HANGING BOOKCASE
FOR THE MODERN HOME
August is named after Emperor Augustus, a grand-nephew of Julius Caesar; his original name was Octavius. His flatterers called him 'Augustus' meaning 'the noble one. After the thirty-one days in July one would expect August to be a short month. The Romans, however, did not want Augustus to be jealous of Julius Caesar’s extra day, so taking a day from September, they tacked it on to the end of August.

The Saxon name for it was Arnonat, or barn-month, because about this time the barns begin to be filled with the produce of the harvest. The ancient name for it was Sextilis, so called because, according to the old reckoning it was the sixth month of the year.

'It used to be customary for people to give money to their servants on the first of August. This gift was called 'glove silver', as it was originally intended to buy gloves with. Another annual custom on the same day was for every family to subscribe one penny to the Pope, and this went by the name of 'Peter's Penny'.

Some August anniversaries which may be depicted in stamps:

2nd 1934, Von Hindenburg died - Germany 1932, 4p. blue - President Hindenburg - 1d. used.

'29th, Michaelmas Day: The custom of eating goose on this day originated, it is supposed, from this being quarter-day. Tenants made presents in kind to their landlords when they paid their rent - the majority, gave a fat stubble-fed goose.

Old sayings:
'So many days old the Moon is on Michaelmas day, so many floods after.'
'September blow soft
Till the fruit's in the loft.'

Other September anniversaries, etc., which may be depicted in stamps:

29th, Michaelmas Day: The custom of eating goose on this day originated, it is supposed, from this being quarter-day. Tenants made presents in kind to their landlords when they paid their rent - the majority, gave a fat stubble-fed goose.

Old sayings:
'So many days old the Moon is on Michaelmas day, so many floods after.'
'September blow soft
Till the fruit's in the loft.'

The fixing of dates in the calendar has been subject to change in various parts of the world and at different periods in history. The Latin derivation of the word 'September', for instance, shows it to have been at one time the seventh month of the year (Septem: seven).

Harvest Home has been an old English custom from time immemorial. It took place at the close of the harvest, when the last load of grain was carried from the field amid general rejoicing.

Old sayings:
'So many days old the Moon is on Michaelmas day, so many floods after.'
'September blow soft
Till the fruit's in the loft.'

The fixing of dates in the calendar has been subject to change in various parts of the world and at different periods in history. The Latin derivation of the word 'September', for instance, shows it to have been at one time the seventh month of the year (Septem: seven).

Harvest Home has been an old English custom from time immemorial. It took place at the close of the harvest, when the last load of grain was carried from the field amid general rejoicing.

Old sayings:
'So many days old the Moon is on Michaelmas day, so many floods after.'
'September blow soft
Till the fruit's in the loft.'

The fixing of dates in the calendar has been subject to change in various parts of the world and at different periods in history. The Latin derivation of the word 'September', for instance, shows it to have been at one time the seventh month of the year (Septem: seven).

Harvest Home has been an old English custom from time immemorial. It took place at the close of the harvest, when the last load of grain was carried from the field amid general rejoicing.

Old sayings:
'So many days old the Moon is on Michaelmas day, so many floods after.'
'September blow soft
Till the fruit's in the loft.'

The fixing of dates in the calendar has been subject to change in various parts of the world and at different periods in history. The Latin derivation of the word 'September', for instance, shows it to have been at one time the seventh month of the year (Septem: seven).

Harvest Home has been an old English custom from time immemorial. It took place at the close of the harvest, when the last load of grain was carried from the field amid general rejoicing.

Old sayings:
'So many days old the Moon is on Michaelmas day, so many floods after.'
'September blow soft
Till the fruit's in the loft.'

The fixing of dates in the calendar has been subject to change in various parts of the world and at different periods in history. The Latin derivation of the word 'September', for instance, shows it to have been at one time the seventh month of the year (Septem: seven).

Harvest Home has been an old English custom from time immemorial. It took place at the close of the harvest, when the last load of grain was carried from the field amid general rejoicing.

Old sayings:
'So many days old the Moon is on Michaelmas day, so many floods after.'
'September blow soft
Till the fruit's in the loft.'

The fixing of dates in the calendar has been subject to change in various parts of the world and at different periods in history. The Latin derivation of the word 'September', for instance, shows it to have been at one time the seventh month of the year (Septem: seven).

Harvest Home has been an old English custom from time immemorial. It took place at the close of the harvest, when the last load of grain was carried from the field amid general rejoicing.

Old sayings:
'So many days old the Moon is on Michaelmas day, so many floods after.'
'September blow soft
Till the fruit's in the loft.'

The fixing of dates in the calendar has been subject to change in various parts of the world and at different periods in history. The Latin derivation of the word 'September', for instance, shows it to have been at one time the seventh month of the year (Septem: seven).

Harvest Home has been an old English custom from time immemorial. It took place at the close of the harvest, when the last load of grain was carried from the field amid general rejoicing.

Old sayings:
'So many days old the Moon is on Michaelmas day, so many floods after.'
'September blow soft
Till the fruit's in the loft.'

The fixing of dates in the calendar has been subject to change in various parts of the world and at different periods in history. The Latin derivation of the word 'September', for instance, shows it to have been at one time the seventh month of the year (Septem: seven).

Harvest Home has been an old English custom from time immemorial. It took place at the close of the harvest, when the last load of grain was carried from the field amid general rejoicing.

Old sayings:
'So many days old the Moon is on Michaelmas day, so many floods after.'
'September blow soft
Till the fruit's in the loft.'

The fixing of dates in the calendar has been subject to change in various parts of the world and at different periods in history. The Latin derivation of the word 'September', for instance, shows it to have been at one time the seventh month of the year (Septem: seven).

Harvest Home has been an old English custom from time immemorial. It took place at the close of the harvest, when the last load of grain was carried from the field amid general rejoicing.

Old sayings:
'So many days old the Moon is on Michaelmas day, so many floods after.'
'September blow soft
Till the fruit's in the loft.'

The fixing of dates in the calendar has been subject to change in various parts of the world and at different periods in history. The Latin derivation of the word 'September', for instance, shows it to have been at one time the seventh month of the year (Septem: seven).

Harvest Home has been an old English custom from time immemorial. It took place at the close of the harvest, when the last load of grain was carried from the field amid general rejoicing.

Old sayings:
'So many days old the Moon is on Michaelmas day, so many floods after.'
'September blow soft
Till the fruit's in the loft.'
Illusion by 'Mystifier'

Sawing a Matchbox in half

We must now explain the simple preparation of the box if you are to perform this cunning trick. Obtain a matchbox as suggested — and you will, perhaps, now see why the longer variety is more suitable — remove the drawer and lay aside the matches. Take a razor blade and carefully cut the outer case of the box down the centre, making a fine slot for the card to about ⅛ in. from the bottom edge, as shown in Fig. 1. It is essential that you make a clean, fine cut, noting that a penknife is much too thick in the blade for the slot will be too obvious. When the box is originally brought from the pocket and held between finger and thumb, a little inward pressure at both ends by the two fingers is sufficient to close this little piece of deception.

We now turn our attention to the drawer, cutting away an aperture from the bottom and one edge 1 in. wide, as shown in Fig. 2. Glue one or two pieces of card to the remaining portions at the sides of this slot, finishing off with a few matches firmly glued to the packing. One or two loose matches may be added when dry, and if they do drop out during the presentation, it will only assist in making the illusion look much more real. Note that when the drawer is ‘pushed’ through the card, it is best to apply the pressure to the lower edge which has not been cut, and the movement should be quite slow and not too far.

You will be able to prepare this trick very quickly indeed, it is handy for the pocket and will completely mystify your friends. A postcard may be used instead of a playing card if desired, but don’t forget to make the sawing action when cutting your way through the matchbox.

A Hanging Bookcase

A BOOKCASE for hanging on the wall is needed in every home, and our design, illustrated on the front page, shows a neat example which could comfortably be fitted out of the way into an alcove, possibly over a writing desk where it would be handy for quick reference to any book.

The bookcase, which is 36 in. wide and 35 in. high, has two shelves and a top. It is backed with plywood for neatness and cleanliness.

All the measurements needed are given on the design sheet. It will be noted that the shelves are shown as fitted with housing joints, but for those not conversant with this type of joint, the shelves can be added by butting, pinning and gluing. In this case slight adjustment will have to be made to the lengths of the shelves.

Hobbies kit consists of furniture panels, in the cutting of which there is very little waste, and two panels of plywood which are butted in the centre and glued and screwed to the shelves. Note that shelves B, have rebates cut into them to take the plywood so that it fits flush. The shaped sides, the markings for which are shown on the design sheet, should be cut out with a fretsaw.

For hanging, bore two holes in the plywood back underneath the top shelf, Rawplug the wall and fix with screws.

A popular finish will be by staining and polishing or varnishing, or some may chose to paint.
**Final instructions**

**FINISHING THE PORTABLE**

The loudspeaker panel can now be made, using $\frac{3}{8}$ in. plywood glued to Formica sheet. The design is shown in Fig. 11. A $\frac{1}{2}$ in. strip of the same plywood is glued to the top back edge for the hinges to hold on to. The position of these is found from the dial panel.) The bolts to hold the speaker could be countersunk into the plywood before gluing to the Formica. Then glue on the speaker fabric.

Bolt on the speaker, preferably a 5 in. Elac. Then, with short bolts attach the output transformer to the speaker. The two thick leads from the transformer should then be joined to the two tags on the speaker which lead to the cone.

Join together the speaker and dial panels by means of the hinges. Then solder the orange (O.T.) lead from the set to one tag of the output transformer primary winding (this is of thin wire). The other tag of the same winding is soldered to the free lead from the H.T. plug. Then across the same two tags solder C16 (005). Always remember the O.T. primary is of thin wire.

(See A, B, C, D.) Two holes (countersunk on the outside) are drilled through AD, about an inch apart, and grooves cut to them (see Fig. 12b). A further hole is drilled at the far end of the left groove. The former, grooves and holes are varnished, to insulate them further, and then 6B.A. bolts are fixed in with nuts. 24 gauge enamelled wire is used for the winding. The start of the wire is threaded through and looped round the adjacent bolt. 12 turns (close-wound) are put on round the former, and the end brought up via the groove to the second bolt. The winding is then covered with $\frac{1}{2}$ in. by $\frac{3}{8}$ in. stripwood all round (pinned and glued) which will come up flush with the outside limits of the plywood lid. Thin veneer strips are then glued over the stripwoods to hide the gap in which the winding lies.

The leads from the set are joined to the bolts on the frame aerial (which is stood up on end) and the batteries are plugged in. Plug in the valves in their correct holders. Now we are ready to align the set.

Set the pointer to the Third Programme on 464 m. Switch on and turn up the volume. Then adjust the oscillator slug (L2) until the programme is heard at maximum. Then turn the pointer to the Light Programme (247 m.) and adjust the trimmer C4 until the Light is heard at its loudest.

Set the pointer to Third again and again adjust the slug of L2 until the programme is heard at maximum. Then turn the pointer to the Light Programme again and again adjust the trimmer C4. Repeat these operations until no further improvement

---

Fig. 11

Fig. 12

Fig. 13

Fig. 14
is possible. Finally, turn to Light and adjust trimmer C3 for maximum output.

The set is now aligned and can be switched off, and the construction of the case started. This is easily made and the details are seen in Fig. 13. ¼ in. plywood is used for the sides and partition and ½ in. ply for the bottom. Simple butt joints are used and the parts are glued and pinned. ¼ in. fillets in each corner strengthen the case and also serve as resting points for the set panels.

When assembled, the case should have the set tried in position to see if all fits correctly. If satisfied, the covering of the case can be undertaken. There are many plastic-faced cloths to choose from, also pure plastics such as Fablon, which is self-adhesive. The material should cover the outside of the case and lap over into the interior by about ¼ in. or so. The lid (with frame aerial) should be detached from the set and covered over, both outside and in, then hinged to the case with brass hinges (¼ in. by ¼ in.).

The set is fixed into the case securely by drilling holes through the sides of the case at V and W and driving chromium-headed screws in the plywood filling between the metal chassis and front panel, taking care not to hit bolts Q and R.

The rubber feet and strap-handle are easily fitted to the case.

A stay will be needed to hold open the lid and this is fashioned from strip brass or aluminium as in Fig. 14. It is ⅛ in. by ⅝ in. The top (lid) end is fixed by a screw. The bottom slot is held by a nail or thin screw driven through the plywood panel below the Formica, at right angles to the slot S sawn in the front panel (S. Figs. 9a and 14).

In this circuit the frame aerial is the aerial tuning coil. This is the conventional method with portables. But the reader may like to try another method, which was used by the writer with results superior to those obtained by the conventional method.

First, the frame aerial leads are disconnected from the set. The G4 lead to the chassis tag is removed entirely and the lead from C3 through G3 is cut off just before the grommet.

A medium-wave aerial coil (dust-covered) is fixed on the chassis near G4 grommet, well away from and at right angles to the axis of L2.

### Stand for a Cookery Book

**A simple fretwork project which will please the lady of the house**

Here is a simple gadget which is sure to please the womenfolk when they have to make reference to a cookery book whilst baking. Instead of propping the book against a packet of flour, etc., this handbook stand keeps it open at a readable angle. The stand is very simple to make and does not take very long to complete.

The upright members are made to slide along the two horizontal bars so that the stand can be adjusted to suit different sizes of books. These uprights are made from ½ in. thick plywood and are cut to the shape shown. Use your fretsaw to cut out these two members. Once cut, bore two ⅛ in. diameter holes in the positions indicated to receive the horizontal rails. Use a sharp bit for this job and bore from both sides to prevent spoilling.

The two rails are obtained from ¾ in. diameter dowelling rod. The length of these rails can be made to suit your own books, but 12 ins. will be found to be quite adequate in most cases. Round off the ends of the rails to give a neater finish.

After this, glasspaper the rails very lightly to make a 'sliding' fit in the holes previously made in the uprights. Be careful not to make them too slack otherwise the stand will be wobbly.

To complete, apply a coat of lacquer in any desired colour.

(F.K.)
In a previous issue we suggested a plan for taking perfect pictures and we then indicated the method of exposing for ideal negatives. We now examine the problem of making high quality prints, whether they be contact or enlargements.

No matter how carefully one operates the camera and processes the film, our negatives will vary according to the subject involved. We may take pictures of brilliant subjects in brilliant light and we can only expect a negative of the same calibre; while the woodland scene may be just the reverse and a little flat. The answer is in the selection of a suitable printing paper to match the negative and here we should mention that we are not only confronted with the correct grade but also the base tint and surface texture. Each of these three factors makes its contribution in correcting the brightness range of the resultant print and it will perhaps be better to discuss these before one can exercise judgment.

Personal taste plays a large part in the selection of a paper but it must be emphasized that you cannot entirely ignore the picture subject itself, no matter what is your personal preference, and we must always aim at a harmonious relationship. You will recognize the importance of this in a moment but first let us explain the various base tints. Most printing papers are made with white, ivory or cream base tints. While a cream base would be unsuitable for a snow scene it would be ideal for the sunny woodland picture. Generally, the three tints are used as follows:

- **White** based paper is used for technical purposes and for pictorial subjects demanding intense white with cool image tones, e.g. snow and sea pictures.
- **Ivory** tinted papers yield slightly warmer tones than white and are favoured for portrait work.
- **Cream** based papers are excellent for all prints involving sunlight or even weak artificial light. They are also used for character portraits and low key studies, producing nice effects when sepia toned.

The foregoing will assist you in selecting the correct base tint but another factor, also often a matter of personal taste, is the texture of the paper surface. The majority of papers in each base tint are made in different surface textures, smooth, velvet, fine grain, silk and rough while the resultant sheen is glossy, lustre or matt. Of all these different surfaces only the glossy produces prints with a maximum brightness range and consequently it is always used for reproduction purposes. Semi-matt, or lustre surfaces bear a sheen and improve the aesthetic appearance. The grained textures do not produce the detailed image of the smooth papers but they do suppress any graininess in the negative. The latter are widely used for large, exhibition prints where special effects are desirable. The rougher textured papers scatter the light falling on their surface and this explains why they often appear to lack brilliance, although looking brighter when wet.

**Correct matching**

The next important step in producing a quality print is correct matching of the negative with a suitable contrast grade of paper. Here it is necessary to explain the difference between our negatives. A 'hard' negative is one with a limited range of grey tones between the highlights and the shadows. A 'soft' negative is rather flat looking and has a large number of steps, but the 'normal' negative lies just between these two extremes.

You must learn to judge these different types of negatives and it is better to lay them on a sheet of white paper rather than hold them up to the light, noting that the paper contrast to choose is the direct opposite of the description. The object of this is to select a paper which will print as many tones as those of the negative and obviously this paper must have an exposure scale corresponding to the difference in density between the lightest and darkest areas of our negative.

This may be all very well from the theoretical point of view, but, unfortunately it is not always possible to produce the range of tones in the negative, for in practice it is found that the range of tone scales for paper is less than for film. Consequently, we say that a paper has a high or low exposure scale, but we mean that it will produce a large number of tones of grey, a medium number, or only a few. The paper with the full range is...
termed the ‘soft grade,’ that with the lowest range is termed ‘hard’ and the medium ranged paper is the ‘normal’ grade. In other words, the terms soft, normal or hard tell us how many different tones of grey will print out between black and white.

If all your negatives were normal you would only need to buy a normal grade of paper. In practice we meet another obstacle. The subject may have had either flat or brilliant lighting — as mentioned earlier — or it may have been strongly lighted from one side only, and for these reasons you may have either a hard or soft negative instead of the normal type.

The normal grade of paper is best for general use wherever possible but if you have a soft negative that would print out with a flat result on normal paper you will obtain a more brilliant picture on a hard grade of paper. If your negative is of the hard type it would only produce a soot-and-whitewash effect on the normal paper so we have to turn to the soft grade.

It should, however, be understood that there are no hard and fast rules about this choice of paper grade. Some workers deliberately select a grade to produce a singular effect, falsifying tones for novelty, but if you are not yet so advanced in processing it is wiser to stick to normal printing until the necessary experience has been gained.

While the practice varies with different manufacturers it is not unusual to find the following contrast grades available:

- 0 Extra Soft 3 Vigorous, or
- 1 Soft       2 Normal
- 4 Extra Vigorous

From this it will be seen that there is a wide variety of papers ranging from the long exposure scale in the case of extra soft to the shorter of the extra vigorous. It is very difficult, if not impossible, to make a hard paper produce soft effects owing to this short range, but it is true to say that brilliance is lost if a hard paper is stored for a considerable time. On the other hand we can often brighten a normal grade by adjusting the developer.

It is interesting to note that there is a printing paper now on sale which has a variable contrast, but printing is done through yellow screens of different strengths. This is known under the trade name of Multigrade and is made by Ilford Ltd.

Having explained the grades of contrast it becomes possible to give the following principles:

If the negative Select paper grade is — of —
Flat Extra hard
Soft       Hard
Normal     Normal
Hard       Soft
Very Hard  Extra Soft

You should also remember that as the surface sheen of the texture departs from glossy to rough the brilliance diminishes proportionately.

All illustrations in this feature are by courtesy of Ilford Ltd.

**Brass Rubbings with Heelball**

Following the publication of our article in the issue of May 20th, on taking brass rubbings, we have received an interesting letter on this subject from G. S. W. Harding of 9 Briton St, Leicester, who was apprenticed to masonry, and one of his early hobbies was taking rubbings from old slate headstones in churchyards around Leicester. His equipment consisted of a small nail brush, piece of clean cloth, pencil, cobbler's heelball of various colours and greaseproof paper, and he sent me some good examples of the success to be enjoyed by this method. If the article to be copied is covered with algae or similar growths, it should be scrubbed clean, using water, says Mr. Harding. When the stone is quite dry, apply the paper and rub the heelball sharply and firmly across the design.

Mr. Harding does not advocate the use of a coarse, stiff wire brush, particularly on brass, which may be soft, and he points out that unless a fixative is applied to a charcoal rubbing it will quickly become blurred. There was no evidence of any blurring in the samples sent by Mr. Harding, which were taken by the heelball method.

Next week we shall start a series of articles on making model aircraft, describing a Catapult Glider. Make sure of your copy.
The Editor's comments

1959 COMPETITION AWARDS

The design for a Viking Thermometer Plaque was obviously particularly attractive to our readers, as was instanced by the big increase in entries for the 1959 Fretwork Competition.

This entailed considerable work for the judges, whose main awards are detailed on page 297. The title of 'Champion Fretcutter' has passed to Mr D. H. Goddard of Ealing, London, who now holds the Silver Challenge Cup for a year, and with which award goes a replica for permanent keeping, and a voucher for 15 guineas enabling him to obtain Hobbies goods to that value.

Congratulations, Mr Goddard, in running so true to form and following up your last year's second with an outright win. This follows a tenth award in 1957, running so true to form and following up the winner's remarkable consistency.

First attempt

As a direct contrast, the second prizewinner, Mr W. J. Hart (also of London), was successful in his first attempt in this competition and obviously can be well satisfied with his high placing. In fact, he was sandwiched between two well-known exponents of the art of fretcutting, for the third award was gained by Sherrard Hamilton, of Bristol, who in recent years has been placed ninth, third, twelfth and second. Incidentally, Mr Hamilton has been a competitor for many years and his latest success speaks well for his maintained ability and skill.

Other main award winners included C. Southwell, R. H. Watts and R. Wines, whose names have also appeared in previous lists, the latter incidentally being champion in 1957, but we were pleased to see that newcomers are challenging for the main places and the quality of their work augurs well for future keen competition.

In fact, the new names which appeared among the increased entries for this year's competition emphasises that many more of our readers have decided to have a go at obtaining one of these valuable awards. Included in the senior entry were several pieces from 16-year-old lads whose work compared very favourably with others of more mature age. In this connection we were particularly pleased to record the award of a special voucher to R. Phillips of Matlock, Derbys, who is only 16 and his success was emulated by Neil Tiller of Wisbech, Cambs., who is 18, while at the same age J. Cheyne entered the main prize list.

At the other end of the age scale we had Mr F. W. Howes of Huntingdon who, although aged 71, yet submitted work of such meritorious standard as to win for him a special prize voucher.

Talking of ages, the 'Daddy' of all entrants was Mr Joseph White of Heaton, Newcastle-on-Tyne, who meticulously stated his age as 74½. Also competing was another Mr White, this time from Doncaster, who is 73, and Mr J. C. Laws of Penarth, S. Wales, who is 72. A comparative 'youngster' was Mr J. Thorndyke of Edmonton, London, who at the age of 64 gained a special award.

As was to be expected, the majority of entries in the Junior section were submitted by lads aged 14, 15, the youngest being nine-year-old Brian Nye of Sharnbrook, Nr. Bedford, but it is worthy of note that one of the entrants aged only 10, Ian Strugnell of Loughton, Essex, was placed tenth in his section — very commendable for one so young and inevitably lacking the experience of the older boys.

As for the models themselves, it was the general view of the judges that the standard achieved was the highest since the contest was instituted. Generally, the cutting was quite good and in some cases reached perfection. Many of the entries showed evidence of a great deal of thought and enterprise in the finishing, and some very effective results were obtained. In particular we liked the care evidenced in the entry of Mr D. Wood of Carshalton, Surrey, especially in the delightful coloured effects obtained on the shields surrounding the Viking ship.

Mr Wood was another winner of one of the many additional special prize vouchers.

Points to note

In general, the design was followed faithfully, although one or two competitors had avoided some of the more intricate cutting around the shields and endeavoured to overcome this by painting in. In other instances provision had not been made for the insetting of the thermometer into the sail of the vessel, as was clearly indicated on the design sheet. The thermometer thus stood 'proud' where it was intended that it should be protected from damage by being inset.

There were one or two minor mishaps to entries, chiefly resulting from the worker not ensuring that the overlay was firmly glued in position to the background. The background had been finished in either paint or polish but sufficient of the finish had not been scraped away before the addition of the overlay, which would have ensured a good 'key' for the adhesive. One or two entries were also submitted in marquetry, but although this was suggested as an alternative finish it was not intended to be used for competition purposes, and this fact was again clearly indicated in the instructions.

In view of the high standard achieved, we would like to comment individually on some of the main winning entries.

Mr Goddard's plaque was really outstanding. It was cut to perfection, all outlines being perfectly clean, and it was a real test through which he came with flying colours. It was impossible to find fault with any feature. Using a blue background with the overlay in natural wood, Mr Goddard had polished his entry until it had a glass-like surface.

Mr Hart had chosen a painted finish, of which he had made intelligent use. It was, of course, a subject which lent itself admirably to colour. C. Southwell, R. Wines and G. Gibbins had also used a paint finish to quite good effect.

Neat and accurate

As was to be expected from such an experienced campaigner, the entry from Mr Hamilton also showed excellent cutting, with the receding lines tapering off to knife-like edges. Although satisfied with quite a simple finish, he gained many points for neatness. N. E. Jenkins and R. H. Watts also revealed nice cutting and their finish was in two shades of brown, a colour scheme which was also used most effectively by A. D. Phillips and F. W. Willoughby.

S. W. Thomas and J. Cheyne who gained eighth and ninth prizes respectively, submitted excellent work which emphasised the importance of care in finish, and although there were minor cutting mistakes the overall presentation was very effective.

The First and Second winners in the Junior section were way out in front in all respects. J. Ratcliffe only gained the premier award after a careful and minute study of his cutting compared with that of Nicholas Verrall. The winner's entry was neatly finished in colour and he will obviously give serious threat to the seniors when he enters their competitive ranks next year. For finish the work of the runner-up was highly meritorious. In fact, in this respect there was nothing better in the whole of the competition — senior or junior. Nicholas, who incidentally was placed first in this section last year, displays an artistic talent of which he can well be proud.
THE MAIN WINNERS

OPEN SECTION

FIRST PRIZE

Silver Challenge Cup, Replica and Voucher for £15 15 0


Second Prize
Voucher for £12 12 0
W. J. Hart, 41 Waterlow Road, London, N.19.

Fourth Prize
Voucher for £7 7 0
Colin Southwell, Gull Road, Guyhirn, Wisbech, Cambs.

Seventh Prize
Voucher for £3 3 0

Tenth Prize
Voucher for £2 2 0

Fifth Prize
Voucher for £5 5 0
N. E. Jenkinson, 143 Lupton Rd, Sheffield 8.

Eighth Prize
Voucher for £2 2 0
S. W. Thomas, 14 Arthur Street, Caerleon, Newport, Mon.

Twelfth Prize
Voucher for £1 10 6
J. W. Willoughby, 16 Park Avenue Saughall, Chester.

Third Prize
Voucher for £10 10 0
Sherrard Hamilton, ‘Sherardia’, 277 Badminton Rd, Downend, Bristol.

Sixth Prize
Voucher for £4 4 0
R. H. Watts, 52 Gaunt’s Rd, Chipping Sodbury, Bristol.

Ninth Prize
Voucher for £2 2 0
N. E. Jenkinson, 143 Lupton Rd, Sheffield 8.

JUNIOR SECTION

FIRST PRIZE
Voucher for £12 12 0

J. RATCLIFFE, POST OFFICE, GRAYRIGG, KENDAL, WESTMCRLAND.

Second Prize
Voucher for £7 7 0
Nicholas A. Verrall, 18 Kingston Ave., Stony Stratford, Bucks.

Third Prize
Voucher for £5 5 0
Edwin Hunter, Morton Mill, Thornhill, Dumfriesshire.

Fourth Prize
Voucher for £3 3 0
Alan Davies, 69 Ynyowen, Felinfael, Llanelly, South Wales.

Fifth Prize
Voucher for £2 2 0
R. Davies, 15 Thornton Rd., Ilford, Essex.

Sixth Prize
Voucher for £2 2 0
Roger Bacon, 53 Parkside, Somercotes, Derbyshire.

JUNIOR SECTION

FIRST PRIZE
Voucher for £12 12 0

J. RATCLIFFE, POST OFFICE, GRAYRIGG, KENDAL, WESTMCRLAND.

Second Prize
Voucher for £7 7 0
Nicholas A. Verrall, 18 Kingston Ave., Stony Stratford, Bucks.

Third Prize
Voucher for £5 5 0
Edwin Hunter, Morton Mill, Thornhill, Dumfriesshire.

Fourth Prize
Voucher for £3 3 0
Alan Davies, 69 Ynyowen, Felinfael, Llanelly, South Wales.

Fifth Prize
Voucher for £2 2 0
R. Davies, 15 Thornton Rd., Ilford, Essex.

Sixth Prize
Voucher for £2 2 0
Roger Bacon, 53 Parkside, Somercotes, Derbyshire.

AT HANDICRAFTS EXHIBITION

It is hoped that a representative selection of the winning entries, together with the Silver Challenge Cup which goes with the main award, will be on display at Hobbies Stand at the International Handicrafts and Hobbies Exhibition at Olympia, London, from September 3rd to 19th. Many of our readers will no doubt pay us a visit there, and they will also have the opportunity of seeing some of the fine work submitted for this competition.

In addition to the main winners listed, there were numerous awards of £1 vouchers and consolation prizes.
The speed of birds is often exaggerated, mating instincts urge the birds on, and need to hasten unduly, but in spring, their pace is more leisurely; they do not ten thousand miles apart. and winter haunts are something like pole, and it is estimated that its summer most birds of migration. The Arctic should be continued until recovery, vain. In all cases artificial respiration or until a doctor has certified that the person is discovered, it may well be in T for unless performed immediately the operations necessary for the Society's take the test, you will need to have an elementary knowledge of the anatomy and physiology of the circulation and respiration, and should obtain the Society's booklet of instruction, 4/-, post free, from The Royal Life Saving Society 14 Devonshire Street, Portland Place, London W.1.

The Speed of Birds

The distances covered by some of the migrant birds is remarkable, when we consider the frailty of most birds of migration. The Arctic tern, for instance, travels from pole to pole, and it is estimated that its summer and winter haunts are something like ten thousand miles apart.

Migrating birds often travel at top speed. In autumn, when they go south, their pace is more leisurely; they do not need to hasten unduly, but in spring, matters are different, for mating and mating instincts urge the birds on, and they make the best of their wing-powers. The speed of birds is often exaggerated, but it is known that certain bird travellers can put up a wonderful pace and keep it up for hours at a stretch.

When crossing a stretch of ocean migrants seldom dally, but hurry along at top speed until in sight of land again. Golden plover on migration will cover as much as 50 to 60 miles an hour, and many other birds maintain a speed of 30 to 40 miles for long distances. A peregrine hawk, for example, will fly at 60 to 70 miles an hour, and when chasing its prey may surpass this pace quite easily. Wild duck on migration can cover 50 miles in the hour. This, however, can be beaten by wild geese.

On one occasion, whilst assisting a gamekeeper in Northumberland, the speedometer of our car registered close on 50 miles an hour, over a mile of level going, as we crossed over to the fringe of Budle Bay from Bamburgh. A skein of wild pink-footed geese outstripped the car and went ahead of us. We judged their speed to be anything from 70 to 80 miles an hour.

Mallard duck have been timed to travel near the 50 m.p.h. mark, and pintails, chased by an aeroplane, covered 65 m.p.h. in their flight. The common Canada goose, now familiar in Britain's inland waters, normally flies between 40 and 45 miles an hour, but, if pressed for a rush of speed, could double that rate of travel.
what's in a name?

When the name is CASCAMITE—CASCAMITE “One Shot”—there's a great deal in it—for woodworkers. Once it's been tried, CASCAMITE is the glue in which every woodworker swears undying faith!

CASCAMITE “One Shot” has the outstanding performance of a resin glue yet does not require a separate hardener to make it set. Each tin contains the resin powder and the hardener, blended together in exactly the right proportions. For use, only one operation is necessary—simply mix with cold water. And for woodworking jobs (furniture making, joinery, boat building, etc.), joints made with CASCAMITE will be as strong as the wood itself, stain-free, heat resistant and waterproof.

Furthermore, joints can be successfully glued even when there are gaps between the surfaces of up to \( \frac{1}{16} \) in. Test this unique glue for yourself on your next woodworking job. Packed in 3½, 7 & 18 oz. tins (2/6, 4/- & 8/6 respectively).

And for a professional finish to your woodworking jobs, be sure to use casco Wood Stopper for filling cracks and knots, covering nail and screw holes, etc. It sets rapidly giving a hard surface which takes stain, polish or paint. Packed in 8 oz., 2 lb. and 8 lb. tins (2/-, 4/- and 10/6 respectively) and available in white, cream and 8 wood colours.

Stocked by Ironmongers, Builders’ Merchants, Handicraft Shops, etc.

SYNTHETIC RESIN & CASEIN GLUES
Manufactured by LECHESTER, LOVELL & CO. LTD NORTH BADDESLEY SOUTHAMPTON
Concluded from last article

FINISHING THE TELESCOPE

The altitude mounting on a section of main tube is shown in Fig. 3. A sheet of aluminium, brass or copper is cut 4 in. wide and long enough to extend ½ in. at each side on to the wooden lower section when the sheet is bent to the shape of the tube. This should hold the tube firmly when screwed home. The hole in the wooden unit should be of the same diameter as the bolt which will carry the wing nut for fixing the telescope at any desired altitude.

![Fig. 3](image)

Lastly we come to the lower mounting, shown in Fig. 4, which gives lateral movement. The two lower wooden discs are cut from 1 in. wood. The bottom disc is cut to a diameter that fits snugly into the drainpipe (or the hole in the wooden circle on the post). The triangular uprights are each cut from two pieces of wood, are glued together and should fit flush with the 6 in. disc and to which they are fixed by both glue and screws from beneath. The distance between the two is exactly the thickness of the wooden part of the altitude mounting. The lower disc is fixed by glue and a single central screw.

**Blacken the inside**

It is an advantage to blacken the instrument internally so as to cut out any reflection from the inner surfaces. The lens holders may be coated with indian ink and the tubes with dead black paint by means of a pull-through of cotton waste tied to a string.

The finish of the outside of the whole instrument is a matter of choice. If the tubes are of aluminium or aluminium alloy, no finish will be needed. If of brass, polish first and give a coat or two of shellac varnish. Steel should be painted. Aluminium paint looks imposing and bright. The mounting likewise should be painted.

Cleaning of the lenses has been mentioned. This should be done as little as possible, and that by lightly brushing with a camel hair brush or with an old soft silk handkerchief kept especially for the purpose in a closed jar. One has only to hold up a well used and much polished pair of spectacles in the sunlight to see how many fine scores exist on them. At the high magnifications of an astronomical telescope these fine scores can play havoc with definition. By covering each end of the instrument with tied on circles of plastic film when not in use it will be found that cleaning need only be done at intervals of several months.

To start one's survey of the heavens the moon is a good subject. Good lunar observation depends on shadows thrown by the sunlight and these conditions are obtained when the moon is not at full. To start with the crescent and follow it through to nearly full as the nights go by is an entrancing experience. Craters and mountains show up best when they are near the line where the sunlight ends and the dark part of the moon's surface begins. The longest shadows are thrown there. Do not miss the pin points of light showing just inside the dark area. These are mountain peaks catching the first rays of the sun before the lower ground is illuminated.

Sunspots are nearly always present on the sun. **NEVER LOOK AT THE SUN THROUGH YOUR TELESCOPE — not even using a smoked glass. Permanent damage to the eyesight can result.**

The correct way to see sunspots is to put on a pair of sunglasses, screw up the eyes and squint along the top of the telescope and roughly pointing it at the sun. Move the instrument until a bright flash is noticed below eye level in the eye piece. Turn your back to the sun and hold a white card a few inches away from the eye piece. The image of the sun appears as a circle. The spots will be seen on the image.

**Viewing the stars**

Do not expect your telescope to magnify a star to a disc. Not even the largest telescopes can do so. The stars are too far away. A star appears brighter and smaller and fainter stars around it, invisible to the unaided eye, will appear. Star clusters and nebulae may be found by systematically sweeping the heavens by moving the telescope sideways at various altitudes. Star maps will enable one to find them more easily. Your local or county library will be able to help you here.

The groups of stars, or constellations, remain fixed relative to each other and so star maps are permanently helpful. The case is different with the planets of the solar system. These move about and so star maps are permanently helpful. The groups of stars, or constellations, remain fixed relative to each other and so star maps are permanently helpful. The case is different with the planets of the solar system. These move about and so star maps are permanently helpful.

**Viewing the stars**

Do not expect your telescope to magnify a star to a disc. Not even the largest telescopes can do so. The stars are too far away. A star appears brighter and smaller and fainter stars around it, invisible to the unaided eye, will appear. Star clusters and nebulae may be found by systematically sweeping the heavens by moving the telescope sideways at various altitudes. Star maps will enable one to find them more easily. Your local or county library will be able to help you here.

**Viewing the stars**

Do not expect your telescope to magnify a star to a disc. Not even the largest telescopes can do so. The stars are too far away. A star appears brighter and smaller and fainter stars around it, invisible to the unaided eye, will appear. Star clusters and nebulae may be found by systematically sweeping the heavens by moving the telescope sideways at various altitudes. Star maps will enable one to find them more easily. Your local or county library will be able to help you here.

**Viewing the stars**

Do not expect your telescope to magnify a star to a disc. Not even the largest telescopes can do so. The stars are too far away. A star appears brighter and smaller and fainter stars around it, invisible to the unaided eye, will appear. Star clusters and nebulae may be found by systematically sweeping the heavens by moving the telescope sideways at various altitudes. Star maps will enable one to find them more easily. Your local or county library will be able to help you here.

The many popular books on astronomy in the libraries will also be found of great value to the possessor of a telescope.

(L.A.F.)

---

Reply to a reader on TV connections

I HAVE a portable television, the aerial of which is a Belling Lee 1 and 3 Band. I have it fixed upstairs but should like to be able to take it to a room downstairs. How can I make the connections and what kind of cable do I require? (H.W. — Stanford-le-Hope.)

**YOU** can take an extension from the existing plug point, or make a permanent connection to the aerial, whichever is the more convenient according to the layout of the rooms etc. Some loss of signal strength will usually be caused, but should not be important in average reception conditions. The lead may be co-axial (that is, one central conductor, with an outer sheath); or a twin feeder may be used (this rather resembles flat twin flex). The new lead should be of the same kind as that already fitted and can be obtained from radio and electrical shops.
Add this new model to your KITMASTER COLLECTION

Add the world-famous Stirling 8' Single to your Kitmaster collection. It was built in 1873 for the Great Northern Railway, had 8' o" dia. driving wheels, and was capable of 80 m.p.h. This authentic model is in all good model and toy shops now.

No. 9 Stirling 8' Single 7/6

HAVE YOU MADE THESE EARLIER MODELS?
No. 1. Stephenson's 'Rocket' 4/6
No. 2. Diesel Electric Shunter 4/6
No. 3. Early American 'General' 6/6
No. 5. Schools Class 'Harrow' 7/6
No. 6. Saddle Tank 4/6

TSTICK TO SECCOTINE

it sticks everything

SECCOTINE

1'3

PER TUBE

Sole Manufacturers—
MCMAW, STEVENSON & ORR LTD., BELFAST

Learn to Draw

Direct from Paris

UNDER
FAMOUS
FRENCH
ARTISTS

Do you wish you could draw and paint? Haven't you envied the pleasure of your friends who can — and the money some make? Now you can learn to be a real artist in a few months, in your own home through the world-famous Paris A.B.C. School of Art. The secret is you reap all the benefit of studying under famous French artists by post. Your lessons come (in English, of course) direct from Paris, your drawings go to Paris and your particular teacher in Paris sends his criticisms and suggestions direct to you. You will be astonished how quickly you progress: how soon your amateur efforts take on the real professional touch.

You owe it to yourself to learn more about the wonderful training. Send this coupon with a 3d. stamp to the London Office or write for a free copy of its intensely interesting, profusely illustrated 32-page Brochure today!

Hobbies

BRANCHES: LONDON
78a New Oxford St., W.C.1
87 Old Broad Street, E.C.2
15 High St., Walthamstow E.17

GLASGOW
326 Argyle Street

MANCHESTER
10 Piccadilly

Head Office & Factories—HOBBIES LTD., DEREHAM, Norfolk

ROSEBUD KITMASTER LIMITED

Authentic models with moving parts
Can be used on 00 and HO gauge tracks

Scientific and Technical Supplies (Nottn.) Ltd., 286 Alfred Street Central, Nottingham.

INTRODUCTIONS to new friends; home and overseas. — V.C.C., 34 Honeywell Road, S.W.11.

UKULOS ANNUAL. Indispensable cyclists’ handbook. Tours, resthouses, money-saving hints, 3/- post free. — Burrow, Publishers, 2 Imperial House, Cheltenham.

100 DIFFERENT stamps free! Request 4d. upwards discount approvals. — Bush, 53 Newlyn Way, Parkstone, Dorset.

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.

WHEELS (Hardwood and Rubber Tyred Metal). Cot, Pram and Doll’s house Fittings and Papers, Beads, Transfers, Prints and other accessories. Stamp for new lists. (Trade Fittings and Papers, Beads, Transfers, Prints and other accessories. Stamp for new lists. (Trade

READER. New premises and better service. Fl-price reductions. Save pounds! Special offers. — Headquarter & General Supplies Ltd., 302 Alfred Street Central, Nottingham.

Hobbies Annual

 Nero—ROOMY BOOK CASES AT BOTH ENDS — one converts to Magazine rack by insertion of sloping panel provided, as illustrated. Amazing offer — 59/6, carr. 6/6 or sent for £1. Balance monthly payments 8/-, plus carriage. Magnificent cabinet built contemporary piece of furniture to solve your record problem and also ideal as stand for TV, Radio or Record Player. 30” x 15” x 24” high. Modern sliding doors. Roomy interior, partitioned for classifications, holds over 100 records (upright for perfect condition). Entirely of seasoned timber. Detachable legs. SEND quickly. LISTS, FURNITURE.

To make your own Quality HI-FI at home! At last, for reasonable cost — the chance to make your own quality HI-FI audio equipment and to gain the knowledge to service and maintain it. FREE brochure from — Dept. HW, 20, Radiostructor, 46 Market Place, Reading, Berks.

BUILD YOUR OWN HI-FI at home! At last, for reasonable cost — the chance to make your own quality HI-FI audio equipment and to gain the knowledge to service and maintain it.

FREE brochure from — Dept. HW, 20, Radiostructor, 46 Market Place, Reading, Berks.

Hear All Continents

With H.A.C. Short-Wave Receivers

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 Denco 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

Too Good to Miss — Get It Now

The big-value Handbook for the woodworker, handyman, modeller and handicraft worker. 168 pages full of interesting projects — and ONLY 2/-.

TWO FREE DESIGNS WITH EACH COPY

Charming Ballerina Musical Box. Model Service Station for the modern lad.

Projects include:

★ Animated Toys
★ Trailer for Tricycle
★ Bathroom Drip Dryer
★ Blanket Chest
★ Coloured Marquetry Picture
★ Standard Lamp
★ Modern Clocks
★ Models etc. etc.

From Hobbies branches, stockists newsagents, bookstalls, etc. or send NOW for your copy by post (6d. extra).

To Hobbies Ltd., Dept., 99 Dereham, Norfolk.

Please send ...... copies Hobbies 1960 Annual (2/6 each, post free). P.O. for ......... enclosed.

Name

Address

Hobbies Annual

W OOD B E NCH VICE

A strong hardwood vice which can be screwed to a workbench. A real serviceable tool, well made, and fitted with hardwood screws. 12ins. long.

From branches or:

HOBBIES LTD., Dereham, Norfolk

302
A neat Perch for the 'Budgie'

CUT one piece A and two pieces B from ¼ in. wood. Halve them together and secure with glue. A piece of ¼ in. diameter rod serves as the perch.

The mirror opening is cut out with a fretsaw and the piece is later put back behind the glass and secured with glue. The mirror is held in position by the four pieces C, cut to the shape of the dotted lines from ½ in. wood and glued to the front of A. Clean up with glasspaper.

(M.p.)
Be snap-happy...

buy ILFORD

ILFORD SELOCHROME PAN is the all-purpose film that millions of happy snappers choose. For the very pick of the pictures on holiday — and all summer through — this panchromatic film is the one to ask for.

The famous film for Faces and Places

Introducing YOU to an

ABSORBING HOBBY with beautiful
really worthwhile RESULTS

Some of the beautiful, interesting and useful items include fish tank models, sea shells and starfish; butterflies and moths; seasonal display flowers; model gardens and floating water lilies, etc.

All the models can be made from coloured paper and easily obtained materials of exceptionally low cost. The book is illustrated throughout with colour and monochrome photographs as well as many 'step-by-step' line diagrams.

An essentially practical book which will be tremendously useful for educational and therapy work.

COLOURED PAPER DECORATION . . . 7 6d.
COLOURED PAPERCRAFT FOR SCHOOLS . . . 7 6d.
COLOURED PAPERCRAFT FOR INFANT SCHOOLS ... 7 6d.
LAMPSHADE AND PARCHMENT CRAFT . . . 8 6d.
PASSE PARTOUT FOR SCHOOL AND HOME . 8 6d.
GUMMED STRIP AND PAPER MODELLING . . . 7 6d.
PAPER SCULPTURE FOR SCHOOLS . . . 7 6d.

All books obtainable from:

Newnes & Pearson Ltd.
Tower House, Southampton Street, Strand, W.C.1
Ask your stationer to show you the Butterfly range of handicraft materials

Decorative Flower and Leaf Making

FREDERICK T. DAY

SAMUEL JONES & CO., LTD.
STATIONERY MILL, CAMBERWELL, LONDON, S.E.5. RODNEY 5064
SHOWING HOW BACK IS LET INTO TOP SHELF.

SHOWING HOW SIDES A ARE MARKED.

36 ins.

SHOWING GE CONSTRUCT.
EASY TO MAKE FOR THE HOME

SHOWING HOW SIDES ARE MARKED.

SHOWING GENERAL CONSTRUCTION.

HANGING BOOKCASE

SIZE — 36 ins. WIDE
35 ins. HIGH

A KIT OF MATERIALS FOR MAKING THIS DESIGN IS SUPPLIED BY HOBIES LIMITED, DERHAM, NORFOLK. PRICE ON APPLICATION.

Use CASCAMITE ‘One Shot’ Resin Glue for all Wood Gluing
- Mixed & use cold
- Waterproof type
- Gap-filling and non-staining

Obtainable in:
- 3.5 oz, 7 oz, and 18 oz tins.

Stocked by: Ironmongers, Builders’ Merchants, etc.
Use CASCAMI's 'One Shot' Resin Glue for all Wood Gluing

- Mixed & use cold
- Water
- Gap-filling and non-taint

Stocked by: Ironmongers, B
Manufactured by: LEICESTER, LOVELL & CO. LTD.
SHOWING GENERAL CONSTRUCTION.

A KIT OF MATERIALS FOR MAKING THIS DESIGN IS SUPPLIED BY HOBBIES LIMITED, DEREHAM, NORFOLK. PRICE ON APPLICATION.

Use CASCAMITE 'One Shot'
Resin Glue for all Wood Gluing

- Mixed & use cold
- Waterproof type
- Gap-filling and non-staining

Obtainable in:
- Mixed & use cold
- Waterproof type
- Gap-filling and non-staining

Stacked by: Ironmongers, Builders' Merchants, etc.

Manufactured by
LEICESTER, LOVELL & CO. LTD. North Baddesley, Southampton

PRINTED IN ENGLAND.