

HOBBIES WEEKLY

OCT. 9th 1957

VOL. 125

NUMBER 3232

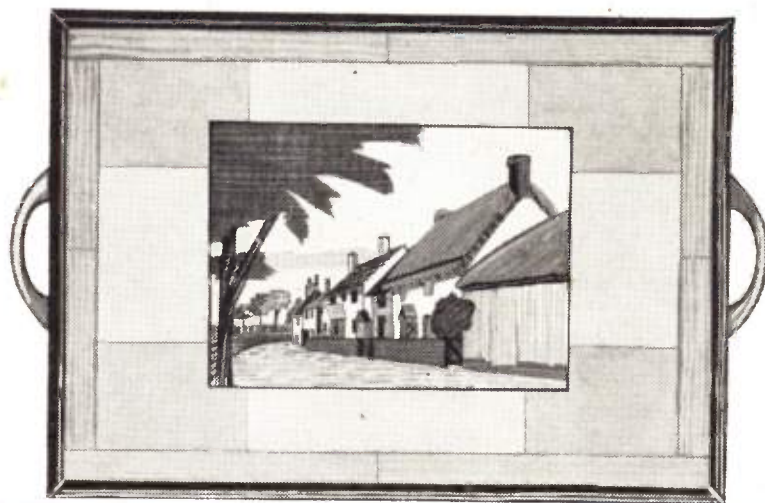
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All correspondence should be addressed to the Editor, Hobbies Weekly, Dereham, Norfolk

FREE design
inside for you
to make this
useful
TEA
TRAY



'COUNTRY COTTAGES' IN MARQUETRY

THIS charming scene of a row of country cottages abutting on the roadway, makes a very pleasing theme for a picture in wood. It also serves ideally as a subject for this tea tray — something which is needed in every home.

The Hobbies kit for making up the

tray includes a base of $\frac{1}{4}$ in. plywood. The pack of 12 different varieties of veneers gives a big range of wood colourings and also included are mouldings for the edges, plastic handles, screws and four feet. The actual choice of veneers to use (e.g. for trees or roofs etc.) is left to the individual discretion

of the worker, who can gain an indication from the illustration of the finished tray.

Workers should first determine the positions of the various veneers according to their choice, to ensure there is enough of each type provided in the pack.

Transfer the complete details from the design sheet with carbon paper on to the

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base which will, of course, be trued to size. Do not mutilate or mark the design sheet too heavily, as it will be needed again when marking the veneers for cutting out. Trace all the lines from the design sheet, including those indicating the decorative outside border.

In applying the veneers, make a start on the central picture. Choose your wood for the sky in the top right-hand corner, and transfer its shape from the design sheet on to the veneer, allowing $\frac{1}{4}$ in. overlap all round as shown in Fig. 1. The lines marked (X) show the eventual outline. After cutting, fix the veneer in position on the baseboard. To do this, rub some balsa cement on to the back, smooth down and allow

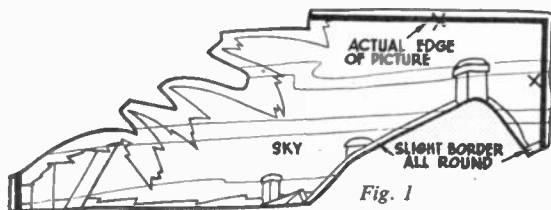


Fig. 1

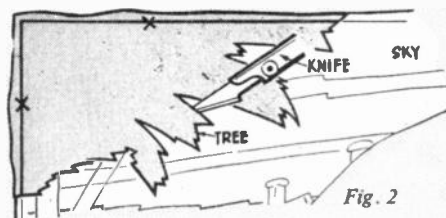


Fig. 2

to dry. Do the same to the backing board where the veneer will be attached. When dry, apply some more cement and then stick the veneer firmly in position, pressing down well with the fingers and making sure that there is no lifting, particularly at the corners.

Now trace the shape of the next adjoining veneer, say the tree in the top left-hand corner. Where this will join up with the first veneer the outline must be exactly to shape, but on the outer edges, again marked (X) (Fig. 2), a $\frac{1}{4}$ in. overlap will be allowed. Cut this veneer to the shape marked, place it in position on the baseboard with the trimmed edge overlapping the surplus on the first veneer placed. Holding the second veneer tightly in its correct position, cut the underneath veneer along the joining edge with a sharp knife (Fig. 2).

When you are sure you have cut through the veneer, remove the tree piece and pull away the surplus veneer just cut from the sky (Fig. 3). It will be appreciated that this method ensures a perfect fit as the second veneer is used as a template. Again apply cement as previously explained, and stick in place.

Now work down the picture, adding the features as they adjoin previous pieces, i.e., the chimney cap, ridge and stack in succession and so on, in all cases allowing an overlap so as to ensure perfect fitting of the ensuing veneer.

With the central theme completed, it will be seen that the outside edges are irregular because of the overlapping allowed. This is trimmed to shape when

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★
★
★
BUY A KIT
★
★ All the necessary plywood, veneers,
★ moulding and fittings for making
★ the 'Country Cottages' marquetry
★ tea tray are included in Kit No.
★ 3232, obtainable from branches, or
★ post free from Hobbies Ltd.,
★ Dereham, Norfolk, price 9/3d.
★
★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

scraping, until a fair level has been obtained. Then finish with a glasspaper block. Work down from medium to fine grade until the surface is perfectly smooth.

A word of caution is perhaps necessary. Be careful not to apply too much pressure with the scraper or glasspaper so as to rub away the veneers completely and thus reveal the base. When as flat a surface as possible has been attained, the picture is ready for polishing. Apply white wax polish with the finger tips, rubbing well into the veneers. Then go over lightly with a duster and give a rub down with a fine grade glasspaper. It will be necessary to change the paper about frequently because the wax will

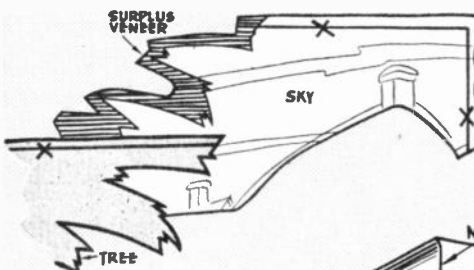


Fig. 3

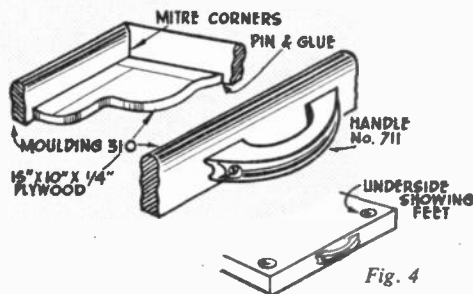


Fig. 4

the border veneers are laid, using the same method as before, but working now from the picture edge to the outside edges of the tray.

When all the veneers have been laid, trim the outside edges to conform with the baseboard.

The attractiveness of the finished tray will depend a great deal on the result obtained when polishing the veneered surface. Begin by scraping and glasspapering. A very satisfactory method is to use the edge of a piece of glass for

fill it up. Repeat this process of waxing, polishing and glasspapering until such time as a high gloss finish is obtained. Remember that the more work you put into this operation, the better will be the finish and the more satisfaction gained.

The tray moulding (Hobbies No. 310) is now mitred at the corners and pinned and glued to the baseboard (Fig. 4). The moulding can be painted, stained and polished, or varnished, as desired. When dry, add the handles (Hobbies No. 711) and glue on the feet.

HOW'S YOUR ARITHMETIC?

HERE we have two ways of demonstrating your apparently amazing arithmetical knowledge, (whether or not you happen to be good at figures), and the only apparatus required is a tab from a calendar.

Hand this calendar tab to a friend and ask him to mark off any block of four numbers in the form of a square as shown in the diagram, and then for the total of the four numbers when added together. He must not let you see what he has marked. If you wish, you may turn this into a thought reading trick by asking your friend to concentrate on the lowest number in the block, for that is now your task.

The next effect is to ask him to mark off a block of nine figures, again in the form of a square as shown. Here you may either ask for the lowest number in the block when you can forecast the total of the numbers, or, alternatively, you may ask for the four corner numbers to be added together when you will attempt to forecast the central one.

Perhaps you will agree that all this sounds extremely difficult, but you do not have to be a mathematical wizard to perform this trick which is basically a matter of simple arithmetic.

The trick works equally well with any block of dates so there is no need to worry about any month that is chosen. Of course, it is always as well to mystify your audience as much as possible and this may be done by asking how many days in the month chosen. You could exclude the month of February — although the trick works with this month

— or attempt the different effects on different calendars. This confuses your opponents into making them think it is a difficult calculation. Again, you may treat it as a thought reading trick by asking for concentration while the thought is 'passed'.

And no doubt you are now anxious to know just how to work this trick. First let us consider how to find the lowest number in a block of four. All you re-

AUGUST

S		4	11	18	25
M		5	12	19	26
T		6	13	20	27
W		7	14	21	28
T	1	8	15	22	29
F	2	9	16	23	30
S	3	10	17	24	31

THE DOTTED LINES ENCLOSE THE TWO BLOCKS

quire is the total of the four numbers, subtract 16 and divide the remainder by 4. Referring to our diagram we obtain the following little sum:

$18 + 25 + 19 + 26 = 88$
 Subtract 16 $= 72$
 Divide by 4 $= 18$ (the smallest number).

Your opponent gives the total in this case when you can do the subtraction and division very quickly.

Now refer to the block of nine numbers, from which you have been given the lowest number and the trick is to give the total. All you have to do is to add 8 and multiply the answer by nine, thus:

Lowest number is 8
 Add 8 $= 16$

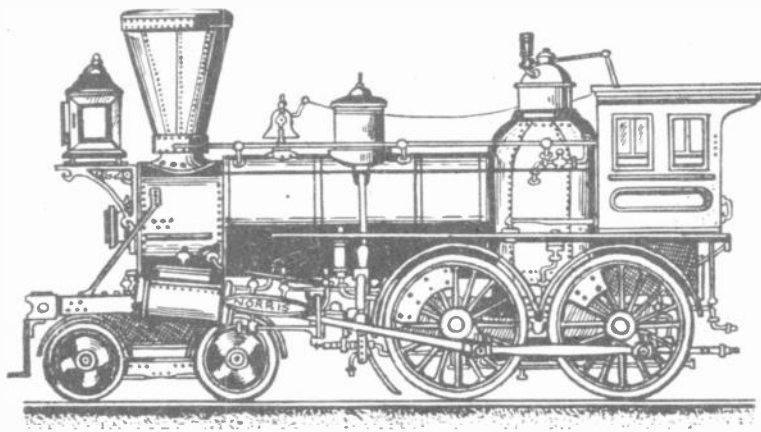
Total $= 16$
 Multiply by 9 $= 144$

Check this from the diagram yourself.

Finally you will want to know how to find the central number after being given the total of the four corner numbers. Look again at our diagram from which you will see that these figures are 8, 22, 10 and 24, the total of which is given by your opponent and is 64. Merely divide this answer by 4 and very quickly you have the number 16 — the central figure as you will see.

Try this trick out with one or two blocks of numbers on different calendar tabs and you will see that it works very easily. It is only a matter of memorizing the very simple arithmetical key but it will baffle your friends. (S.H.L.)

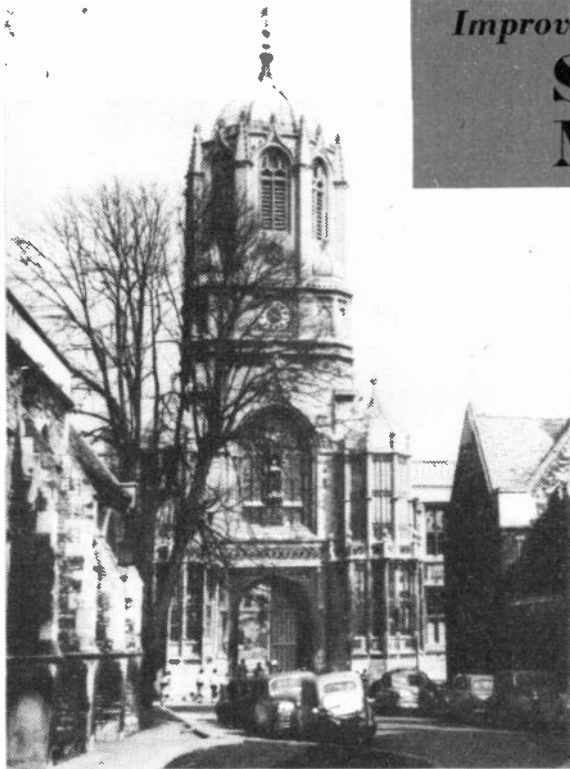
Interesting Locos - No 2



THE engine illustrated was built in 1848 by the Norris Locomotive Works of Philadelphia, Pa. This 109 years old veteran is still in existence and is now preserved by the Chicago, Milwaukee, St. Paul & Pacific Railroad Coy. as a locomotive of historical interest. This engine was the first of the above railroad and the first engine to turn a wheel in the State of Wisconsin. In 1848-50, when the Company built their new line between Wauwatosa and Milwaukee, Wisconsin, this engine, coupled to two passenger cars made the first trip. It was also used in the 1850s in the further construction of the now vast Milwaukee Road. The engine is a wood burner, and to prevent sparks causing forest fires, it is provided with a spark arrester over the chimney. The engine was later reboilered, and, as originally built, had no cab. This was fitted later. (A.J.R.)

Improve your pictures

Subject Matter Must Dominate



No. 1—Main subject of dominant size but visual interest lost due to widely scattered highlights

THE beginner soon learns from experience that a cardinal rule before clicking the camera shutter is to be sure the viewfinder includes mainly the subject to be snapped — and not a maze of unwanted surroundings. This rule is often most readily appreciated by users of 35 mm. film; to enlarge a portion only from an already small negative frame calls for scrupulous attention to exposing and developing technique — and the possibility of failure is increased if a high degree of enlargement is necessary to 'rescue' the main subject from a mass of unwanted picture area.

To stand out

However, it is not always sufficient to fill the negative frame adequately with the main subject — unless, in the finished print, it is clearly presented as the centre of interest. This may sound an unnecessary truism, but it is amazing how often when a print fails to satisfy by capturing the subject as you intended — irrespective of the AMOUNT of area it takes on the print — it is simply because the subject matter is not sufficiently isolated. And filling the frame adequately with the subject is not always the same as isolating the subject matter. To hold *visual* interest in the print it must dominate.

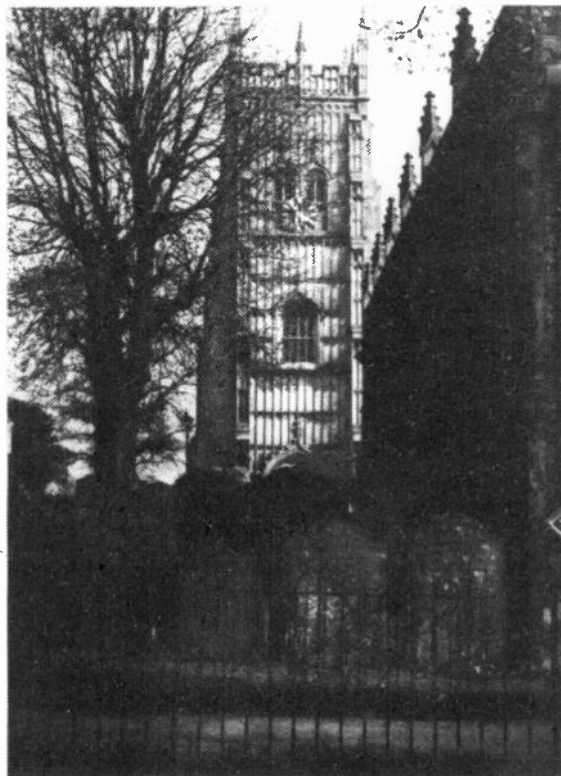
Often the beginner is disappointed by the print even though he took care to make sure the main subject dominates by area on the print — and the reason is lack of *visual* domination.

The subject needs visual domination, concentration of viewer-interest, to make it 'stand out', and you can use a combination of two methods of control to achieve this aim.

Control at time of exposure

(a) *Choice of lighting and snapping position.* Surroundings may well pre-determine the best snapping position, but it is not enough to have the subject 'well lit' — lighting should be utilised to ensure visual domination, even if it means seeking another taking position, or returning in different conditions of lighting.

The eye is caught by the highlights in a print. To have them scattered widely



No. 2—Main subject of almost equal dominant size (as in 1) but visual interest held and concentrated on it through forethought in combining snapping position with lighting conditions to accentuate visual interest. Surroundings subordinated but not divorced from main subject by combining position and lighting conditions

distracts viewer-interest — if the whole or bulk of the highlights are in the main subject then the eye is not led from it, and the surroundings fall into secondary place around it. The subject appeals in its surroundings and must not be divorced utterly from them — but to hold viewer-interest in the subject they must be subordinate to it.

Illustrations 1 and 2 example this.

In No. 1 the main subject (Tom Tower, Christ Church, Oxford) is relatively evenly lit by a high side-lighting — but so are the approach surroundings on the left, while those to the right are partly heavily shadowed and partly highlighted. The top of the tower catches the eye because of its soaring quality, its sheer dominance in the sky-space — but then interest wanders, to the left, to the roadway and the highlighted cars, and goes on wandering around the main subject. Visual interest is scattered because the highlight areas are widely scattered over the print.

Visual interest

In No. 2 (The Bell Tower, Evesham), the subject matter is highlighted and the surroundings fall into shadow areas with only minor higher lighting. The tower holds *visual* interest, the eye takes in the surroundings but does not dwell on them — they form a necessary part of the scene but the tower dominates.

In both 1 and 2 snapping positions show the subjects to good effect as regards size on the print and in their natural settings — but forethought in choosing snapping position in combination with lighting that gives *visual* dominance makes No. 2 the far more attractive picture of a similar subject.

(b) *Use of filter.* Apart from their usual use in bringing out clouds, filters can also be used to accentuate visual interest in the main subject. For example, an orange filter will lighten red brick-work while darkening the sky and shadows, a yellow filter used on sandstone or yellow-white tone buildings will deepen the shadows and enhance the detail of highlights by contrasts, a green filter will lighten foliage.

(c) *Differential focusing.* This means setting the focusing and aperture of the lens so that while the main subject is critically in focus the foreground or background run sharply or progressively out of focus. It is often used in general views to give the impression of distance, of receding planes, where too sharp rendering of detail at all planes of perspective would destroy the effect of distance. But it is most often used with success when photographing a near subject which needs to 'stand-out' from its background.

Illustration No. 3 shows this. The baby in the pram stand out against the

completely blurred background. And note how lighting again has been chosen to highlight the subject while subduing the background surroundings. Here snapping position chosen with suitable lighting, combined with differential focusing, concentrates *visual* interest on the main subject.

(d) *Utilising a low-angle snapping position.* Placing the subject clear of distracting surroundings and highlights against the sky is another useful method particularly if (a) is kept in mind and

The darkroom controls should be looked upon as secondary, an aid in difficult cases. Forethought in snapping position and lighting, combined, if necessary, with filters and differential focusing, is the best insurance against lack of visual interest in the subject matter.

See the difference

Look back through those prints which disappointed because somehow the subject matter seemed 'lost' even



No. 3 — *Differential focusing blurs background combined with lighting condition placing it in shadow, makes subject stand out and so concentrates visual interest*

the lighting carefully chosen. Silhouette effect is often very effective here with back-lighting of the subject and if there is a good sky — it is often used to dramatize 'power' in man-made objects such as pylons, factory masses, etc.

Control in the darkroom

(a) *Cropping.* A selection of the final picture presentation is made by arrangement on the enlarging easel to cut out unwanted areas of foreground or surroundings. This should not be pushed to excess otherwise enlargement of a small portion of the negative will be called for — and its need lessened if the negative frame is adequately filled with the main subject when snapping.

(b) A subduing of areas of unwanted, distracting highlight is obtained by over-printing in enlarging exposure of those areas.

though it was adequately sized on the print. It is more than likely that a little forethought along the above lines would have secured just what you wanted — so go out and snap them again if you can, and see the difference! (E.G.)

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DRAWING THE FACE

TO draw the human face well and to put expression into it — that is, to make it laugh, cry or be annoyed, is generally considered a difficult task. After a few attempts many aspiring artists give it up in disgust and turn to something else.

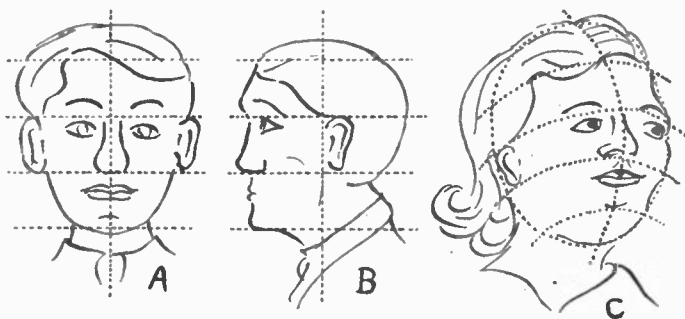
It is the idea of this article to start you working on a simplified system which can be elaborated as you progress. It should help you to gain confidence in your work, which is a vital factor to ultimate success.

shaped with the small end for the chin. Here again there may be considerable variation. Some people have a very round face, while others are just as long, but they are still egg shaped.

Take a look at the half side face (C) which is slightly tilted upwards and note how the proportions are still preserved in the oval egg shape. As the face is tilted still further upwards, the curves become more acute, and depart from the straight horizontal lines of the front view.

(D), then make it smile (E) by narrowing the eyes, curve the mouth in the opposite direction and insert short curves at each end. This is only one way to make a happy face — try to get that expression in other ways such as (F) for instance with the mouth wide open which tends to shorten the nose.

Do not be satisfied with the first attempt but keep on practising until you are sure that you cannot improve the expression. By working in this manner with each drawing you will soon be-



The article on Figure Drawing in *Hobbies Weekly* of March 27th, 1957, gave some useful notes regarding materials to use and these will apply equally well for our present endeavour.

The perfect face must be balanced and we shall get nowhere unless we understand the few simple rules regarding the proportions of the various features. (A) and (B) show front and side views of an average face which is divided into three equal parts between the top of the forehead to the point of the chin.

From the top of forehead to the top of nose is the same distance as the length of the nose, and also the same distance as from the bottom of nose to the point of chin. The eyes are right at the top of the middle division, while the mouth lies one third of the way down the last division.

The ears occupy the whole of the centre division as does the nose, and they, therefore, line up with each other. In the side view the ear falls just behind the centre line.

These proportions vary, of course, in different people, it may be only slightly but if you master these simple rules you cannot go far wrong, and will soon become quite good at it.

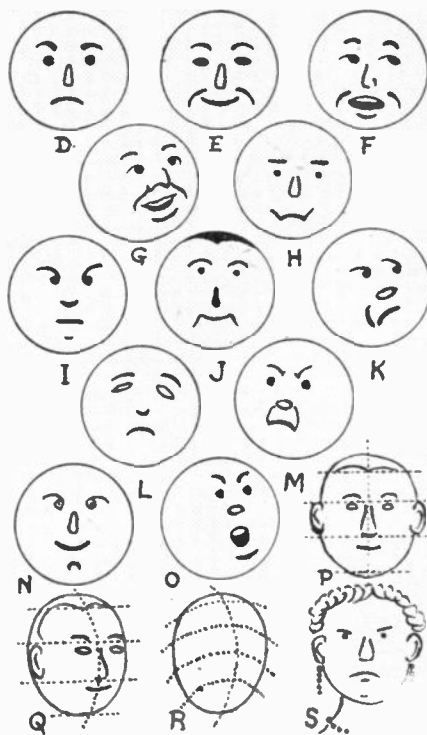
The average face, front view, is egg

Tilting the face downwards is achieved by drawing the curves in that direction. Study your friends' faces carefully and any you can find in the newspapers and magazines. See how the proportions work out in the various positions and follow the rules we have just given.

An excellent preliminary exercise to our study of facial expression is shown in Figs. (D) to (F). Make a series of circles by drawing round a halfpenny, and then compose a different face in each circle.

Be as brief as possible, that is, complete your drawing with as few lines as you can. Much better results are generally achieved by this method, and this economy of line produces a cleaner and more vivid drawing.

Start off with an ordinary full face



come quite proficient and gain confidence in using the pencil.

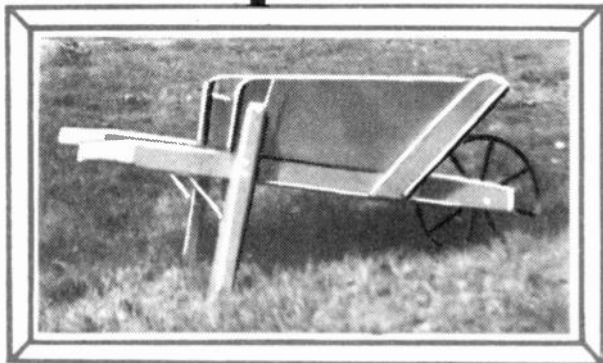
Next try turning the face round a little, so as to get a side view (G): make several drawings, moving a bit further each time, until you have a complete side face.

Experimenting with the features will give you an enormous variety of expressions which will keep you busy for some considerable time, and the experience gained is extremely valuable.

Continued on page 39

From "odds and ends"

An Inexpensive Wheelbarrow



A discarded iron wheel proved the foundation of my most successful attempt to construct a strong and serviceable wheelbarrow. In addition to the wheel, I found a few short lengths of 3ins. by 2ins. timber, suitable for the framework, shafts and legs and a few oddments of boarding suitable for the flooring, so all I needed to buy were three pieces of wood each about 30ins. by 15ins. by $\frac{1}{2}$ in. thick for the front and two sides, also about six dozen screws, eight bolts and nuts and a bar of 1in. by $\frac{1}{2}$ in. iron which I cut into four 10in. lengths for the brackets.

Having collected the necessary material I set to work by cutting some of the 3ins. by 2ins. into two lengths each 55 $\frac{1}{2}$ ins. long. One end of these was for the wheel and the other for the shafts. I placed these two lengths side by side, spacing them 7ins. apart at one end (for the wheel to go between) and 24ins. apart at the other end (for the shafts). Then I tied these two long pieces with crosspieces having morticed ends, one crosspiece being 18 $\frac{1}{2}$ ins. from the end

of the shafts and the other 15ins. from the wheel end. At this stage I fitted in the wheel before screwing in the cross-pieces.

I next cut two pieces of 3ins. by 2ins. into 33ins. lengths for the legs which I intended to continue right up to the top of the sides all in one piece. I found however that the 3ins. by 2ins. was not wide enough to shape it with sufficient splay for the legs and sides too. To overcome this I sacrificed three inches from the top and then sawed obliquely down to the point where the top of the leg came. This gave the sides quite a nice splay but it left 3ins. at the top of the sides without support, so I strengthened them with 2ins. by $\frac{1}{2}$ in. iron strips.

The next step was to screw the front and sides together.

To make the supports for the front end, I had to shape two pieces of wood having no less than five different angles on each. This was only done by trial and error; after taking rough measurements. Having made the support for one side the other was quite easy. I simply took the measurements of the first one, and

reversed them, I then fitted a removable board across the rear end and screwed the four iron brackets on to the legs and that completed the constructional part of the job.

As the wheelbarrow will have to live permanently out of doors I have taken every precaution to render it weather-proof by giving the inside generous coatings of tar. Previously I had tarred every joint and mortice before dropping them into their places and every one of the six dozen screws was dipped into the tar before being screwed in. I also gave the outside two coats of paint. Although it is ponderous and not exactly coach-built I am particularly pleased with the 'pinched-in-waist' appearance which is so reminiscent of the stately old farm wagons. It is strongly made and I have every confidence that it will stand up to the heaviest kind of work. I did not work to any hard and fast plan, it just 'grew up' as I went along and these are the leading dimensions:-

Body

Length of sides at top 33ins., at bottom 23 $\frac{1}{2}$ ins. Depth at front end 16ins., at rear end 9 $\frac{1}{2}$ ins. Width across top of sides — front end 20ins., rear end 26ins.

Floor

Width across front end 14 $\frac{1}{2}$ ins., rear end 20 $\frac{1}{2}$ ins., length 23 $\frac{1}{2}$ ins.

Frame

Length of shafts including wheel end 55 $\frac{1}{2}$ ins., shafts only 18ins. Length of cross-pieces, one 16ins., one 21ins.

Legs

From ground to floor boards 19ins., plus 6ins. extension up the sides.

The total cost was 18/-, and I doubt if you can get a really good wheelbarrow for less! (E.P.K.)

●Continued from page 38

Drawing the Face

Figs. (H) to (O) give a few ideas of what can be done in this direction.

After filling several sheets of paper with our efforts we can now turn our attention to the egg shaped face which will present a more realistic effect. We can, after a time put more detail into it and develop it into a natural lifelike drawing.

Simplicity of line was the keynote in our previous attempts, and it still can be in the early stages of our study of the egg shaped face. The important point is to get the proportions correct, and if you carefully follow the few simple rules, there should not be any difficulty here.

Figs. (P) and (Q) giving front and side views with dotted lines showing the proportions, amply explain these rules and will get you started on the right lines.

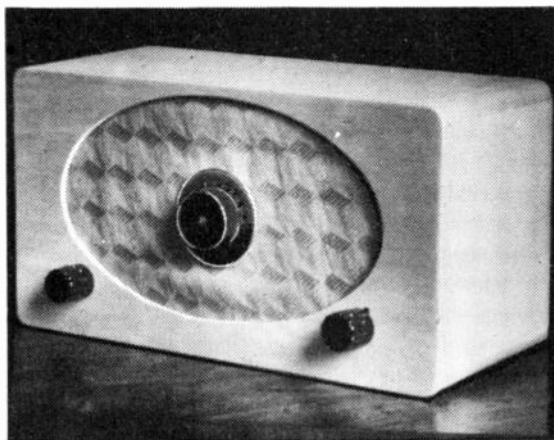
When you want to make the face looking upwards lightly draw the guide lines as shown at (R) and then fit in the various features to suit the expression required. A downward pose is represented in just the reverse way — by making the horizontal guide lines curve downwards.

The next step is to experiment with different kinds of ovals — no two people are alike. Study the faces of

everyone you meet in the street, and you will find fat ovals and thin ones, perfectly shaped ovals and irregular bony ones. Try to memorize some of these and when you get home, roughly sketch in what you have seen.

However crude a drawing may be, do not tear it up because you are not satisfied. Put it away for a period and then carefully examine it again. You may then probably find some good point about it which escaped your notice before and which can be used in another drawing.

As a final exercise try 'dressing up' some of your attempts; such as adding hair in different forms, putting in earrings or a necklet similar to Fig. (S). If it is a male figure give him a collar and tie. (A.F.T.)



CABINET FOR THE 3-VALVER

*For housing
the circuit
described
last week
By F.G.R.*

A good cabinet of modern style can be made quite easily as described here, and will protect the receiver and give it an attractive finished appearance. Construction is very much simplified by using 'Hobbies' panels of planed wood and corner moulding to suit. The moulding also conceals the ends of the side and top pieces, giving a professional finish to the cabinet. The panels and moulding required are indicated on the Wood List.

Both top and bottom are $10\frac{1}{4}$ ins. by 5ins., and should be accurately marked out to these dimensions, and cut with a fine tenon saw. The specified panels are $\frac{1}{8}$ in. thick, as this thickness is required to fit the corner moulding correctly. Each side of the cabinet is 6ins. by 5ins. and both are cut from a single Q3 panel. The edges of all pieces should be smoothed

All the pieces are fitted together with small panel pins, glue being applied to meeting surfaces first. Top and side

WOOD LIST

"Hobbies" panels.

1 of H.3.

3 of Q.3.

20ins. of No. 304 corner moulding.

members fit into the moulding as shown in Fig. 1. A length of moulding is first secured to each end of the top and bottom, three pins being sufficient at each joint.

The sides are then fitted in position. To do this, it is helpful to be able to rest the inner edge of the moulding upon

The front, $11\frac{1}{4}$ ins. by 7ins. is shown in Fig. 2. The oval cutout accommodates both the speaker and tuning control, being entirely covered by the silk which is stretched over the baffle secured to the front of the receiver chassis.

To obtain the oval outline for the cutout, a line is drawn horizontally, $3\frac{1}{4}$ in. from the top, as illustrated. The centre of this line, marked (X) in Fig. 2, is $5\frac{1}{8}$ in. from each end of the panel. A dot is made at (X) and $3\frac{1}{4}$ in. is measured in each direction, to find the points (Y). A drawing pin is half pushed in at both these positions.

A piece of thread is now taken, and placed round both pins (Y). The thread is tied to form a loop of such a length that it will extend 1in. beyond (Y), to (Z). A pencil is now placed with its point inside the loop, and is moved round, keeping the thread taut as shown in Fig. 3. This will mark out the large oval, which has to be sawn to provide the required aperture. It is necessary to adjust the length of the thread loop quite accurately, or the oval may be too small, or may go beyond the top of the panel.

A hole is drilled a little inside the oval line, to start the saw. Use a fretsaw, pad

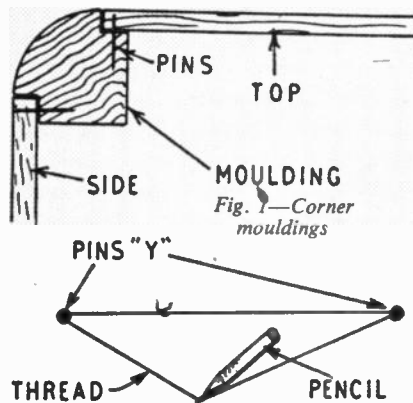


Fig. 3—Drawing the oval.

off with fine glasspaper secured round a glasspaper block.

Four 5in. lengths of the moulding are required. Care is necessary to cut the ends square, and they are smoothed with the glasspaper block.

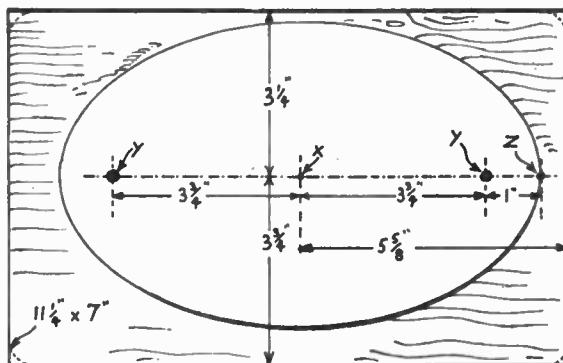


Fig. 2—How the front is marked out

some firm projection, such as afforded by holding a length of 2in. by 2in. timber in a vice. An alternative is to rest a strong board or plank across two supports, and to place each moulding upon this as it is nailed, the board passing through the cabinet itself.

or keyhole saw with fine teeth. The panel should be held firmly, and the saw blade kept carefully at right angles to the wood throughout, to avoid uneven results. With the pad saw, the panel may be held between two pieces of scrap wood, in a vice, being moved as sawing progresses.

The aperture is smoothed off with glasspaper, and lain face downwards with the cabinet on top of it, so that the corners can be drawn with a sharp pencil. These pieces are then carefully sawn off.

Glue is applied to the meeting surfaces, and the front fixed with small pins, as before. The cabinet should then be set aside for the glue to harden.

Control knobs

The speaker, baffle, silk, and tuning control are all permanently fitted to the receiver, and do not require removing when the set is inserted in the cabinet. The chassis is lifted a trifle by resting on strips of wood, so that the tuning condenser spindle comes centrally in the oval cut-out, occupying the position of the dot (X) in Fig. 2.

The two small control knobs are then removed, and the receiver is pushed inside the cabinet, so that the spindles touch the front. The exact positions will be more easily seen if a spot of ink is applied to the end of each spindle in advance. A $\frac{1}{8}$ in. diameter hole is then carefully drilled through for each spindle. (An alternative is to measure the spindle positions, but care is required to see that the holes are actually made in the proper positions.)

The receiver can be held in place by

the nuts of the reaction condenser and volume control, these being removed and replaced on the outside of the cabinet. Or the two holes may be large enough to clear the nuts, and the receiver held by four small screws driven through the baffle into the cabinet front, from behind.

Glasspapering

When a proper fit has been secured, the receiver is removed and the cabinet thoroughly glasspapered, with a fine grade of paper. The paper should be folded round a flat block, and rubbed in line with the grain.

The corners and edges can also be cleaned up, and the edges of the front rounded off. Any spots of glue should be removed by scraping. If large pins have left visible holes, they can be filled with plastic wood.

After thorough glasspapering, the cabinet should look well. Wood dust should not be allowed to reach the receiver.

Choice of finishes

Though staining and varnishing have often been dealt with in past issues, brief details on suitable finishes for the cabinet may be welcomed. After sanding, the wood should be clean, free from grease or fingermarks, and with inconspicuous joints.

If a very light toned cabinet is required, ordinary clear copal varnish will be satisfactory. A fairly sparing coat should be applied with a soft varnish brush, and the cabinet put in a dust free room to dry. When dry, which will usually require about twenty-four hours, it should be rubbed over lightly with worn or fine glasspaper, or waterproof abrasive, to cut down the varnish. Dust is cleaned off, and a second coating of varnish is applied.

If a slightly darker cabinet is required, the wood may be stained before varnishing. Or a varnish stain can be employed. It is usually best not to attempt to finish the work with a single coat, as uneven suction of the wood is likely to give a mixture of dull and shiny patches. With two coats, the first will seal the pores of the wood, so that a uniform gloss is achieved with the second coat.

If old wood, or poor wood with a bad surface, has been used, then it is necessary to hide the surface, and a thick, fairly dark varnish stain can be used. Or the cabinet may be painted or enamelled, cream being a satisfactory colour.

A back can be made from thin wood, with an oval to match the front. A piece of silk is glued over this aperture, inside, and the back can be secured with four small screws, or catches.

COUNT THE PENNIES

HERE is a simple trick to catch out your friends. There is no actual magic or sleight of hand involved and although you may have seen the trick, you may not know how to baffle your friends with it.

The performance will be given first and simply explained. In this way you may think it is so easy that anybody will recognise the solution immediately, but this is not so as you will find.

Lay three pennies on a table, take up into the hand one at a time, counting out loud 'One — two — three'. Now lay them down again, again one at a time, counting 'Four — five — six'. Push one aside, and pick up the other two separately while counting 'Seven — eight'. Finally lay down these last two with a 'Nine — ten'.

You will agree that this seems very easy and that anyone would be able to follow suit, but by a simple trick on your part you will baffle your friend.

When you have finished counting up to ten with the three coins, pick them up from the table, and hand them to your friend with a request that he counts the coins in the same way, when it will be found that it does not work out so correctly.

The secret of the trick is to make your

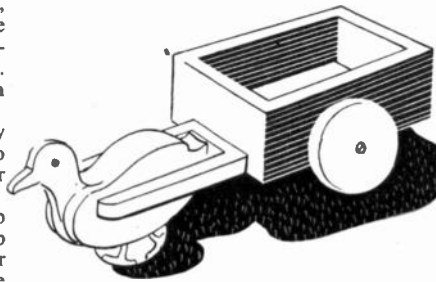
friend start off incorrectly without him noticing it. Placing the coins in your friend's hand is the first step, the next is to point to the table saying 'Count them here'. If he fails at first attempt, pick up the coins again, placing them in his hand for the next try. If he is so lucky as to get the counting correct at first attempt, offer your congratulations, pick up the coins, place in his hand and ask him to

show you again — he might not be so fortunate!

If you have not now realised the secret of this trick, perhaps it should be explained that it is impossible to count the three coins up to ten if one starts from the hand, and the only way to do it is to pick them up from the table as previously stated.

It is much more confusing if this trick is performed fairly rapidly, so try it on your friends and the quicker the better! (S.H.L.)

Walking Duck and Cart



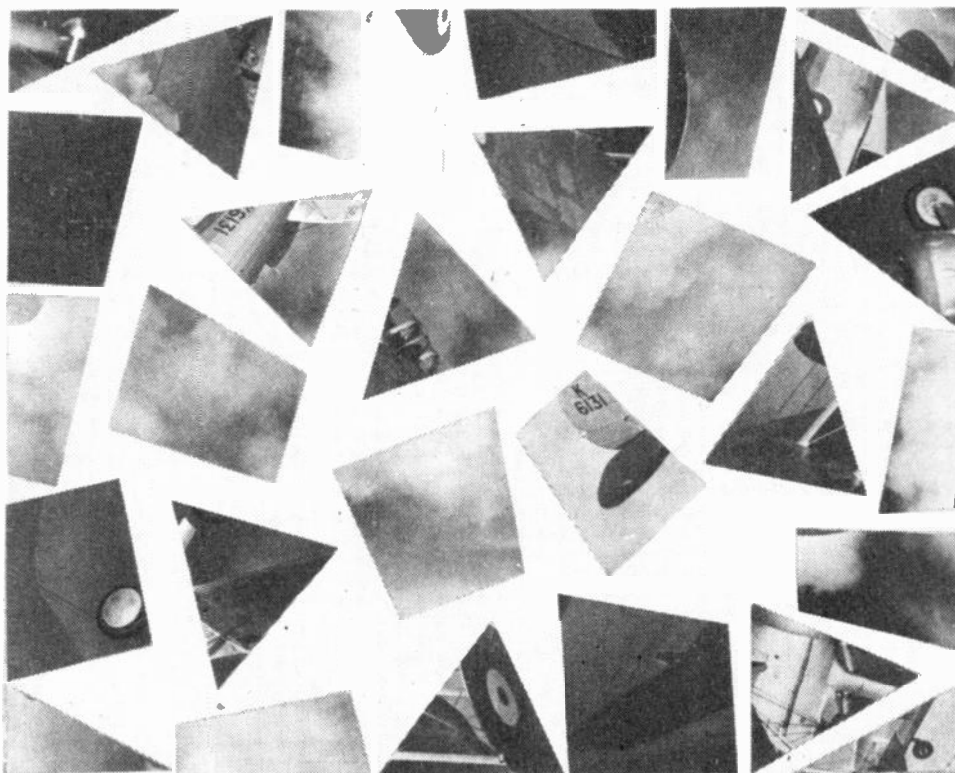
THIS action toy is made from odd pieces of fretwood, cut to the size shown on the pattern on page (47). Pieces (1), (2) and (3) are cut from

$\frac{1}{4}$ in. wood. Cut two pieces (2) and two pieces (3). Glue them together as shown in the detail. The axle (4), cut from $\frac{1}{8}$ in. stripwood, is glued centrally under the floor (1).

The duck's body is made from two pieces (6), and one piece (5), cut from $\frac{1}{4}$ in. wood. Glue these pieces together with piece (5) in the middle. Piece (7), cut from $\frac{1}{4}$ in. wood, is then pivoted in the recess formed by means of a $\frac{1}{4}$ in. fretpin. Glue the duck between shafts of the cart. The wheels (8) are cut from $\frac{1}{4}$ in. wood and pivoted to the axle by means of $\frac{1}{4}$ in. round-headed screws.

Clean up with glasspaper and finish with plastic enamel paint. (M.p.)

AIRCRAFT SPOTTING



WHEN you have mounted the separate pieces of this new jig-quiz on stiff card and fitted them together you will have formed a picture of an 'old timer'; a biplane fighter rich in background and character and remembered with great affection by many Royal Air Force pilots.

The first prototype (K.5200) first flew in May 1934 and the aeroplane was delivered in numbers to the R.A.F. in 1936 where their speed, manoeuvrability and delightful handling qualities soon made them very popular.

During the early part of the last war many epic aerial battles were fought in this type of aircraft and three of the aeroplanes, aptly named Faith, Hope and Charity, gained undying renown over the bomb-torn runways of Malta and shared the glory of that gallant little island when it was awarded the George Cross.

Now, alas, only one of these classic little aeroplanes is flying and strangely enough it has a civil registration, G-AMRK. In that fact lies an interesting story.

G-AMRK started life as an Air Force machine but it was returned to the manufacturers, along with a similar aircraft, for modifications to fit them for meteorological flight duties. Whether there was a change of policy is unknown but the aeroplanes waited and waited — and gathered dust. Maybe someone forgot all about them!

By Gordon Allen

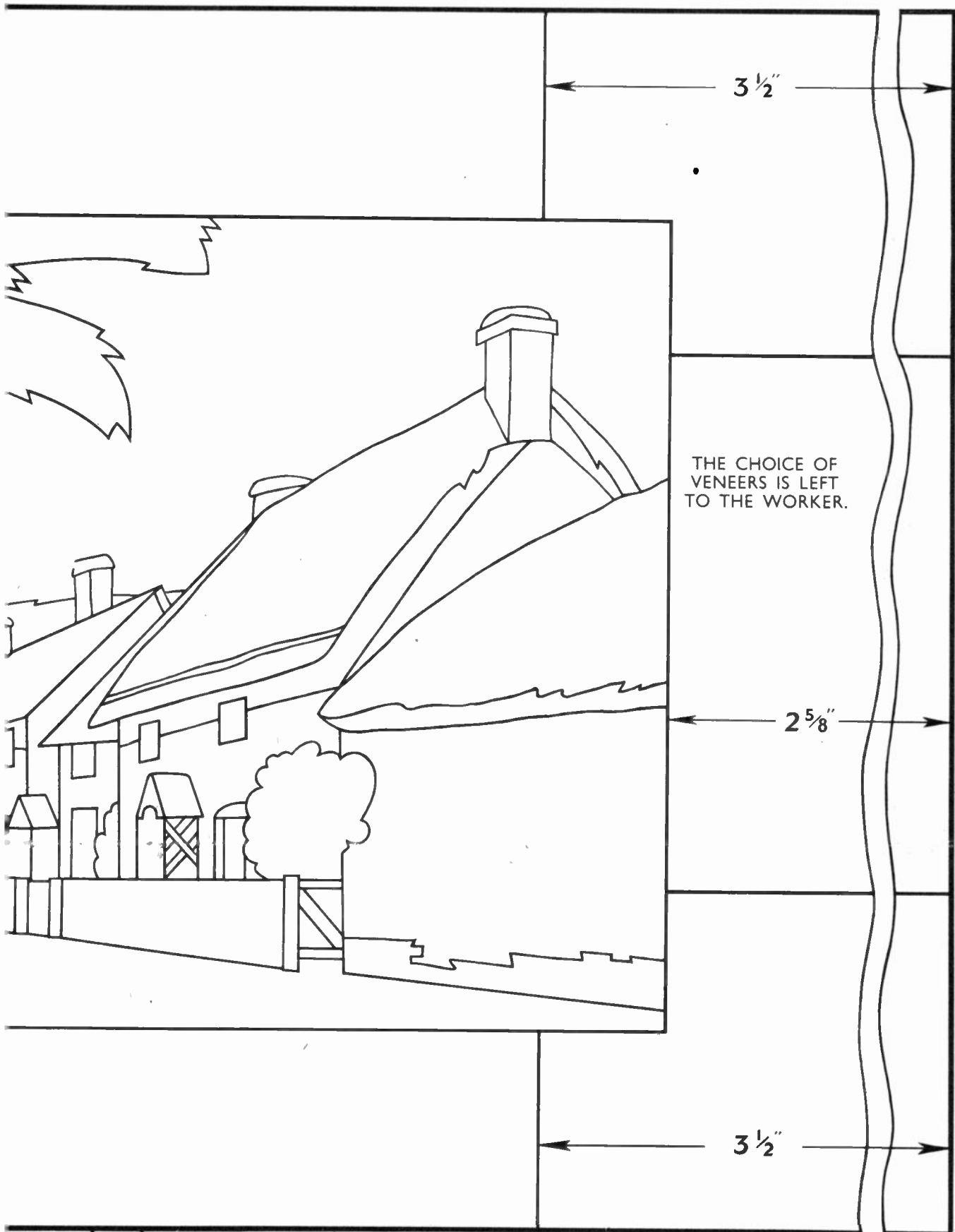
Then in 1950 they were separated. One went to Hamble, the other to Coventry, to be used for ground training. Soon the training schools closed and once again these aeroplanes were reunited at Hamble where, rather like Sleeping Beauties, they experienced a long period of waiting — for an awakening kiss!

A 'fairy prince' at last arrived in the person of Mr. V. H. Bellamy, a pilot who had flown this type of aeroplane and held them in great affection. The sight

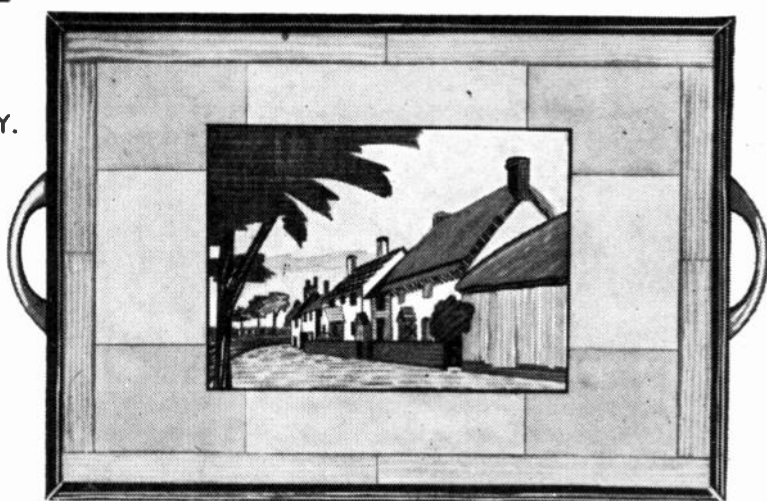
of the forlorn machines prompted him to offer to buy them — for the nominal sum of £1. Mr. Bellamy moved the now somewhat decrepit aeroplanes to his own engineering works and by using parts from both aircraft succeeded in producing one airworthy machine — G-AMRK. It still continues to entertain the public at the Battle of Britain displays and other flying exhibitions up and down the country.

Have you solved the Quiz? Solution next week

Next week's issue will contain details of an easily constructed bedside bookcase; Toy Crane for a Christmas gift; a home-made miniature hand loom and several simple projects in addition to the regular feature articles.



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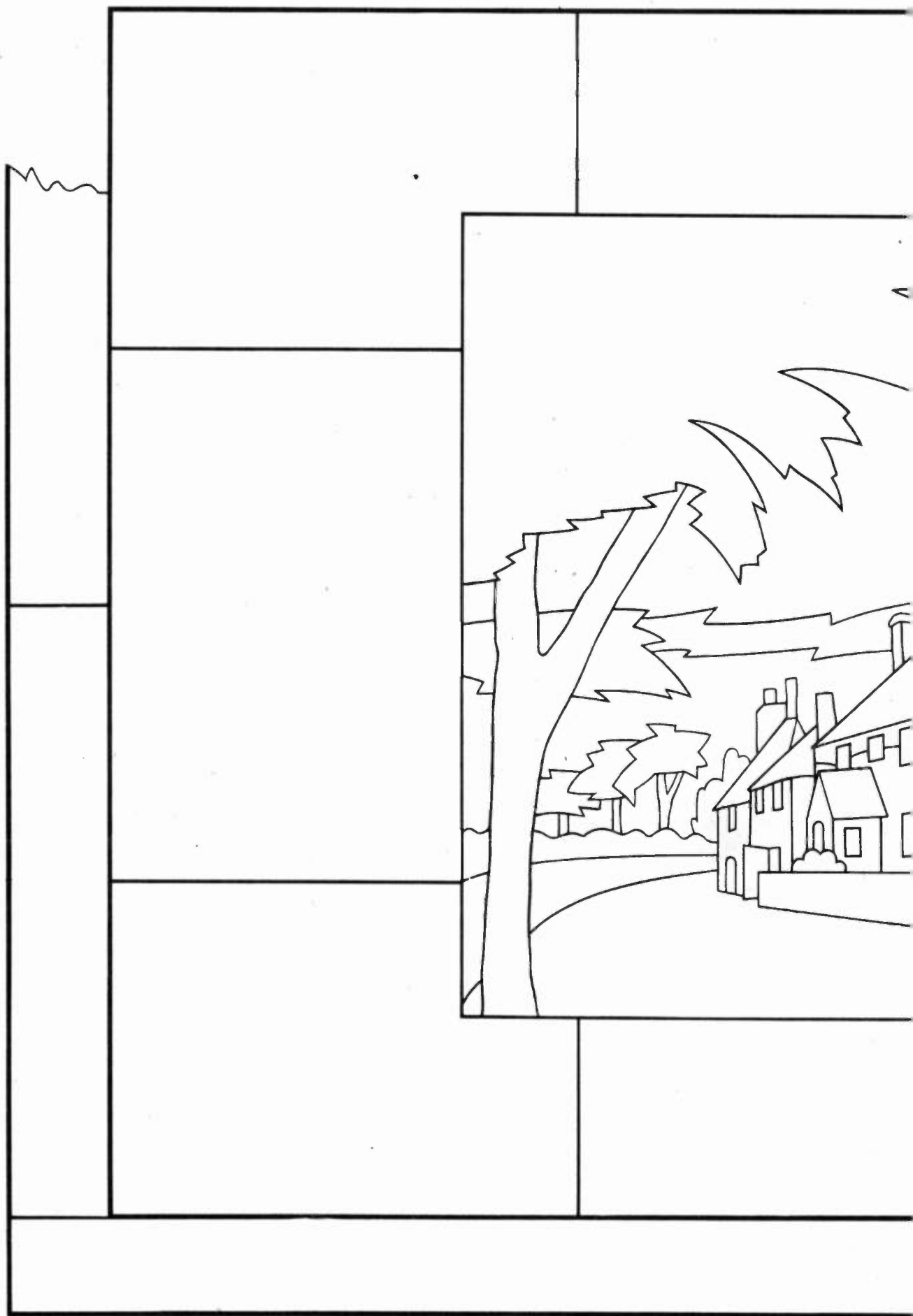


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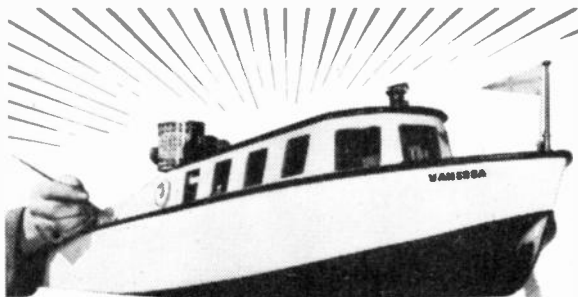


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THRILLS OF OCTOBER

By A. Sharp

THE angler in October finds that the riverside — and the lakeside — lacks not attraction. Indeed, these early autumn days bring an especial charm and appeal. True, there is a thinning-out of the summer dilettantes, who regard fishing as a purely summer holiday pastime, but this is an advantage to the hard-bitten ones whose heart and soul are in the grand old sport; there is more 'rod-room' and our 'pet' swims are not liable to be over-crowded. Further, the fish we seek are never in better fettle, and provide all the thrills we can desire.

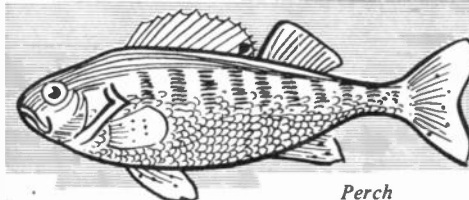
The trout-fisher, of course, finds his occupation gone, though he can carry on a little while longer where the rainbow trout are met with, as on the Derbyshire Wye and other streams to which these sporting chappies have been introduced. Trout on Blagdon can be pursued until October 14th, but for all intents and purposes fishing for the 'speckled beauties' ends when October dawns. This is also the last month for salmon-fishing.

These aspects, however, do not affect the 'rank-and-file' of the angling battalions. Now they are well catered for, and carry on their sport under what the writer considers to be most attractive conditions.

There are mornings with a 'nip' in the air, which has a 'tonic power of exhilaration' that gives zest to an outing with the pike-rod, for now the pike — the poor man's salmon — is fully recovered and in good fettle after a summer's high feeding. The first frosts of autumn and the enthusiastic pike-fisher ventures forth full of anticipation. 'Plugging' in the weedy canal, live-baiting in lake or mere, spinning over a weir-pool, or trolling in a deep-water loch, all methods have their thrills.

The old hand feels called upon to open his pike season in October. Sometimes it happens on a warmish, serene day, and he takes off his coat to allow of being 'free and easy'. If he can get them, he prefers six-inch dace for his baits, which he carries in a bait kettle to the waterside. Pike dote on a juicy dace. Fished on float tackle and a

'Jardine' snap buoyed up by a large cork with a smaller egg-shaped float to act as 'pilot', he tries his luck in the pikey lairs of river or lake. And he'll be disappointed if he does not get a run before he has been fishing an hour — and a run may well lead to a 'strike', a bending rod and clicking reel, finally a yellow-marbled fish all writhing, with gleaming water-drops dripping from him, is gaffed and laid on the grass — the fore-runner, let



Perch

us hope, of many such worth-while fish during the autumn season.

An old-timer (the late J. T. Burgess) in his *Fisherman's Calendar*, tells us that October is an excellent month for the troller and spinner. 'Roach will take boiled malt and pearl barley freely now, if presented in a neat and delicate form. Barbel and bream are good for their excellent condition.' But he overlooks the perch.

Now, if there is anything the writer delighted in — and still does many, many years later — was a day with the perch in October. Perhaps this came about because it was on a lovely October day that he caught his very first perch — not a big one, but sizeable as perch go and the loveliest sight when fresh from the water, gleaming in greenish armour barred with darker shadings, and fins of brilliant reddish hue tipped with crimson.

From that time October has been synonymous with fish that provide much fine sport under varied methods, viz, ordinary float fishing, spinning, paternoster, roving with live-bait, sinking a 'fly' deep in the water and winding in slowly — this calls for a fairly large fly with silver tinsel in its make-up. Per-

haps the angler will prefer roving along a river bank, testing the eddies, swirling holes, and little weir-pools — if any on the stream. Perch do a lot of roaming to and fro in the water; but there are certain spots which you can generally rely upon to yield a fish or two. A weir-pool is generally a favourite haunt.

However, to return to the method of roving, which is as pleasant an outing as the perch fisher can devise for himself. For a day's fishing with live minnow you need plenty of baits, which can be carried in a wide-mouthed bottle, three-parts filled with water, or a small bait-can. The former is handier because it may be put into one's coat pocket; but do not forget to cork the bottle.



Pike

A biggish cork and quill float, egg-shaped, will do nicely, and a yard gut trace or other suitable substitute as Nylon, is leaded some nine to twelve inches from the hook attached to the trace — a single hook No. 8 is about the right size; some anglers prefer a small treble hook. The hook is inserted through the upper lip of the bait, or, if preferred, under the dorsal fin. Care is needed to avoid damaging or nipping the bait; a mauled bait is next to useless.

If you do not care to fish with a live bait, then a minnow, killed by a sharp rap on the head, may be used instead, fished in the 'sink-and-draw' style. Do not hasten too much in 'striking' when you get a bite. When you arrive at a likely hole or eddy under the bank, don't go peeping over to see if there are any fish — if you do, you'll queer your own pitch. Keep back and do not allow curiosity to get the better of you. Drop your bait in gently at the edge of the current and allow it to work back with the wash of the eddy; if perch are about you will soon be made aware of the fact.

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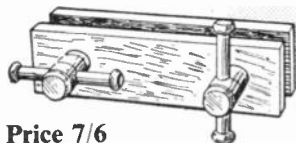
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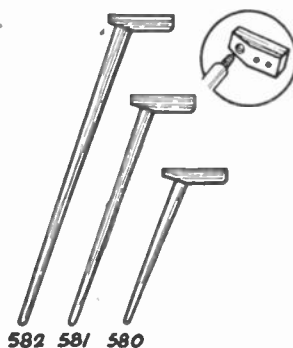
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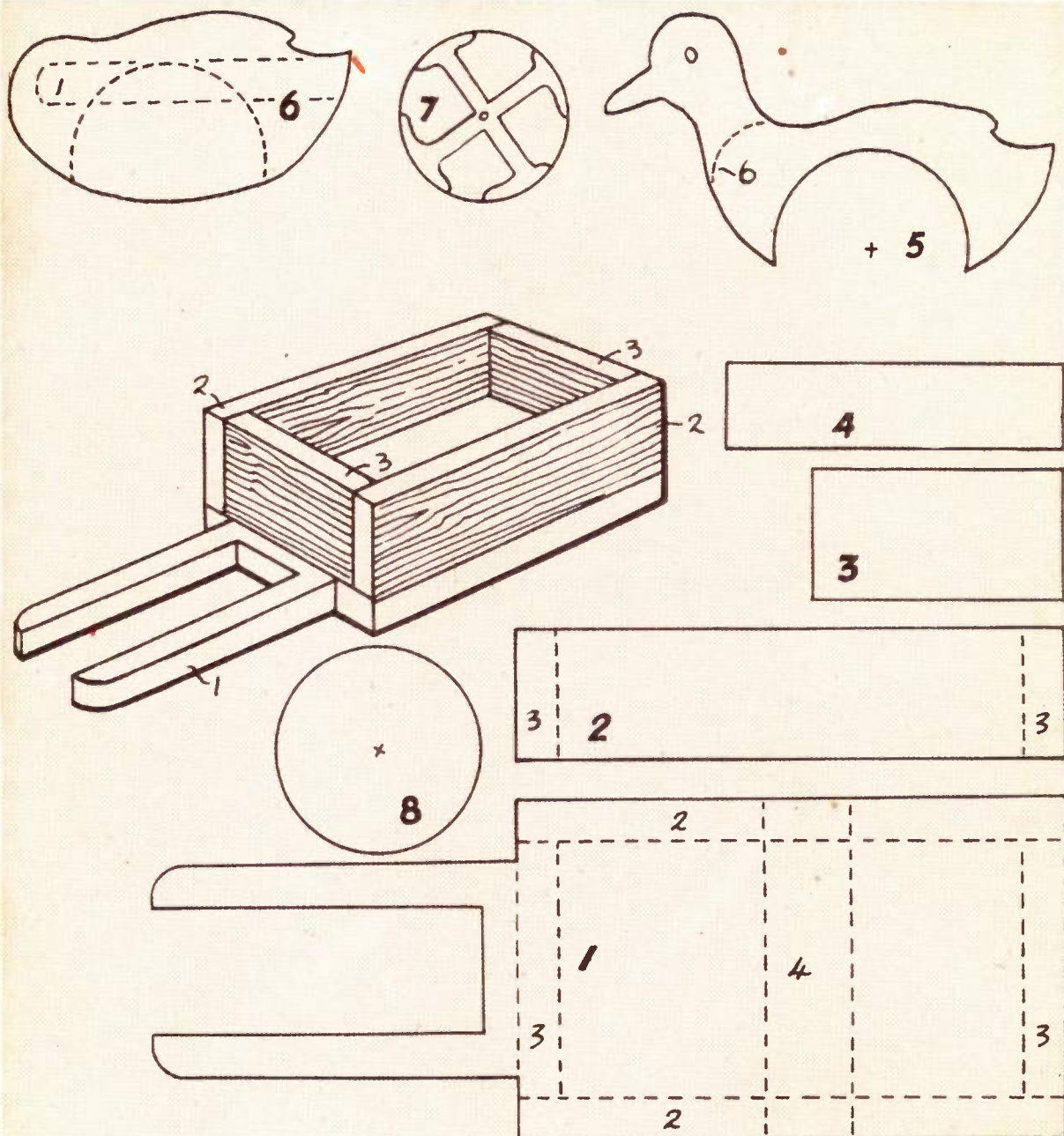
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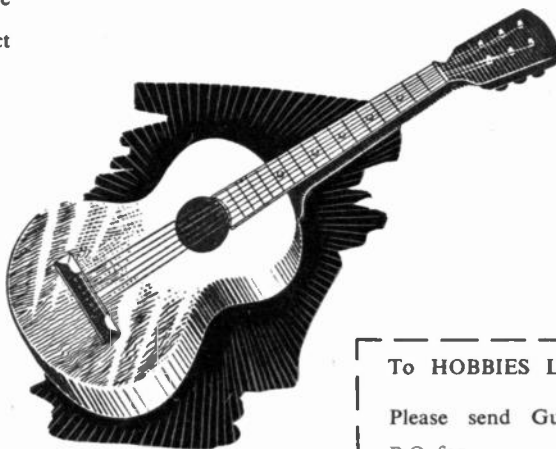
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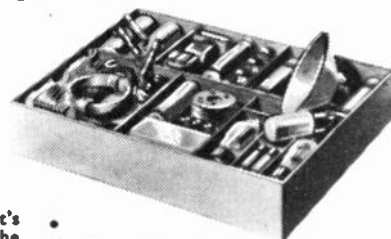
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