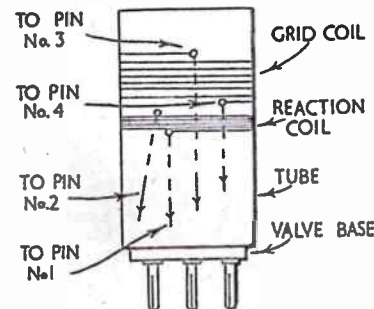


Fig. 3—How the tuning coils may be wound

A coil for about 35 to 80 metres will require twenty-two turns of 24 S.W.G. wire for the grid winding, with fifteen turns for reaction. If a Medium Wave coil is needed, this will require eighty-four turns of 32 S.W.G. enamelled wire, turns side by side, with forty turns for reaction. This will enable a useful section of the band to be tuned, though the higher Medium Wave frequencies will not be reached, due to the tuning condenser being of insufficient capacity

possible to use a 1.5 V. dry battery for L.T., or, for preference, a 3 V. battery with series resistor to reduce the voltage to two. Upon no account should more than 2 volts be applied to the valve filament.

A good outside aerial will, naturally, give best results, though an indoor one is reasonably satisfactory. An earth is not essential, but will improve results. Ordinary medium or high impedance phones are used.

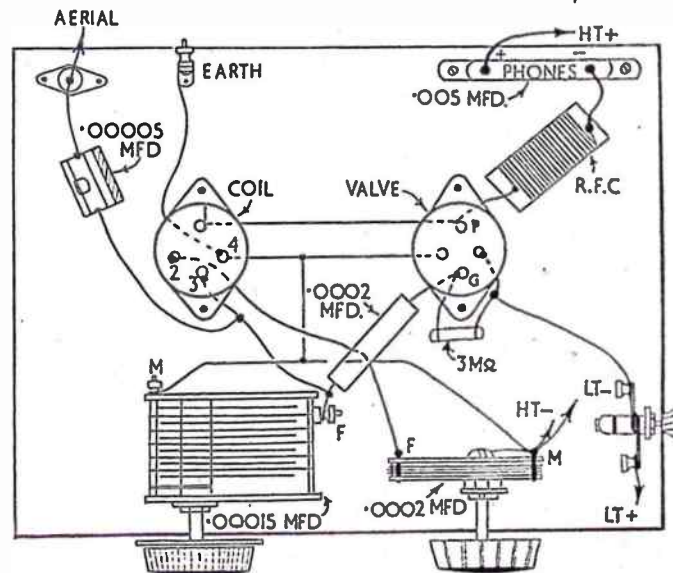


Fig. 2—The complete wiring plan

for this purpose. (If a larger condenser were used, this would be less suitable for Short Waves).

Other Details

A detector valve such as the HL2 type, or equivalent, is recommended. A small high tension battery (about 60 volts size) will give a long period of service, as will a small accumulator (2 volt), for low tension. It is also

The completed set may be enclosed in a metal cabinet, a hinged lid being required so that coils may be changed. This, and a good earth, will help to prevent tuning of weak signals being affected by movements of the user's hands.

When searching for distant stations the set should be retained in a sensitive condition by closing the reaction condenser until a faint hiss is heard. (303)

only, but additional valves can always be used, at a later date, if desired, without any of the components already employed being wasted. The set is only suitable for operating headphones, but in many cases this is no great disadvantage, for S.W. reception.

Plug-in Coils

In order that the user is not confined to one waveband, plug-in coils are employed. One such coil will cover the most useful wavelengths from about 19 to 40 metres. A smaller coil enables lower wavelengths to be tuned, while one with more turns can be inserted when higher wavelengths are required. This is a simple and efficient system, and suitable coils may be made as will be described.

Ready-made coils of this type can

be purchased. All other wiring in the set can remain unchanged.

Circuit and Wiring Plan

The circuit is shown in Fig. 1, and the components which are required may be seen from this, and from Fig. 2. Both valve and coil holders are of the chassis type, with sockets projecting below. They are mounted about 1 in. above the small wooden baseboard—this can be done by using long bolts and ebonite spacing sleeves, or by cutting out suitable small strips of wood.

The aerial is taken to a small stand-off insulator, and the .00005 mfd. pre-set condenser shown is wired in series with it. This condenser is essential.

The reaction condenser may be either air-spaced or of the solid dielectric type; the former is better for

A STANDARD LAMP WITH A DIFFERENCE

(Continued from page 53)

can be cleaned up and smoothed down flush by glasspapering once completed—Fig. 6. A small channel is cut to let the leads emerge.

Normal Bulb Fitting

A normal type bulb fitting is screwed to the top of the standard. This should be of the type incorporating a switch, for preference. The actual lamp shade

used is then purely a matter of personal taste, though it should be larger in diameter than the table, for best effect. The finish of the wooden parts is also a matter of individual preference. Quite excellent results can be obtained quickly by using wood dye, after smoothing down thoroughly, and then clear lacquering. (359)

FRETMACHINE HINTS

When using a treadle fretmachine, you will find that it put against a wall the driving wheel catches. A good thing to stop this is to get a block of wood 1 1/2 ins. by 1 in. and 1/2 in. thick and put it behind the back leg of the machine. Press it against the wall and the wheel will not catch any more.

If the belt on your machine slips, wind a piece of insulation tape round the pulley. This enables the belt to grip it properly with the result that the machine stops and starts at the slightest pressure on the treadle.

An expert tells you about

GETTING INCREASED PLEASURE OUT OF YOUR PHOTOGRAPHY

SEVERAL of the photographic articles which have appeared in *Hobbies Weekly* during the winter months were expressly written for those readers who have never realised that the camera can be used with considerable advantage throughout the whole of the year. Your interest was drawn to such items as indoor portraiture, street scenes and tree subjects in March.

If the advice and hints given in those articles have been the means of increasing your enthusiasm and have resulted in a number of new negatives being added to your collection, then you have profited by your efforts and are ready to learn something more that will put you on the road to becoming a real amateur photographer. That is



An excellent cloudscape

what this particular chapter is specifically intended to do.

The fact that you have a camera and use it for making a few exposures from time to time does not entitle you to be recognised as a real amateur, any more than going to see a football match gives you the right to call yourself a footballer.

Art and Science

Photography is a combination of art and science and an acquaintance with both is essential if you desire to become really expert in the hobby. But do not

get the impression that you have got to spend hours studying some branch of science and reading numerous books on art. A lot of that work has already been done for you in the production of the camera and its parts, and in the manufacture of films and chemicals, and it is up to you to make full use of the results in the pursuit of the hobby.

Do It Yourself

Why should you pass that spool of exposures to someone else to develop and print? You can do this processing, and it will add a tremendous lot of pleasure and interest to your hobby. Further, it will assuredly help you to produce a greater number of successes and fewer failures and so become more expert.

these remarks that the reference is to tank development by the time and temperature method. The writer was one of the first to make use of this and has been an exponent of it ever since the first trial. What is meant by time and temperature? Several years ago it was scientifically proved that the emulsion of any plate or film required a definite time in the developing solution to reach the correct stage of development, and that this time varied only when the strength of the solution was altered or when the temperature of it was made higher or lower. It was also found that the time differed with various makes of films or plates. Eventually these different brands were allocated to different groups and these groups in turn were given their time at stated temperatures for different developers in normal, weak or strong solutions.

Having these groups and tables of the three main factors, namely: grade of film, strength of solution, and temperature, it became quite a simple matter to ascertain the exact time to leave the film in the solution to be perfectly developed, and it is interesting to note that this is the method employed by the firms who specialise in the development of amateurs' films and also by many dealing in the processing of cinematograph film.

Recognising the accuracy of the method and its very great value to all branches of photographic workers, both professional and amateur, the manufacturers of developers and developing solutions include in their direction leaflets and booklets very complete groups of the various makes of films, columns of temperatures ranging from 55 to 75 degrees Fahr., and different tables for the strengths of solutions. Those who use a Johnson's developing tank, find a calculator disc is fitted to the lid. By using either the disc or tables a glance will show the exact time to leave the film in the solution.

All readers will, therefore, recognise that the one great difficulty which amateurs in the past have had to contend with, i.e. how to judge when development was complete, is satisfactorily overcome.

Having explained at some length the system of time and temperature development, some of you may be wondering what apparatus is required to put it into practice. First those who have not got a tank but have the means of turning the bathroom or other odd corner into a darkroom can develop a film, by the 'see-saw' method, using a

deep developing dish or even a pudding basin. Mix the solution to the required strength and take the temperature with a thermometer. Turn out all white light and remove the spool from the camera and carefully unroll it until the end of the film appears. Take this end between the thumb and index finger and complete the unrolling, taking hold of the other end with the free hand.

Soak Film

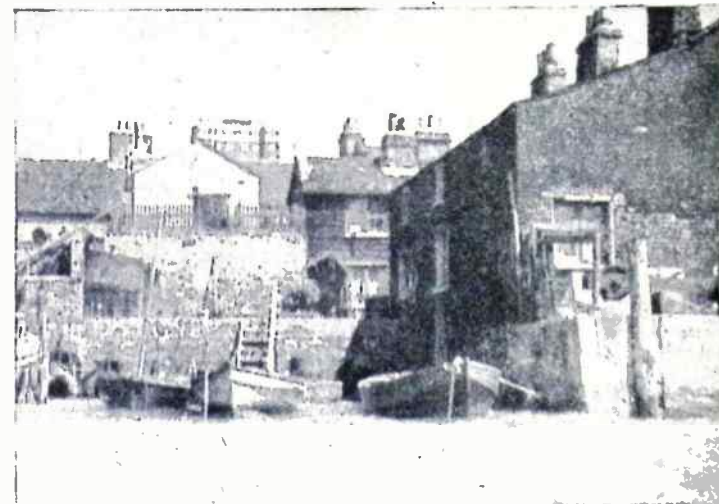
It is always advisable to soak a film in clean water before developing to prevent airbells forming on the surface during the process of developing. This is best done by keeping a hold of each end and drawing the film through the water three or four times by dropping one hand to the water, then raising it and dropping the other hand to reach the surface—thus using the 'see-saw' action.

Now take a note of the time and pass the film into the developer, keeping strictly to the see-saw movement. When the time is up, remove the film to the fixing bath, for the first three minutes, employing the up and down movement to ensure that the whole of the film is under the influence of the fixing solution. Leave it there for about fifteen minutes and then give it at least half an hour in running water to wash it free from the fixing salt. After this, it should be suspended in a dust free place to dry.

It is time now to give a few details concerning tanks, and as it is fairly safe to assume that many of you have one or two spools ready for processing, the result of the Easter holiday, I would most strongly advise you to call at your nearest photographic dealer and ask to see a tank and have it explained. And do this before passing the spools on to be developed by someone else.

A tank consists of three main parts—the body for holding the solution, the spiral for receiving the film, and the light-tight lid and spindle for rotating the film. The spiral is so grooved that the film is quite easily threaded into position, and after one or two trials this can be done in the dark, the spiral with the film is then passed into the body and the lid placed in position. From now on all work can be done in daylight or artificial light.

The preliminary soaking to prevent airbells is done by allowing clean water from a tap to run into the tank through the hole in the centre of the lid, and out again by means of a lip outlet at the edge. The developer is then carefully but quickly poured in and the spindle inserted and used frequently during the



Odd Corner—an old wharf on the Thames Estuary

operation to rotate both film and solution. At the end of the required time the developer is poured into a bottle for use again and the fixing solution takes its place. After fifteen minutes this is poured into another bottle for another film and running water from the tap is allowed to run into the tank for about half-an-hour.

Great Thrill

Examination of the finished spool should then give you one of the greatest thrills possible because you will have the joy of seeing a strip of perfect negatives of your own making. If there happen to be one or two failures then they must be regarded as mistakes in the exposing, certainly not in the developing, and in any case you have the satisfaction of knowing that your method of processing has really got the best result possible out of that exposure, whether it was under or over.

No better or more valuable advice can be given to any amateur, whether he has just taken up this hobby or is a fairly advanced user of the camera than that he should become the possessor of a tank at the earliest opportunity. It inevitably leads to better photography, and it overcomes the lack of the necessary accommodation at home. This is an advantage that cannot be over-boosted. And you can take a tank with you on your holidays and develop your exposures on the spot without making

any mess or worrying anyone in the same house or hotel; the writer never fails to include a tank, a small bottle or packet of developer and a small tin of acid-fixing in the holiday kit. They come in very handy on a wet day, and if any mistakes have been made, well, I am on the spot for a second shot.

For those who use only a No. 20 size spool, there is a Johnson's J.20 made specially for this size, and it is the smallest. For other sizes there is the universal adjustable which can be set to take No. 16, No. 20 or No. 17, No. 27 or V.P.K., and also 35 mm.

There are so many first class developers on the market that it would be seeking trouble, to make any sort of comparison or to give an opinion as to which is the best for this work. Some work excellently for certain brands of films, but, just as I have always advocated keeping to one brand of film, so my advice is to use the developer that is known to give results that satisfy you. In my work sometimes Azol gives me the type of negative I like while others are made with a newer solution known as Unitol. A third developer used is Universal. You will possibly recognise that these are in concentrated solution form, saving me time in weighing and mixing, because they are ready for use when diluted with water, and, where accommodation is limited, one should reduce his requirements to a minimum. (358)

Preparing for the camping season

WITH BICYCLE AND TENT

WHAT about that cycle-camping holiday? If you are an 'old hand', perhaps you will already have got your kit in order ready for the great day, when you may set forth on a grand open-air holiday or for a jolly week-end. Or, have you been neglectful and allowed that equipment to lie in the attic or some corner of outhouse or loft, all dusty and mildewed and uncared-for? The position must now be reviewed, for the weeks slip by all too quickly, and the time for camping will soon be here.

The camper-cyclist will make a thorough inspection of his tent and accessories. All can do with a look-over. Some things will probably need repairing or replacing with new stuff, and as all sorts of things this year will be more expensive, it is advisable to be as economically-minded as possible. You have had that old tent some few seasons—can it be renovated to last a bit longer? Spread it out on the lawn or yard and inspect it.

Perhaps there are gashes or tears in the canvas? These will need patching up, with suitable pieces of canvas. Cut each patch a trifle larger than the hole or gash it has to cover. Lay it over the torn place, and hem round neatly, cross-stitching the edges of the hole to be patched with waxed thread. Then press it all over with a flat-iron heated over the gas ring or on the fire; this action will drive the wax into the thread stitches and fill them up to render the patch perfectly waterproof. Small gashes and rents can be dealt with by darning them carefully with herringbone stitch, pressing them afterwards with the flat iron.

If the tent roof and sides need renovation, and last year allowed rain to seep through, get busy reproofing the whole tent. Get a tin of waterproofing solution from your camp outfitters and treat the canvas with it according to directions on the tin. There are various ready-to-use solutions on the market, such as Granger's Solution, Mesowax, and Nev. Or you can make up a useful formula yourself: Boil 1oz. isinglass in 1 pint of soft water till dissolved, strain through clean linen into a second saucepan. Dissolve ½oz. white Castille soap in 1 pint of water, strain, add to above. Dissolve 1oz. alum in 2 pints of water, strain, add. Stir and heat combined solution until it simmers.

Spread the tent on a flat surface and work the mixture into the fabric, especially seams, with a soft brush. However, we would like to say that any of the standard preparations now on

the market, and to be obtained from a camp shop or sports outfitters, are equally effective and reproof a tent satisfactorily, and with much less trouble than home-made recipes.

Accessories

It is also necessary to run your eye over all the various accessories. All lines, guys, and similar should be given a thin dressing of boiled linseed oil, applying it with a small brush and afterwards hanging them up to dry thoroughly before packing away ready for camp. Wood runners and pegs will be no worse for a coat of good waterproof paint.

Rust plays havoc with essentials such as stoves if they are long neglected. Clean them well. If you use a Primus stove—and this to my mind is one of the best types—renew any spare parts that may be required when in camp. But if you renovate the stove now it will probably need little attention save for pricking out, all the coming season. See that the burner nipple is all right; if corroded up, replace with a new one. Also see that all washers on pump and filler cap are in good condition, and renew if necessary. It is advisable to carry along with you a spare nipple and a pricker. Useful tool for use with primus stove is a nipple key—if you

should want to change the nipple. Keep a Primus perfectly clean to get satisfaction. Endeavour always to get a correct blue flame after lighting the stove. And do not omit to pack a supply of meth., either liquid or solid, and paraffin.

There is much fun in this sorting out of the camping kit, after a winter of indoor hobbies. The task recalls old memories of great days under summer skies revelling in the sunshine and fresh air; and it leads to anticipations of further joys in the days ahead.

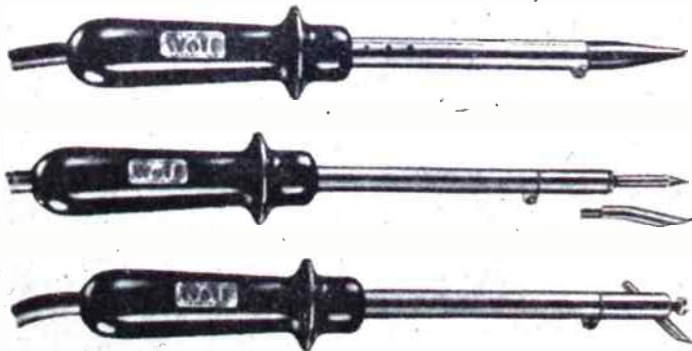
Beginners who have yet to taste of the care-free joys inseparable from such a holiday with bike and tent have a treat in store—the fun of sleeping under canvas, the *alfresco* meals, the freedom of wearing 'easy old clothes', the spirit of adventure and good companionship, make it a wonderful holiday. All you require are tent, bicycle, the necessary camping requisites, and plenty of good spirits and humour, coupled with the determination to get the most and the best out of it all.

Pal up with a well-tryed friend or two and success is assured. Two friends camping together (a 'two-man' bivouac tent will house them comfortably) can share expenses and thus enjoy not only a delightful, but an economical vacation. (349)

NEW SOLDERING IRONS

NEW additions to the range of Wolf Electric Soldering Irons have recently been announced and all these are the straight handle type. They comprise three models—Types 22, 32, and 42, which, whilst retaining all the general features so popular in the original range, have been designed to meet the demand for conventional straight handle types of Wolf design and manufacture.

In keeping with all other models, the heating elements are designed to concentrate heat on the working point providing a rapid and constant heat. They are sturdily built to withstand heavy usage and are fitted with hard wooden handles with a heat deflecting skirt.

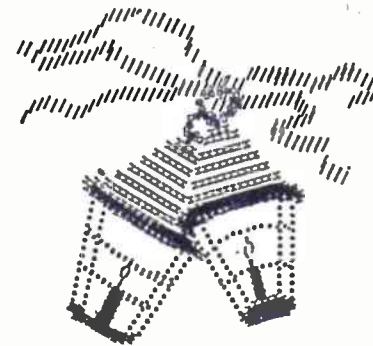


There may be money in it—so

Why Not Try Typewriter Pictures?

I WILL take the obvious retort to the title of this article right on the point of the jaw. Indeed, had I not just typed those words I also would have asked: 'Why should I? But I think, and without being boastful, that I am in a position to offer many a new hobby, one which has not so far been done to death, either in this country or abroad.

I write articles in the American magazines, and the editors are most polite, and send me copies of each issue concerning myself. In one such issue I was astounded to find that there is a hobby in the United States and Canada,



HOLIDAY LIGHTS.
By Hannah Lehman, of 1120 Second,
Bay City, Mich.

An example from an American Magazine

and in the South American countries, too, which does not, like Jazz and South American dances and music, appear to have spread, as yet, to this country.

Wonderful Pictures

I admit I have been amazed at the truly wonderful pictures which are possible if you have a few moments to spare at the office, or at commercial school, or if, like myself, you possess a typewriter of your own.

It started, like so many other ideas which have captured mankind, in a small and unobtrusive way. In a well known American newspaper, which issues a weekly week-end supplement, the editor suggested offering prizes for these typewriter pictures. To his amazement he was snowed under. He had no intention at first of publishing the efforts, but some of them were so fine that his artistic soul could not keep them to himself. Photographs were prepared, and as many as half a dozen were reproduced weekly.

It was such a good idea that his

directors allowed him to increase the prize money. Circulation increased. Entries started coming in from many parts of America, showing the enthusiasm for the art. Soon, the idea became the talk of the land, and other magazines began to copy. Now, just as with our crosswords, this typewriting picture art is part of life.

Not that it has remained an art pure and simple. Some of the greeting card houses, and there are many there, as with us, have started asking for typewriter picture artists, and taking the finished products to illustrate their many greeting cards. Keenly interested, I wrote for samples and examples, and I was delighted, and more than a little inspired. Correspondence with a gentleman in Michigan has put me, to use an Americanism, 'on the inside'—or 'on the ground floor' as far as Britain is concerned—hence my haste to pass on to you this new, and money making hobby.

Money making! I heard you. But I mean it. First of all, you will have to think out ideas for pictures. I have seen some grand examples. One was a hand-bell, made slantwise, on the front of a Christmas Card, with an appropriate caption underneath. These captions are culled from any popular classic—Shakespeare, The Bible, Dickens, etc.

Another picture was in the form of a lamp of the old fashioned type, complete with candle, and ribbon. Yes, it was all done on the typewriter, and was an amazingly ingenious piece of work; far better as a Christmas Card, New Year Card or Birthday Card, than many for which we have to pay up to 3/6 each.

A variety of ideas suggest themselves. A ship. A picture frame with text. A table lamp. A vase of flowers.

And remember how easy it is to prepare these cards. Once you have the idea done on paper, you can reproduce the same picture on a stencil skin, which all typists know about and which are only about 6d. each in these expensive days. Then, on the duplicator—the one I have cost me only about £3. By buying coloured tinted cards from the printers, along with tubes of different ink, you can run off 100, 200, maybe 500 Christmas, New Year, Birthday, Valentine, or Anniversary Cards which will sell at anything from 6d. each. From mid-summer onwards, you will find you can take orders for Christmas Cards as fast as you care to do so. Once you have mastered the art of designing the cards, you will soon be on overtime if you are not careful

enough to limit your order taking.

Naturally, you must offer good workmanship, as they are now doing in America and Canada. But you will see the possibilities of the idea from a profit point of view. Not that this exhausts the theme. In America they are holding regular 'typewriter picture exhibitions' by taking a room or shop and charging admission in the same way as with oil paintings and water colours. And they are getting the public, which should be a spur for a similar venture on this side of the ocean.

Absorbing

How absorbing this hobby could become! A quantity of paper to experiment on. Stencilling skins. Various inks. Access to a duplicating machine. And time combined with thought. Get in while the going is good. Prepare for taking orders by mid-summer. Think out some bright ideas for your pictures, and combinations of tinted paper and

WE
some
in to
that most
pleasurable
season of the
year, Christmas.
It is a time for
giving, and a time
for receiving, all in
the spirit of Christ.
A redemption of life
to all the Christianity is
and to all it stands for among
people. It is in this spirit we
of this Blankan family bring you
this Christmas greeting. May your
backward look be one of deep gladness
and your forward look be with true hope in
that He who prospered your life's way in the
past shall truly guide you in the future. Best
Christmas
wish for
you, also
every one
this season is great
blessings and peace
in your mind and in
your heart that the
Christ Child be ever
embrained in your lives

A first attempt by the author

inks. It is not too much to say that millions of pounds are made each year by the sale of cards of doubtful quality. Gain a little of that cash for yourself.

Churches will take them for bazaars, or give orders to sell again, if you offer the right work. So, before it becomes too common, become one of the first rank of typewriter picture card producers. There is money in it. At least there is in America. And big money, too. And, even if we do not like to make a boast about our ability, what the Americans can do, we can do. I cannot see us being far behind them in a truly artistic idea such as this. (369)



PEOPLE all over the world were profoundly shocked when they learned of the death of H.M. King George VI in his 56th year. Readers of *Hobbies Weekly* heard over the wireless or read in the daily Press accounts of his devotion to duty, and many will recall the famous photograph of their majesties viewing bomb damage during the war when they remained in London instead of going to a place of safety.

Splendid Collection

Philatelists will know of his love of the hobby. He took over the collection of H.M. King George V, which was then



The Coronation issue designed by Edmund Dulac

no less than 325 volumes, and he maintained his own collection in continuation, and so added another twenty or more volumes. Her Majesty Queen Elizabeth is also a collector.

Number of Portraits

Since the date of his accession on the 11th December, 1936, a very great number of different portraits of His Majesty were issued, and opinions are bound to differ as to the most pleasing by which to remember him. The writer rather likes the first and the last issued by this country. The Coronation issue showing both King George and Queen Elizabeth has additional interest, as it has the date of the Coronation thereon. The 4d. of the British Exhibition stamps seems the better of the two.

Most of the Colonial stamp issues have had a small medallion portrait, together with a picture, and the latter has frequently rather taken interest from the former. If you look through the stamps issued during the reign you will see how true this is. Two Colonies may be said to be exceptions to this—Australia and Canada. Most of the Australian portraits of the late King were of him in admiral's uniform, starting with the 2d. and 3d. of the 1937 issue. The first printing of the

1937 3d. is now the most valuable of the King George VI stamps. The latest of the Australian issues showed His Majesty in civilian dress. The 10/- stamp of the 1938 issue showed a full length portrait in Coronation robes, and the £1 of the same issue gave a head and shoulders picture of the late King and Queen Elizabeth.

Canada had a nice portrait in civilian dress for the 1937 issue, and then in the 1942 we had the 'Service' portraits, the 1c. and 5c. in Naval uniform, the 2c. and 4c. in Army and the 3c. (two



One of the finest stamps of the reign

colours) Air Force. In 1947 came the set of five stamps, 1c. to 5c., showing



The last stamp to be issued with the new Queen as Princess

different portraits of His Majesty in civilian dress. This set had the words 'Postes Postage' just below the name

OLD TOOTHBRUSH USE

When you have finished with your old toothbrush do not throw it away, as it will come in useful for cleaning miniature bagatelle boards without disturbing the pins.

BRITAIN LOSES A ROYAL COLLECTOR

Canada, and in 1950 came the set with these words omitted. Readers should look out to see that they have both sets. Southern Rhodesia produced a pleasing portrait in the 1937 November issue. Again the late King was in admiral's uniform. Basutoland produced a similar stamp—the penny value—for the Royal Visit of 1947.

Newfoundland's Honour

To Newfoundland belongs the honour of producing the first portrait. That was in 1911—the Coronation issue of King George V. In that set the 4c. stamp showed a portrait of Prince Albert, who was destined on December 11th, 1936, to become H.M. King George VI. Canada, in 1935, for the Silver Jubilee set, showed on the 2c. stamp the Duke of York as the late King was at that time.

The stamps of H.M. King George VI have been very popular with collectors. In fact, there are some people who have not collected any others. But readers should try to get some of these unused, so that they may have clear portraits of this great monarch. (363)



A New Zealand stamp showing the Queen and Heir, Prince Charles

SQUEAKY WOODWORK

When making draw cabinets, etc., oil the working parts sparingly with linseed oil. Afterwards rub the parts over with white paraffin wax. It will be surprising how smooth the draws will work.

MISCELLANEOUS ADVERTISEMENTS

TURN sawdust into money. 10 confidential formulas for 5/- P.O. and S.A.E. to—C. Young, 6 Manor St., Falkirk, Stirlingshire.

STAMPS FREE! Twenty unused (2½d.).—G. H. Barnett, Limington, Somerset.

1,000 STAMPS, 4/9; 50 Canada, 1/9; 25 Ceylon, 2/6; 30 Malaya, 3/6. Satisfaction or money returned. Send 4d. for list and free gift.—Laurence Burnas, 194 Seaciff Road, Bangor, Ulster.

PERSPEN—Acrylic sheet, clear and coloured, block and rods (clear only). Cement and polish. Send S.A.E. for further details to—A. Durham, 18 Thorncliffe Grove, Chorlton-on-Medlock, Manchester, 15.

NULINK leather cutter and punching machine, excellent condition. Bargain, £4.—Watkins, Milchouse Farm, Leighton, Crewe.

DOUBLE-EDGED 16in. Pruners Saws, 8/-, post paid.—Hobbies Ltd., Dept. 99, Dereham, Norfolk.

WOODCRAFT, Marquetry. Complete marquetry picture sets with veneers, cement, drawings, etc. 'A' Eastern Street, 4/6. 'B' Devon Village, 5/6. 'C' Whitby Seascap, 8/-. Postage 6d.—4 Springside, Cowpe, Rossendale, Lancs.

BARGAIN—100 different whole world stamps, 1/3. Also approvals.—F. W. Houltley, 8 Barnard St., Thornaby-on-Tees, Yorks.

DEAL IN STAMPS—a practical guide to the stamp trade. Packed with valuable information, 2/9, post free.—D. B. Johnson, 256 Wakefield Rd., Drighlington, Bradford, Yorks.

SPACE fillers on approval, from 25 a 1d. Supwards.—Jeffreys, 2 Bay View, Craigavon, Port Talbot.

HOME production workers required—either sex, interesting job. S.A.E. brings fullest details.—BCM/ASHGROVE, London, W.C.1.

20 BRITISH Colonials free with approvals. Postage.—W. E. Tucker, 6 Higher Church St., Barnstaple, Devon.

SPARE time homeworkers, either sex. Surgently required. Clean work, good pay. Write—Area 343, 88 Rutland Street, Leicester.

INTERESTING work available for all in Ispa time. Experience unnecessary. Send S.A.E. for details to—'Leathweave' Co. (Dist. 37), 2 Tudor Rd., Leicester.

STAMPS, 100—6d.; 500—1/6; 1,000—2/6. Foreign/Colonial approvals.—Paveley, 12 Leeder Close, Coventry.

GENUINELY interested persons required to Gunderstake light, clean assembly work in their own homes. Good rates of payment. Stamped addressed envelope to—Dept. P/918, Universal Products, 5 Cornhill, Lincoln.

PLYWOOD offcuts in 5/- and 10/- parcels. 1 post free. Money-back guarantee.—Ezedraw, 21 Spring Grove Rd., Kidderminster.

STAMPS. Free air set to applicants sending 2½d. stamp and requesting our approvals. Latter consist of interesting worth-while stamps at reasonable prices.—Willett & Carville, 69 St. Vincent Crescent, Glasgow, C.3.

FREE—50 Victorials to approval applicants sending postage.—Pett, BCM/BRITCOL, London, W.C.1.

LAMPSHADES, bookcrafts, etc. Many beautiful coverings in plastic and fabrics. List, 3d. Patterns, 1/3, refundable.—Write—E.M.H., 75 Welling Way, Welling, Kent.

KENYA Royal Visit, two values, together with 100 different Empire stamps, 2/-.—Bisson, 46 Sumatra Road, London, N.W.6.

PROFITABLE spare-time hobby, making envelopes. Output purchased at good profit. Details, S.A.E.—B.C.M. CREMYLL (HW), 3 Bloomsbury St., London, W.C.1.

MODELS. You can make lasting stone-hard models with Sankey's Pyrama Plastic Cement. Supplied in tins by Ironmongers, Hardwaremen and Builders' Merchants. Ask for instruction leaflet.

LEARN shorthand by May 21st. (1 hour's study nightly). 1st lesson, 2½d. stamp.—Duttons (Dept. H.B.), 92 Gt. Russell St., London, W.C.1.

DUPLEX self-adhesive Transfers for decorating fancy goods, trays, plastics, etc. List and samples, 3d.—H. Axon Harrison, Jersey.

DOLL'S house fittings and papers; send S.A.E. for list. Doll's house plan—special; send 2/6. Trade supplied.—Zimplan, 88 Ware Road, Hoddesdon.

TORRY Klix, 4 mm. and 7 mm. scale. Also large range of spare parts from which to build to your own design. Send for fully illustrated catalogue—price 1/.—Wilson's Lorries Ltd., 6 Gt. Winchester St., London, E.C.2.

PLYWOOD offcuts. Gaboon in various thicknesses. Handy sized parcels for the cabinet, toy, model maker and all handicrafts. Parcels made up in 21 and 10/- lots. Carriage paid. Send P.O. to—Reeves, Plywood and Timber Merchant, 33 Front Street, Monkseaton, Whitley Bay, Tel. W.B. 4677. Parcels are now dispatched on day of receiving order.

AMERICA'S famous hobby magazines. One Aycar's supply Popular Mechanics, 32/-; Popular Science, 28/6; Homecraftsman, 16/6; Popular Homecraft, 18/-. Free Booklet listing all others sent on request.—Willen Ltd. (Dept. 57), 101 Fleet Street, London, E.C.4.

WHEELS for toys, etc., in Hardwood, Plastic and Rubber Tyred Metal. Doll's House fittings and papers. Doll's Cot and Pram fittings. Decorative Transfers. Beads for Counting Frames and other toy accessories. Fine Art Pictures for Jig-saws, etc. Stamp for lists. Trade supplied.—Joyden Toy Co., 193 Chase Side, London, N.14.

CONJURING and Magic. New Tricks and Pocket Novelties every month. Lists, 4d.—Roboati, Magician, 363 Sandycroft, Kew Gardens.

KUKLOS Annual. Indispensable cyclist's handbook. Tours, resthouses, money saving hints. 2/9, post free.—Burrow, Publishers, 2 Imperial House, Chesham.

SHIP modellers should get in touch with Scottish Modelcraft, St. Mary's St., Dumfries. 1/- secures handbook and lists and details of our comprehensive and friendly service.

2 Triangles, one Diamond, Free! Approvals; enclose postage.—Mousley Stamps, Heanor, Derbyshire.

THE only full list of Car Index Numbers Alphabetically arranged is in Where's That Car From? Of all booksellers, 9d. or from the Publishers (1½d. postage).

100,000 Government Surplus Bargains for the Hobbyist and Handyman. Examples from our varied stock:—aluminium rivets, approx. 1 lb. assorted, 3/6, post 6d.; 70 ohm variable resistances, 1/6, post 3d.; 20 amp. toggle switches, 9d., post 3d.; rawhide hammers, 3/6, post 6d.; stout wooden boxes (brass corners), hinged lid and carrying strap, 9" x 7" x 5", 2/-, post 1/3. Send 3d. stamp for new Mail Order Catalogue. Money Back guarantee.—Milligan's, 24 Harford Street, Liverpool, 3.



YOU can build this GARAGE



BRICK & MORTAR BUILDING KIT

It enables you to build Houses, Inns, Railway Stations, Signal Boxes, or from your own imagination. All railway models will fit 'O' gauge scale. Buildings can be permanent or dismantled by merely soaking in water and the bricks used again and again.

BRICKPLAYER KITS AT 28/6 AND 52/6 ARE AVAILABLE FROM GOOD TOYSHOPS, HOBBY SHOPS, AND DEPARTMENTAL STORES.

ACCESSORY PACKS

No.	Contents	Price
100	100' Full size Bricks ...	3/-
101	52 3-Bricks and 72 1-Bricks ...	3/-
102	Gable and Peak Bricks ...	3/-
111	Capping and Roof Tiling ...	2/6
112	Concrete Roofing ...	2/6
114	Bag of Brickplayer Cement ...	1/3
115	Roofing Cement ...	9d.
8107	2 Bay Windows with 31 Splay Bricks	3/9

METAL WINDOW AND DOOR FRAMES
F1 F2 F3 F4 F5 F10
8½d. 6½d. 7½d. 5d. 4d. 6d. 7½d.

8108 Sheets of Glazing, 11" x 6" (Plastic) ... 1½d.
If your dealer cannot supply, write for address of nearest stockist to:

J. W. SPEAR & SONS LTD.
(Dept. H) ENFIELD MIDDLESEX

YOU CAN BECOME A HANDICRAFTS INSTRUCTOR

EXPERIENCE NOT ESSENTIAL

Men who enjoy making things in wood or metal can turn their hobby into a permanent and interesting Career. Short hours, long holidays, and security in a job you would really enjoy, can be yours if you become a Handicrafts Instructor. Let us send details of the easiest and quickest way to get the necessary qualification.

We guarantee **"NO PASS—NO FEE"**

If you would like to know about our unique method of preparing you for one of these appointments, write today, and we will send you our informative 144 page Handbook—free and without obligation. Mark your letters "Handicrafts Instructor".

BRITISH INSTITUTE OF ENGINEERING TECHNOLOGY

BIET

595 Shakespeare House
Stratford Place, London, W.1

FLEXIMOULD

FOR PLASTER CASTING

WALL PLAQUES, FIGURES, GARDEN ORNAMENTS, BOOK-ENDS, ETC. MADE IN YOUR OWN HOME. THE ALL-FAMILY HOBBY THAT ADDS POUNDS TO YOUR INCOME.

Write for
FLEXIMOULD
ILLUSTRATED LEAFLET to
DOHM LTD. (DEPT. H)
167 VICTORIA ST., LONDON, S.W.1

BE TALLER

I Guarantee to increase your height in 12 days or return your money. New discovery increases height 2 to 5 inches. "Gained 4 1/2 inches in my height. My weight increased from 9 stone 4 lb. to 10 stone 8 1/2 lb."—P.D., Whitam. "I have increased in stature from 5 feet 1 inch to 5 feet 4 inches, a matter of 3 inches."—H.C., Chesterfield. "My increase is 2 inches and I really do feel ALIVE."—E.T. Guaranteed harmless. Full course, 10/- Details 11d. stamp. Sent under plain cover.

Be a Master of JU-JITSU

Amazing new methods show you how to "get tough" and make any attacker helpless with lightning speed — or money back. The Morley Rapid Ju-Jitsu Course teaches you all the knock-out blows, shows you how to throw a stronger man helpless to the ground, gives absolute mastery. Develops body, gives self-confidence. You can acquire this devastating weapon in a few weeks. Both sexes. Complete system 10/- (41/50). Details 11d. Powerful arms course 2/9. Powerful chest 2/9. J. J. MORLEY (H/90), Terry House, Naphill, High Wycombe, England. Established 1936



Is This Saw in Your Kit?


You can cut almost anything in wood with this Coping Saw. The blade is 6 1/2 ins. long and can be turned to cut at any angle. No tool-bit is complete without one. Get yours NOW.

6/-
Post Free


Buy from any Hobbies Branch or post free from Hobbies Ltd., Dept 99, Dereham, Norfolk




TOOLS FOR THE HANDYMAN



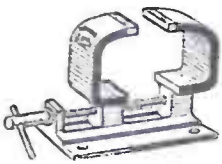
TOOL CLIP
For holding any handled tool. Spring steel. Holed for hanging.
7 1/2d. each




STEEL CUTTING TABLE
With clamp for easy fixing to bench. 6ins. by 4ins., strong and light. 2/6




BENCH STOP
3 1/2 ins. by 2 ins. — Spring loaded top. 6/6



SINGLE HANDED SCREWDRIVER
5 ins. long. Ideal for small work. 1/9



MODEL MAKER'S BENCH VICE No. 1
Strong, light and rigid. 2 in. opening. 6/9



FRETWORK HAMMER
8 ins. long. Strong and light for small work. 1/5

Obtainable from Hobbies Branches in London, Glasgow, Manchester, Birmingham, Leeds, Sheffield, Hull, Southampton, Bristol and ironmongers everywhere. Or post free from Dept. 99, Hobbies Ltd., Dereham, Norfolk.

J. WOTTON (Dept. H.)
140 HOLLINGS ROAD, BRADFORD, YORKS.

ALL TYPES OF MOULDS

3/- each
TOYS, ORNAMENTS, PLAQUES, ETC.
New 1952 Illustrated Catalogue. Send 6d. stamps, refunded on first order over 10/-.

H.A.C. SHORT-WAVE EQUIPMENT

Suppliers for over 18 years of Radio S.W. Receivers of quality.

One Valve Kit, Price 25/- **Two Valve Kit, Price 50/-**

Improved designs with Danco coils. All kits complete with all components, accessories and full instructions. Before ordering, call and inspect a demonstration receiver, or send stamped addressed envelope for descriptive catalogue.

'H.A.C.' Short Wave Products, (Dept. 22.)
11 Old Bond Street, London, W.1

STOP SMOKING

You can overcome the smoking habit in 3 days or money back. Safe, pleasant, permanent. The only scientific way. No Will Power necessary. "Conquered the habit in 2 1/2 days. Am delighted!"—F.C. "Within 2 days I was free from the tobacco habit!"—W.G. "Was a smoker for 2 years and broke the habit in 2 days!"—F.N. "I haven't smoked a cigarette for 5 weeks!"—J.E. "I used to smoke 20 a day . . . now I have no desire to smoke!"—J.M. Recommended by "Health and Efficiency Magazine". Complete course 6/6. Details 11d. stamp. Sent under plain cover.—STEBBINGS, 28 (H/107), Dean Road, London, N.W.2. Established 1928.

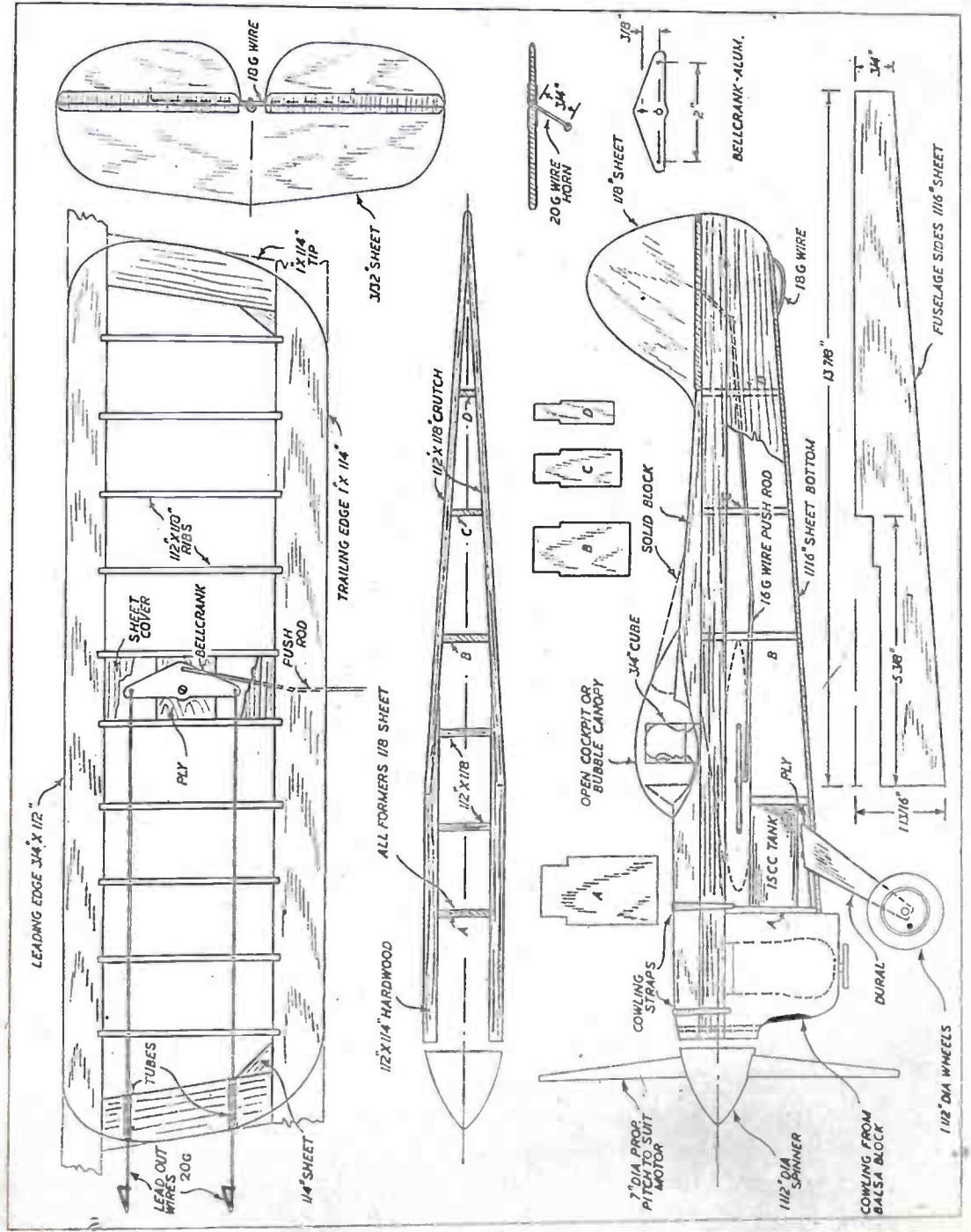
GRIPS the SCREW and DRIVES IT HOME INTO THAT AWKWARD SPOT!

IT'S SO QUICK, SO EASY, SO SURE!
WITH THIS NEW "GRIP" DRIVER!



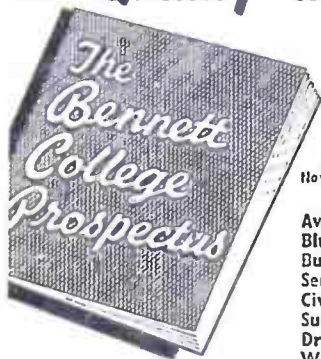
Grips smallest grub screw or large wood screw—firmly, instantly—and drives it quickly home into any awkward spot. Saves time, labour and temper.

ORDER TODAY 4/- **MAILEX SUPPLY CO. (K)**
Post paid for only COLWYN BAY, DENBIGHSHIRE



FREE!

to those who wish to Qualify in any of these subjects



Now where does your career lie?

- Accountancy Exams •
- Aviation - Eng. & Wireless •
- Blueprints • Book-keeping •
- Building • Chemistry • Civil Service • Commercial Art •
- Civil Eng. • All Commercial Subjects • Diesel Engines •
- Draughtsmanship • Electric Wiring & Lighting • General Cert. of Education • Internal Combustion Engines •
- Joinery & Carpentry • Languages • Mech. Eng. • Motor Eng. •
- Mathematics • Public Speaking •
- Plastics • Plumbing • Press Tool Work •
- Quantity Surveying • Radio Service Engineering •
- Radio (Short Wave) • Sheet Metal Work •
- Salesmanship • Short Tech. Courses •
- Secretarial Exams. • Shorthand •
- Surveying • Teacher of Handicrafts •
- Telecommunications • Television •
- Transport • Viewers, Gaugers & Inspectors •
- Wireless Telegraphy •
- Works Management •
- Workshop Practice •
- and many others

You can start on a Bennett Course

FOR ONLY **30/-** and monthly instalments of 15/-

This book costs you nothing.
But it offers you success in terms of your career.

BY POST, specialised Tutors in these and many other subjects give individual and understanding attention to Bennett College Students to whom books are free. Tuition is guaranteed until you qualify. State your subject. Send coupon for prospectus as it applies to you.



To the Governor, Dept. W.62.

The BENNETT COLLEGE

SHEFFIELD, ENG.

Send me the free book on how I can Qualify in.....

(subject)

NAME

ADDRESS

AGE (if under 21)

PLEASE WRITE IN BLOCK LETTERS

Printed by BALDING & MANSSELL, LTD., London and Wisbech, and Published for the Proprietors, HOBBS LTD., by HORACE MARSHALL & SON, LTD., Temple House, Talbot Street, E.C.4. Sole Agents for Australia and New Zealand: Gordon & Gotch (A/asia) Ltd. For South Africa: Central News Agency Ltd. Registered for transmission by Canadian Magazine Post.

BROOK GRYPHON

FRACTIONAL H.P. ELECTRIC MOTORS



If you're particular about your hobby . . . meticulously careful in your work . . . you'll appreciate the craftsmanship in the BROOK 'GRYPHON'.

Well designed—sturdily built—as reliable as the larger electric motors BROOK have been building for a half a century. In single phase types to suit your homeworkshop voltage; or, if you're running a full time business, the three phase types will cover all your requirements.

0.165 to 1.0 horse power.



1.LJ.234.

Take up picture-making for your hobby this summer



JOHNSON OUTFITS FOR HOME PHOTOGRAPHY

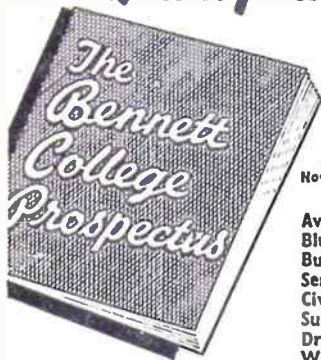
This picture shows the No. 1 Printing Outfit containing everything necessary for making prints from your own negatives. Can be used for the dish development of roll film. It includes plastic printing frame, safelight lamp, dishes, measure, all chemicals and detailed instructions. **32/6**

To learn how simple photography can be, get a copy of the book entitled **NEW HOME PHOTOGRAPHY**—96 pages, 130 illustrations. Your dealer has it, or a copy will be sent for 2/6, post free, if you mention **HOBBIES WEEKLY**.

There are four larger outfits in the series or you can buy the additional items singly as the standard of your work improves

JOHNSONS OF HENDON, 335 HENDON WAY, N.W.4

FREE! to those who wish to Qualify in any of these subjects



Now where does your career lie?

- Accountancy Exams •
- Aviation • Eng. & Wireless •
- Blueprints • Book-keeping •
- Building • Chemistry • Civil Service • Commercial Art •
- Civil Eng. • All Commercial Subjects • Diesel Engines •
- Draughtsmanship • Electric Wiring & Lighting • General Cert. of Education • Internal Combustion Engines • Joinery & Carpentry • Languages •
- Mech. Eng. • Motor Eng. • Mathematics • Public Speaking •
- Plastics • Plumbing • Press Tool Work • Quantity Surveying • Radio Service Engineering • Radio (Short Wave) • Sheet Metal Work •
- Salesmanship • Short Tech. Courses • Secretarial Exams. • Shorthand • Surveying •
- Teacher of Handicrafts • Telecommunications • Television • Transport • Viewers, Gauges & Inspectors • Wireless Telegraphy • Works Management • Workshop Practice • and many others

You can start on a Bennett Course

FOR ONLY **30/-** and monthly instalments of 15/-

This book costs you nothing.
But it offers you success in terms of your career.

BY POST, specialised Tutors in these and many other subjects give individual and understanding attention to Bennett College Students to whom books are free. Tuition is guaranteed until you qualify. State your subject. Send coupon for prospectus as it applies to you.



To the Governor, Dept. W.62.

The BENNETT COLLEGE
SHEFFIELD, ENG.

Send me the free book on how I can Qualify in.....

(subject)

NAME

ADDRESS

AGE (if under 21)

PLEASE WRITE IN BLOCK LETTERS

Printed by BALDING & MANSELL, LTD., London and Wisbech, and Published for the Proprietors, HOBBIES LTD., by HORACE MARSHALL & SON, LTD., Temple House, Talis Street, B.C.A. Sole Agents for Australia and New Zealand: Gordon & Gotch (A'sia) Ltd. For South Africa & Central News Agency Ltd. Registered for transmission by Canadian Magazine Post.

BROOK GRYPHON
FRACTIONAL H.P. ELECTRIC MOTORS



If you're particular about your hobby . . . meticulously careful in your work . . . you'll appreciate the craftsmanship in the BROOK "GRYPHON".

Well designed—sturdily built—as reliable as the larger electric motors BROOK have been building for a half a century. In single phase types to suit your homeworkshop voltage; or, if you're running a full time business, the three phase types will cover all your requirements.

0-166 to 1-0 horse power.



1.LJ.234.

Take up picture-making for your hobby this summer



JOHNSON OUTFITS FOR HOME PHOTOGRAPHY

This picture shows the No. 1 Printing Outfit containing everything necessary for making prints from your own negatives. Can be used for the dish development of roll film. It includes plastic printing frame, safelight lamp, dishes, measure, all chemicals and detailed instructions. **32/6**

To learn how simple photography can be, get a copy of the book entitled **NEW HOME PHOTOGRAPHY**—96 pages, 130 illustrations. Your dealer has it, or a copy will be sent for 2/6, post free, if you mention **HOBBIES WEEKLY**.

There are four larger outfits in the series or you can buy the additional items singly as the standard of your work improves

JOHNSONS OF HENDON, 335 HENDON WAY, N.W.A