

31st JANUARY 1962

VOL. 133

NUMBER 3451

THE ORIGINAL
'DO-IT-YOURSELF'
MAGAZINE

HOBBIES *weekly*

FOR ALL
HOME CRAFTSMEN

Also in this issue :

PATTERNS FOR
A BRICK WAGON

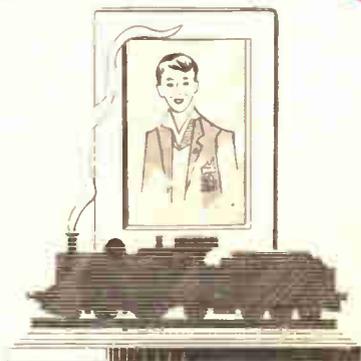
COLLECTORS' CLUB
LATEST STAMP NEWS

GARDENING FOR
FEBRUARY

DIY BREAK
FEATURE

EXPERIMENTS
WITH TRANSISTORS

ETC. ETC.

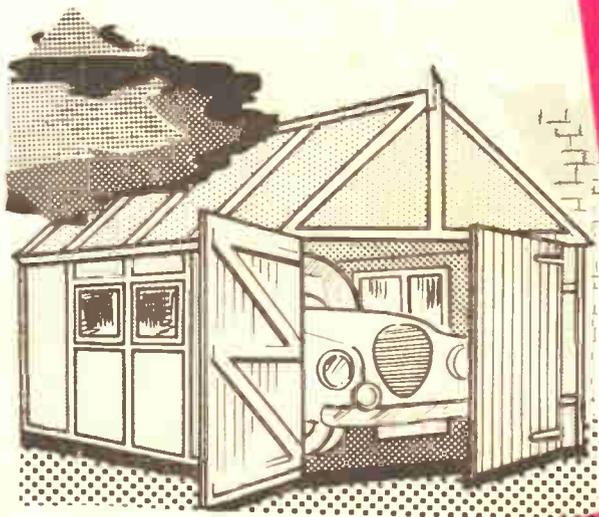


Bonus Plan

**LOCO SPOTTER'S
PHOTO FRAME**

**DETAILS
FOR
MAKING
A FIRST-
CLASS**

GARAGE



Up-to-the-minute ideas

Practical designs

Pleasant and profitable things to make

5^D



SPECIAL slogan postmarks 'National Savings Make You a Shareholder in Britain' were used at the Scottish offices of Edinburgh, Glasgow, Aberdeen, Dundee, Inverness, Perth, Stirling and Ayr from October 17th to November 14th inclusive.

Two country-wide slogans which were also in use for a few weeks at certain London and provincial offices—they read: 'Postal Order Gift Folders Make Gay

THE Government of Fiji completed the changes to their current definitive issue on the 14th November, 1961, by the release of the remaining seven new designs. Details are as follows:

THE LATEST RELEASES FROM FIJI



Four of the seven new designs

½d. and 2d. value (emerald green and rose red respectively) — the renowned Annigoni portrait of Her Majesty the Queen, already appearing on the present 1d., 1½d., and 2½d. stamps, is repeated on these two values.

6d. value (magenta and black) — this stamp depicts a Fijian beating a lali, which is a native drum made from a hollowed-out log. The lali may be described as the equivalent of the public address system in the Fijian village, as it is used to draw the attention of the people and gather them to a central point.

1/- value (light and deep blue) — this stamp includes a map of a large area of

airport, and the new terminal building is reproduced on this stamp.

10/- value (emerald and sepia) — Sugar is Fiji's largest industry and Indian farmers are shown on this stamp, cutting sugar cane in the fields. This new stamp re-introduces the 10/- denomination, withdrawn from sale on the 31st December 1958.

£1 value (black and orange) — The Coat of Arms of the territory reproduced on this stamp was assigned to Fiji by His Majesty King Edward VII in 1908. The Fijian language motto means 'Fear God and honour the Sovereign'.

POSTMARK SLOGANS

Gift Messengers' (October 26th to November 1st), and 'B.B.C. TV Jubilee 1936-1961' (November 2nd to 30th inclusive).

A local postmark slogan 'Burnley Centenary 1861-1961' was used at Burnley from October 24th to November 24th.

Correspondence posted at the Surrey Philatelic Convention and Exhibition at Woking, Surrey, on October 28th, was postmarked with a special hand-stamp.

* * *

BRITISH GUIANA

To commemorate the fourth annual History and Culture Week, the Government of British Guiana released a special issue of three postage stamps, 5, 6 and 30 cents on the 23rd October 1961.

The design, common to all three values, includes a portrait of Her Majesty Queen Elizabeth II, and depicts hands of six different races clasped together, symbolizing the people's desire to weld themselves into one nation.

A fine set of six new stamps from Czechoslovakia for which the theme is 'agricultural produce'.



LATEST NEWS FROM JAPAN

The construction of the new modern building of the Japanese National Library, which has been in progress since 1954 at a site near the Diet building at Nagata-cho, Chiyoda-ku, Tokyo, has recently completed its first phase to house within its walls 2,000,000 volumes



of books and a staff of 770. It is considered the third biggest library in the world. To mark its opening a 10 yen stamp (see illustration), appeared on November 10th, 1961.

The chrysanthemum is the crowning beauty that queens over Japan's late autumn garden. As the eleventh of the flower series from this country, a 10 yen stamp also appeared on 10th November.



These Norwegian stamps were issued on 10th November 1961 on the occasion of the 50th anniversary of Roald Amundsen's arrival at the South Pole

FEDERATION OF MALAYA

Coplan Commemorative Issue

The Government of the Federation of Malaya released a new issue of three postage stamps, 12, 25, and 30 cents, to mark the 13th Meeting of the Consultative Committee for Co-operative Economic Development in South and South-East Asia (Colombo Plan), held in Kuala Lumpur from the 30th October - 18th November 1961.

The stamps include the emblem of the Colombo Plan with the motto 'Planning for Prosperity' as their central theme. The 12 cents stamp is pink and black, the 25 cents stamp is light green and black, and the 30 cents stamp is light blue and black.

Selangor — Portrait Change

The portrait on the current stamps of Selangor has been changed to that of the new Sultan. High Highness Tuanku Salahuddin Abdul Aziz Shah Ibni Alamarhum Tuanku Hisamuddin 'Alam Shah Alhaj. The first value bearing the new portrait, 10 cents, was released on 1st November 1961.

Kelantan — Portrait Change

The portrait on the current stamps of Kelantan was changed to that of the new Sultan, His Highness Tuanku Yahya Petra Ibni Al-Marhum Sultan Ibrahim, D.K., S.P.M.K., S.J.M.K., S.M.N. The first value bearing the new portrait, 10 cents, was released on the 2nd December 1961.

* * *

RUSSIA

The following new issues have been received from Moscow:

'The 2nd Flight of Man in Space'. These feature 'Spaceman Titov and his Sputnik Vessel East-II' — 6 kopeks brown and green; and 'Titov and Globe' — 4 kopeks red and blue '300th Anniversary of Irkutsk'.

This 4 kopeks value pictures the bridge across Angara river and panorama of the city.

A 4 kopeks value commemorates the 'Letter Week 1961.'

'Capitals of Autonomous Republics' — continuation of series, depicting Nahichevan, capital of Nahichevan, ASSR

* * *

AN American reader who writes 'I think your magazine is tops in its field', collects photographs of pin-up girls, and old baseball players. He is willing to exchange with anyone with similar interests. Write to **TOMBOSTON**, 4763 Milwaukee Ave., Chicago 30, Illinois, U.S.A.



Selection from a new set of stamps from Zanzibar which are bound to be popular. Celebrating the first anniversary of the accession of the new Sultan; there are 16 stamps in the set

Advertisers' Announcements

COLOMBIA

Pictorial Air Set 1954/58 14 values (used) 5/-, National Wealth-Industry set 1956/58 19 values (used) 4/6 set. (Postage paid).

May we send you our world-wide discount Approvals? (3d. postage please).

THE PRIORITY STAMP COMPANY
(Dept. H/3), 86 Pauntley Road, Mudeford, Christchurch, Hants.

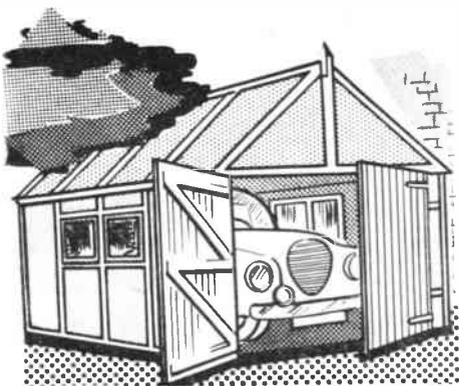
100 DIFFERENT stamps free! Request 1d, upwards discount approvals. — Bush 53 Newlyn Way, Parkstone, Dorset.

FOR SALE — NEWFOUNDLAND STAMPS! 100 fine NFLD stamps \$1.00 — 1,000 \$9.00 — 2,000 \$15.00 — 50 all different \$2.00 — 100 all different \$6.00 order now from **HARRY PHILLIPS SALES, BONA-VISTA-2K, NEWFOUNDLAND, CANADA.**

Each week provision will be made on these pages for advertisers' offers. Classified rate 6d. per word prepaid. Display rates on application.

50 STAMPS FREE to applicants for fine stamps on approval. Discounts and Post Paid. — **McKendrick (H)**, 9 Nethercourt Farm Road, Ramsgate, Kent.

HOW TO MAKE A STURDY GARAGE



cutting list of the lengths required for each section. The garage is covered with asbestos sheeting. If the instructions are followed carefully, a good professional looking job will be the result.

Front section

Fig. 1 shows the positions of the pieces which form the front section. First cut the four pieces A. These are 5 ft. 10 in. long. Then cut the two

pieces B, 7 ft. 9 in. long. Cut the eight $3\frac{1}{2}$ in. pieces E from the bits left over. It is important that the ends are cut perfectly square, otherwise the frame will be out of shape when assembled. This point applies right through these instructions.

In the cutting list the two pieces D are given as 5 ft.; this is to allow sufficient material for cutting the angles correctly. Mark them out and cut as shown in Fig. 2. The same lengths are used for the rear section and the intermediate roof

THE garage to be described in this series of articles is 14 ft. long by 7 ft. 9 in. wide. This is a handy size, being large enough to accommodate most of the popular makes of cars. The plan for construction has been simplified, eliminating all unnecessary work without sacrificing strength. Most of the framework is made of 2 in. by 2 in. scantling, and details are given in the

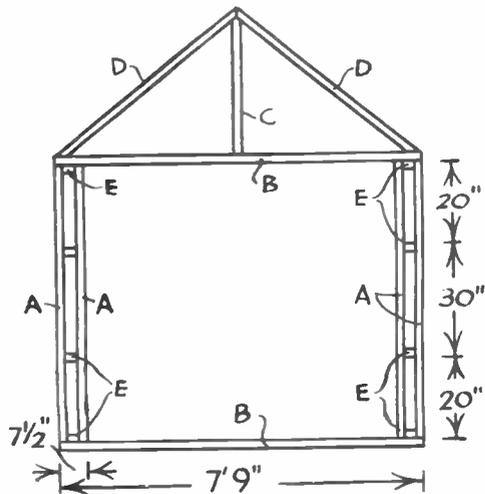


FIG 1

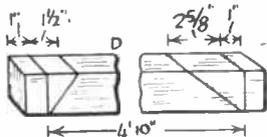


FIG 2

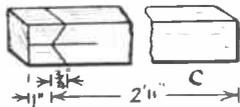


FIG 3



FIG 4

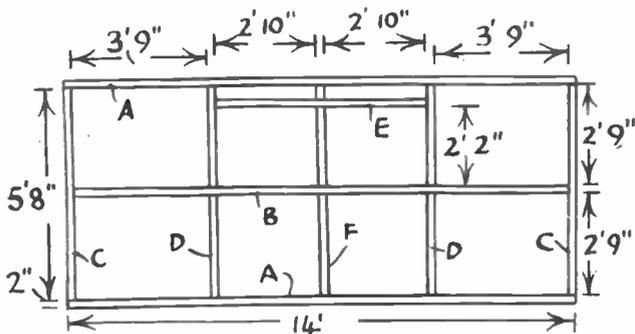


FIG 6

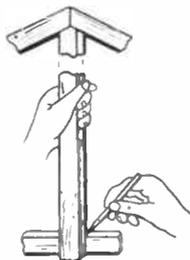


FIG 5

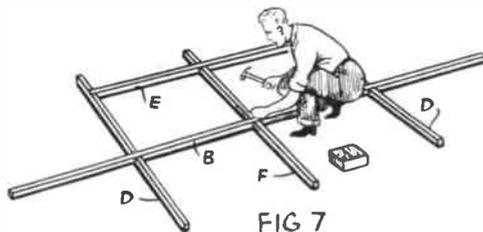


FIG 7

supports — ten pieces in all — the centre pair being made of 3 in. by 2 in. timber. It is advisable to cut all these pieces at this stage, making the length and angles exactly the same. This will ensure a good straight roof. The piece C for the front section is shown as 3 ft. in the cutting list. Mark out and cut as shown in Fig. 3.

To assemble the front section, take up the two pieces B and drill the ends to take the nails. This simple precaution should be carried out whenever nails are driven across the grain at the end of a length. Split ends should be avoided at all costs. Nail in position the four pieces A, using two 4 in. nails at each end. The pieces E should be placed in position while the inner A pieces are fixed.

Nail the eight $3\frac{1}{2}$ in. pieces in position. Drill the two pieces D to take 3 in. nails,

two at each end, and fit in position on the frame (Fig. 4). Finally fit the centre piece C. This should first be held in position and marked out as shown in Fig. 5. The front frame is now complete, ready for the asbestos, the fitting of which is described later.

Side sections

The two side sections are identical. The positions of the pieces are shown in

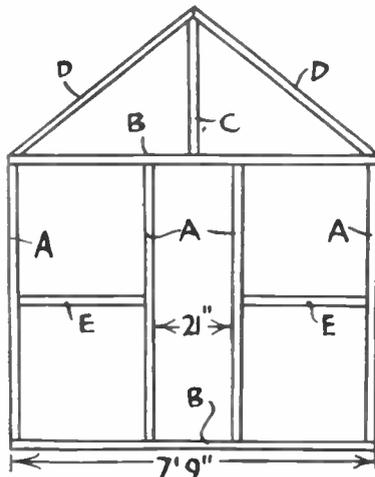


FIG 8

Fig. 6. Half joints are used where the scantlings cross inside the frame. These are simple to make, and need no explanation. Measure each piece very carefully and cut to length. The five pieces D two off, B, E, and F, should be marked out for the half joints, using a marking gauge and square. Finally cut the two 14 ft. lengths to size, and drill each end for the nails.

Prepare both side sections for assembling, then continue as follows. First nail the two 5 ft. 8 in. C to the two 14 ft. pieces to form a rectangular frame. Check this for being square against a sheet of asbestos. Now assemble the two pieces D and the piece F to the piece E, and secure each half joint with one 2½ in. nail, see Fig. 7. Place the 13 ft. 8 in. piece B in position, and secure in a similar manner. Take up this sub-assembly and place it in the rectangular frame.

Before nailing in position, ensure that the ends of B come in the centre of the two uprights C, and that the other pieces are parallel, also that the top of the two D pieces are touching the ends of E. Nail the sub-assembly in position, using two 4 in. nails at each end. Finally add a second 2½ in. nail to the half joints, firmly clenching these over. The side sections are then ready for the asbestos.

TIMBER IN GROUPS			
	Size	Length	No. of Lengths
One side section (two groups required):			
Scantlings	2 in. by 2 in.	14 ft.	3
Scantlings	2 in. by 2 in.	6 ft.	6
Front section:			
Scantlings	2 in. by 2 in.	8 ft.	2
Scantlings	2 in. by 2 in.	6 ft.	4
Scantlings	2 in. by 2 in.	5 ft.	2
Scantling	2 in. by 2 in.	3 ft.	1
Rear section:			
Scantlings	2 in. by 2 in.	8 ft.	2
Scantlings	2 in. by 2 in.	6 ft.	4
Scantlings	2 in. by 2 in.	5 ft.	2
Scantling	2 in. by 2 in.	3 ft.	3
One roof section (four groups required):			
Scantlings	2 in. by 1½ in.	7 ft.	2
Scantlings	2 in. by 1½ in.	5 ft.	3
Roof supports:			
Scantlings	2 in. by 2 in.	7 ft.	3
Scantlings	2 in. by 2 in.	5 ft.	4
Scantlings	3 in. by 2 in.	5 ft.	2
One window frame (four groups required):			
Planed	2 in. by 1½ in.	3 ft.	2
Planed	2 in. by 1½ in.	2 ft. 6 in.	2
One front door (two groups required):			
Planed	4 in. by 1 in.	6 ft.	5
Matching	5 in. by ½ in.	6 ft.	8
Matching	5 in. by ½ in.	6 ft.	1
(One 6 ft. length for the overlap)			
Rear door:			
Planed	4 in. by 1 in.	2 ft.	3
Matching	5 in. by ½ in.	6 ft.	5
Weather boards and strips:			
Planed	5 in. by 1 in.	5 ft. 6 in.	6
Planed	5 in. by 1 in.	5 ft.	2
Planed	4 in. by 1 in.	13 ft. 6 in.	2
Planed	2 in. by 1 in.	8 ft.	2
Planed	2 in. by 1 in.	6 ft.	24
Planed	2 in. by 1 in.	3 ft.	2
Planed	2 in. by 1 in.	6 in.	2
Ornaments, planed	4 in. by 1 in.	1 ft. 6 in.	2
ASBESTOS			
(All ½ in. thick)			
9 sheets at 6 ft. by 4 ft.		8 sheets at 6 ft. by 3 ft.	
SUNDRIES			
6, 15 in. 'T' hinges.		2 lb. to 3 lb. of 4 in. round nails. For 2 in. by 2 in. scantling.	
4 sheets of glass, cut to fit frames (approximately 2 ft. 7 in. by 1 ft. 11 in.)		1 lb. of 3 in. oval nails. For roof supports.	
16 metal clips for roof.		1 lb. of 1½ in. oval nails. For nailing on matchings.	
28 ft. of 3 in. guttering.		2 lb. of galvanized nails (1½ in.). For nailing on asbestos.	
10 gutter support brackets.		36, 3 in. screws. For 4 in. by 1 in. roof boards, and supports.	
4 lb. of paint. For doors, window frames and weather boards.		36, 1½ in. screws. For fixing ledges.	
Window fittings.			
3 door bolts, one padlock and hasp.			

Rear section

The position of the pieces forming the rear section are shown in Fig. 8. The two D pieces are identical to those on the front section, and if the previous instructions have been followed they will be ready cut. The C piece is also the same, and should be marked out and cut as shown in Fig. 5. Ensure that the other pieces are right for length, and that the ends are square. The rear section is then ready for assembling.

Drill both ends of the two B pieces to take the nails, then nail them to the two A pieces to form a rectangular frame.

Check this for being square, then mark the positions for the two A pieces on the top and bottom rails B to form the space for the rear door. Mark a line across the exact centre of the four uprights A, and nail an E piece to each of the two inner A pieces.

Nail these into the rectangular frame, making sure that the door space is correct and parallel. Fit the two angle pieces D and the C piece in the same way as was done with the front section. The rear section is then ready for the asbestos.

(To be continued)



Gardener's Notebook

ROTATION OF CROPS

	1ST. PLOT	2ND. PLOT	3RD. PLOT
1ST. YEAR	BEANS, PEAS (LEGUMES)	CABBAGES, SPROUTS, BROCCOLI ETC (BRASSICAS)	CARROTS, BEET, PARSNIPS ETC (ROOT CROPS)
2ND. YEAR	CABBAGES, SPROUTS, BROCCOLI ETC. (BRASSICAS)	CARROTS, BEET, PARSNIPS ETC. (ROOT CROPS)	BEANS, PEAS (LEGUMES)
3RD. YEAR	CARROTS, BEET, PARSNIPS ETC. (ROOT CROPS)	BEANS, PEAS (LEGUMES)	CABBAGES, SPROUTS, BROCCOLI ETC (BRASSICAS)

YOU will probably know that farmers do not usually grow the same crop on the same land for two successive years. The reason is that different crops make different demands upon the available plant food. Their treatment is different and pests too have their own favourite hosts. The farmer, therefore, takes advantage of this knowledge and experience by changing the crops around.

The same applies to the vegetable garden. A proper rotation of crops means not only healthier vegetables but also an economy in fertilizers and manure.

For example, peas and beans will fix nitrogen in the soil. If you examine the roots you will see the little nodules whose function is to perform this essential work. Roots should therefore be dug into the ground, Brassicas, instead of manufacturing nitrogen, require large

amounts to grow properly. Obviously then, if brassicas are planted to follow the peas they will not require the addition of so much nitrogen.

As for disease, it is common knowledge that brassicas are subject to club root, which remains in the ground for some time. It is wise, therefore, to rest the soil from brassicas for as long as possible.

Much will, of course, depend upon the size of the garden and the household needs. If main crop potatoes are to be grown in any quantity it would be an

advantage to divide the available land into four plots, confining potatoes to one plot and brassicas (greens) to another. It will be difficult to assess the space requirements to start with, but after a year or two your needs will become obvious and you will be able to plan accordingly. After a time you will be able to lay permanent paths to divide these plots and keep everything shipshape.

When potatoes are not a main consideration, especially in the smaller garden, the rotation can be over three years. A three-year rotation would be similar to that indicated in the accompanying table. Starting off with peas and beans on the first plot, follow with brassicas on the second plot and root crops on the third. In the second year the brassicas will be on the previous year's bean plot and so on.

If you plan your garden well you should be able to make use of every available space. Prepare the ground early for your main crops and you will be able to catch-crop with quick growing salads such as lettuces and radish. For example the sides of the celery trench can be planted with lettuce, which will mature before the celery is due to be earthed up.

It is not intended that you should adhere strictly to these principles. But you will find that if you keep to the main ideas the rotation will sort itself out in a few years and much advantage will be gained. (M.H.)

Mr J. Avey of Catford, London, has supplied details of a simple method of copying illustrations (such as cartoons) from newspapers on to a postcard or other smooth surface.

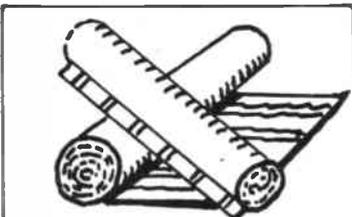
The method is to rub candle-wax well into the card. Place the picture to be copied face down on to the waxed card, then rub the back of the picture firmly with a spoon. After rubbing for a minute

NEWSPAPER TRANSFERS

or so, the picture will be found superimposed on the waxed card. Parts of the picture can be erased, if necessary, by scratching off the wax in that area. To 'fix' the picture, just warm slightly so that the wax is absorbed into the card. Now retouching can take place with a pencil if necessary.

This method of copying is essentially confined to line illustrations from the more porous type of paper — such as newsprint. The copy taken will be in reverse, as will be the printed word. These words can be scratched away as described above. (E.)

Quik-Tip



**PREVENT WASTE FROM
LARGE-PATTERNED,
WALLPAPER BY
CUTTING LENGTHS
FROM ALTERNATE ROLLS**

...ab evenly on the paper...
...ht and hang to dry under...
...to know if you could...
...to go over the wallpap...
...wish to make some plans...
...on the same...
...mitter (R.P. — Wolverhampton)...
...Channel in...
...to charge a 12V. battery, as...
...was made by J...
...board over a sto...

Replies to Readers

Bookbinders' Paste

COULD you please advise me on making a paste similar to that used by bookbinders? I have used the old method of flour and water, but this is too lumpy and not very strong. (B.J. — Warwick.)

THERE are various recipes for bookbinders' paste. The flour recipe which you used went wrong because of uneven mixing and wrong proportions. As this is a simple recipe you may like to try it again. Mix 2 oz. of flour with 2½ oz. (fluid) of cold water into an even batter. Pour this into 7½ fluid oz. of boiling water, and stir well until the paste thickens no more. If the paste is to be kept, a preservative will be needed, such as a few drops of oil of cloves or 1-7 drams of phenol (caution, corrosive to skin and hence should not be handled). A more elaborate formula in use is based on a gum, flour and dextrin make-up. Stir 10 grams of gum tragacanth into 80 c.c. of boiling water. Mix 5 grams of dextrin and 30 grams of flour with 20 c.c. of cold water and stir this into the gum tragacanth mucilage. Pour this mixture into 120 c.c. of boiling water, stirring constantly. To this is added 1-5 grams of salicylic acid previously rubbed up with 5 c.c. of glycerine. Continue boiling and stirring for five minutes and then allow to cool.

audience should be fitted to the front of the stage. Some of the wing lights could be coloured to give certain effects, such as night, etc. Each colour would

All queries must be addressed to The Editor, 'Hobbies Weekly', Dereham, Norfolk. Enclose stamp for reply and Readers' Reply Coupon.

need separate switches. A point worth considering would be to install the non-flashing type of fairy lights as fitted to Christmas trees, which work off the mains and would cost practically nothing to run.

Preserving an Oak Gate

IHAVE just fitted new oak front gates and was advised not to paint them but to use linseed oil. I am quite pleased with the effect but am wondering if this is going to be sufficient covering to stand up to the weather. I realize that more than one application will be needed, but still have my doubts re weathering; also should the knots be treated in any way? (I.W. — Woolwich.)

PROVIDED you do not overdo it, the raw linseed oil will have a certain preservative effect, and this should also bring out the grain, but if too much is applied it will tend to ooze out in warm weather and make the wood unpleasantly sticky. Rub it well in with a clean rag, and repeat at intervals, not using much oil.

Alternatively, if you have not applied too much in the first application, we suggest when quite dry you give the wood a coat of clear oak varnish which looks and wears well and preserves the wood. The knots are best treated with a coat of varnish anyway.



LOCOMOTIVE PHOTO FRAME



Add this Bonus Plan to your store of designs for future reference. Simply lift the wires and extract plan from magazine. Full-size patterns for transferring to the wood are shown overlaid.

Model Theatre Lighting

IAM making a model theatre for string puppets, and wonder if you can help me with the lighting. I want to use dry batteries. Could you tell me the number of batteries needed and what voltage, as well as types of bulbs required? (J.G. — Ripley.)

MAINS voltage bulbs are normally used, but batteries may be suitable on small theatres. Ordinary 2.5 volt torch bulbs may be used, but if more than two are in circuit it will be necessary to increase the battery capacity by coupling up several cycle batteries in parallel; that is, all positive terminals joined together and all negatives joined together. Accumulators would be better, if charging facilities are available; in this case, the bulb voltage required would depend on the accumulator voltage. Footlights, screened from the eyes of the

THE locomotive photo frame shown in this week's Bonus Plan on the centre pages, make's up to a most attractive article, which should appeal particularly to train spotters. It takes the popular size of 2½ in. by 3½ in. prints. The subject is simple enough to be tackled even by the beginner to fretwork. A minimum of tools are required, a fretsaw, drill and cutting table being the essentials. A complete set of Hobbies fretwork tools are illustrated on the plan. These are attractively boxed and would make an ideal gift for any boy. Alternatively, all tools can be purchased separately.

Commence by transferring all parts shown full size to the appropriate thicknesses of wood by means of carbon paper. Cut out carefully with a fretsaw

and clean up with glasspaper.

Start assembling by gluing piece D to piece C as shown by the dotted lines on piece C. Glue this assembly into the hole provided in the base (A). To the front of piece C is now glued the train overlay (B).

Apart from fixing the photo the frame is now complete and can be finished to suit individual tastes. We suggest painting in a pastel shade of enamel.

To fix the snapshot in place cut a piece of glass or transparent material to the exact size of the opening in piece D. Insert in the opening, place snapshot face to the glass and behind this a packing piece of card. To hold these firmly in place paste a piece of brown paper over the back of the card and overlapping on to the back of piece D.



**BONUS
PLAN**

PH THE LOCOMOTIVE

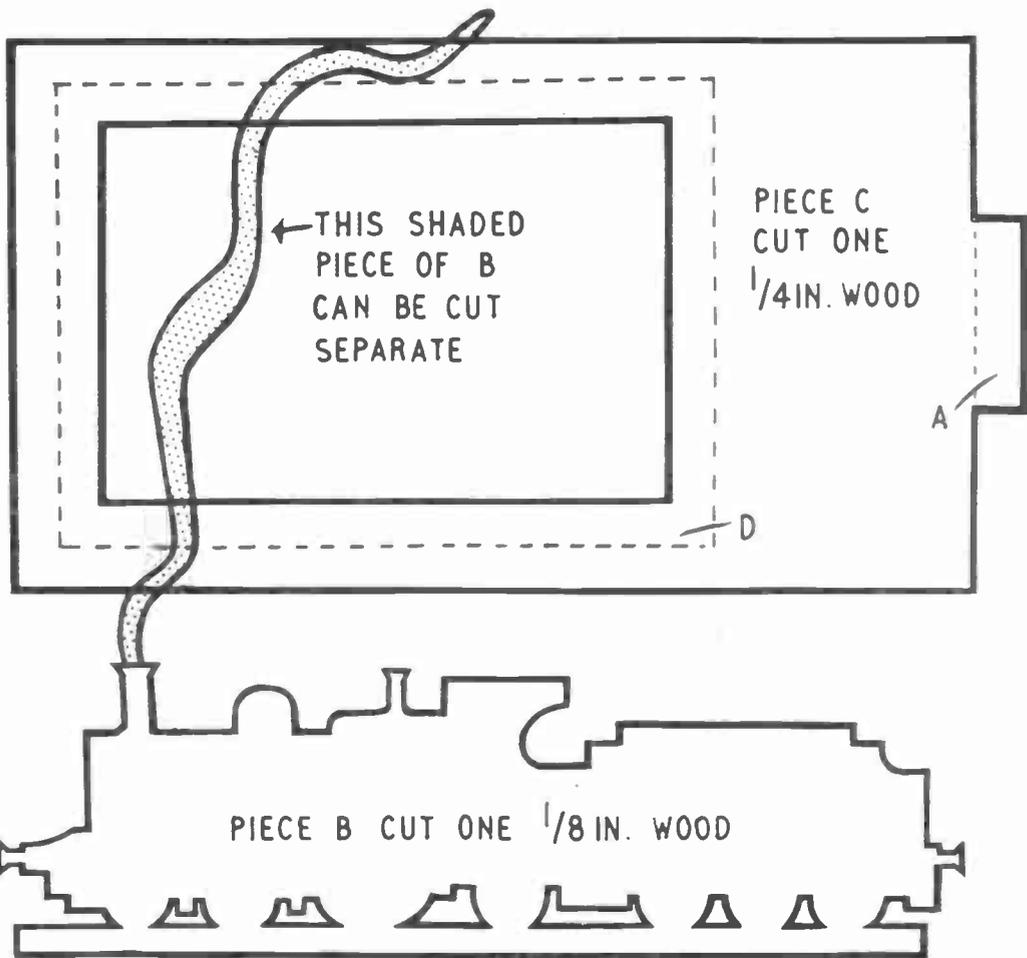
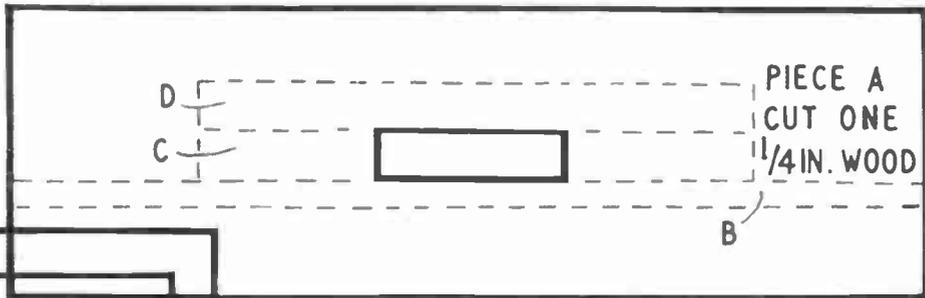
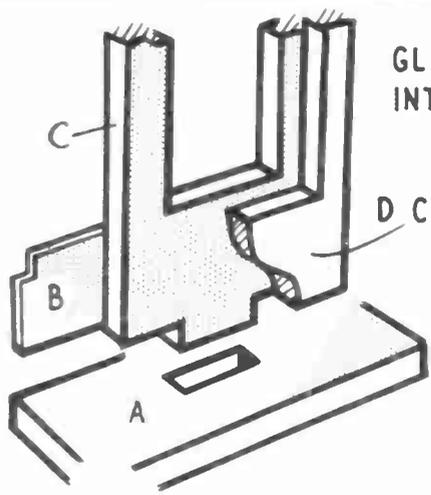


PHOTO FRAME



Hobbies AI FRETWORK OUTFIT

PIECE D CUT ONE
1/4 IN. WOOD. GLUE
TO PIECE C AS SHOWN



GLUE PIECE C
INTO PIECE A.

D CUT AWAY

DETAIL OF
PICTURE FRAME
LOOKING FROM
THE BACK

THE WORLD'S STRONGEST GLUES

Stick it with -

Croid POLYSTIK

A white P.V.A. adhesive, clean to use, non-staining, fast-drying and strong. For joinery and cabinet work. In easy-spread polythene bottle: 2/6d and 5/-.

BUY CROID FROM YOUR LOCAL HOBBIES BRANCH



ALMA Cogan's success story started when she was fourteen. She saw the Ted Heath band at a concert and decided her ambition was to sing with a big band.

She persuaded her mother into taking her for an audition with Heath, and a very young Alma Cogan duly arrived at the Ted Heath office — complete with gym slip. Ted enjoyed her singing, but suggested, as she was much too young, that she should gain as much experience as possible and see him again in a year or two. His advice 'dress well and sing sincerely' has been with Alma all along the line.

At the age of fifteen, she obtained her first band job with a local outfit in Worthing. From this followed a week's variety in Brighton.

Through this date she was offered a two-year contract with the famous 'Twinkle' company — the first year at £16 per week and the second at £20. Alma was delighted, but her parents frowned on the idea, as they thought at 16 she was much too young to tour, so she had to turn down the contract.

Soon afterwards, she beat twenty rivals for a job as a resident vocalist in a Brighton dance hall. She remained there for a short time, then joined the show *High Button Shoes* at the London Hippodrome. And, incidentally, a colleague in the chorus was Audrey Hepburn.

In 1952, a friend introduced her to H.M.V. Recording Manager, Wally Ridley, who was immediately impressed

ALMA COGAN



by her voice and wonderful personality. He offered her a recording contract. When B.B.C. producer Roy Speer heard Alma's first release, he auditioned and signed her on the spot for the Dick Bentley series, *Gently Bentley*.

Alma toured in many variety shows and made many broadcasts as a star in her own right. Her sense of comedy and flair for dialects came to the attention of producer Charles Maxwell who, on the

departure of Joy Nichols, signed her for *Take It From Here*.

Her success with this, and other radio programmes, television, variety tours and the tremendous acclamation of her records, topped by such hits as *Where Will the Dimple Be*, *Mambo Italiano*, *Hernando's Hideaway*, *Bell Bottom Blues*, *I Can't Tell a Waltz from a Tango*, *Tweedlee Dee*, *Dreamboat*, *Twenty Tiny Fingers*, *Willie Can*, and her latest release *Party Time* and *Please, Mr Brown* have helped Alma to build a colossal following.

Her latest accomplishments include a most successful tour of the United

States, countless TV. appearances, and a 12-inch Long Playing record now due for release, namely *I Love to Sing*.

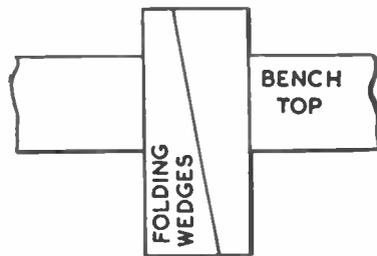
This album displays one of Alma's seldom-heard styles, a style in which she sings with great feeling, wonderful phrasing and a remarkable sense of rhythm, such standards as *Taking a Chance on Love*, *They Can't Take That Away from Me*, *Cheek to Cheek* and *Blue Skies*.

Adjustable Bench Stop

MANY home handymen simply nail a piece of scrap wood temporarily to the surface of their workbench to serve as a bench stop when planing timber. This is not a very satisfactory idea because it often means altering the thickness of the timber used for the stop with each job; thick timber usually requires a rather deep bench stop and vice versa.

A much better method is to use an adjustable bench stop which can be easily altered to suit each job. Such a stop can be simply made by inserting a pair of folding wedges in a hole on the bench top, as shown. The thickness of

the stop can be easily adjusted by slackening the wedges and re-tightening them again at the desired height. (F.K.)



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PRACTICAL CONSTRUCTION

SOME further details of ways of building up the receiver and amplifier circuits already given should be helpful. Various circuits may easily be tried experimentally, and it is very interesting to compare the results obtained.

Very few tools are needed, and the small size and light weight makes it easy to store components, or partly finished equipment. A small box, tray or drawer will hold everything required, so a separate work-room or toolbench is not necessary.

Soldering

Some guidance on soldering has already been given. Good soldered joints are essential, but can easily be produced. If similar work has not been done before, it is a good plan to practice by joining odd lengths of wire, or by soldering several wire leads to a further wire or tag.

Cored solder, as sold for radio work, should be used. No extra flux is needed. Wires, tags, or other parts to be joined should be clean and bright. The iron is 'tinned' by melting a little solder on to it. The cored solder and hot iron are both held in contact with the joint. In a few seconds the solder should fuse over the joint. Both iron and solder are then taken away at once.

By 'Radio Mech'

When several leads are joined at one place, be sure *all* are actually soldered. Lengthy heating will not be needed if the iron is hot enough, and the iron should always be removed as soon as the joint is made, because heat may otherwise

Wire

Thin wire, such as about 26 s.w.g., is most convenient for transistor sets. Tinned-copper wire solders most readily. Thin 1 mm. sleeving can be placed over wires, and wire ends of resistors, etc.

For battery leads, thin flex should be used, and miniature gauge flex is available for this purpose. If a habit is made of using red for positive, and black for negative, there need not be any trouble due to connecting a battery the wrong way round.

Positive and negative snap fasteners, which will only go on transistor batteries correctly, are also available.

Resistors and condensers

Resistors may be wired in circuit either way round. Voltages and currents are very low, and extremely small resistors are used in midget sets. If space is unimportant, there is no reason why the larger type of resistor should not be used

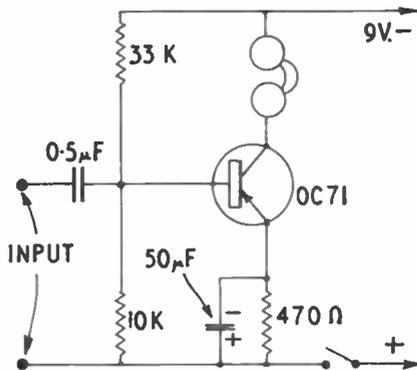


Fig. 29—Amplifier using one transistor

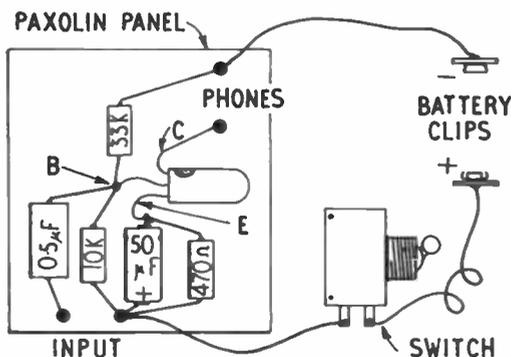


Fig. 30—Circuit in Fig. 29 wired up

For transistor work a small, light iron with a bit $\frac{1}{8}$ in. or $\frac{1}{16}$ in. in diameter will do well. Some irons have a neon bulb in the handle, to show when they are on. The iron can be run from any convenient power socket — that is, a 3-pin plug. Metal parts of the iron are earthed to the earth pin of the plug. If the socket is not in a very convenient spot, an extension lead can be made. This consists of a plug, length of 3-core flexible cord, and a socket. If the latter has a switch, this will be handy for switching the iron on and off. The L, N, and Earth pins of the plug are wired to the appropriate sockets of the new switch-socket outlet, which should be screwed to a small board. This new outlet, with the iron plugged in it, can be placed conveniently near.

travel along the wires, and damage components.

Transistors and diodes are most liable to damage from heating in this way. It is usually best to do other joints first, then solder the diodes or transistors in. Leads should be left at least $\frac{1}{8}$ in. long. A good joint should be made in one to two seconds. It is possible to hold the lead, between transistor and joint, with flat-nosed pliers, to help conduct heat away. But this is not necessary if joints are made quickly.

Do not switch the iron off between making joints. Most new tags, wires, and the ends of components will solder well without any cleaning. Dirty or dull surfaces will, however, need cleaning, either by scraping, or with a small file, or emery paper.

instead, if to hand.

Condensers of up to about 0.5µF are usually mica or paper, and may be joined in circuit either way round. These condensers often have voltage ratings of 150V. or higher, though such high voltages will not be present in transistor sets.

Large capacity condensers, from about 1µF to 100µF. For even more, are electrolytic. They have positive and negative ends, and must be wired in the right way round.

Miniature electrolytic condensers may have very low voltage ratings. The voltage rating must always be equal to, or higher than, the voltage encountered. For example, a 50µF 3V. condenser would do for an emitter circuit, where less than 3V. would be applied across

the condenser. But this condenser would not do for wiring in parallel with a 9V. battery circuit, where a $50\mu\text{F}$ 9V. condenser would be needed.

Many electrolytic condensers have a bare metal case, which is common to the negative tag or wire. If so, other bare

position can be obtained in many sizes, or the required length can be cut from a long board. The tags can be used as junction points for components and wiring, unrequired tags being ignored.

Fig. 32 shows the circuit in Fig. 29, constructed on a 7-way twin tag board.

circuit, it will usually be quite easy to build up amplifiers or receivers having two, three, or more transistors. A paxolin panel, used as described for Fig. 30, is very inexpensive indeed, and allows very compact construction. A drill of the size used to start a fretsaw

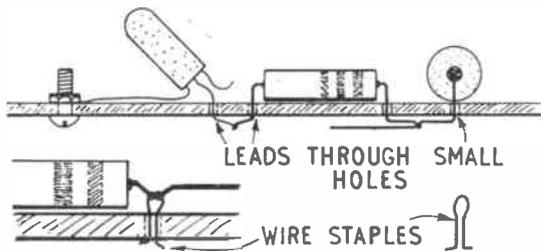


Fig. 31—Methods of securing components to the panel

wires, joints, or bare parts must not touch the case. If necessary, the case itself may be covered with brown paper, tape, or any other insulating material.

Circuit wired up

With most fairly simple circuits, the actual components can be placed in a somewhat similar position to where they appear on the theoretical circuit. With many receivers and amplifiers, the exact location of the parts will not make any difference.

Fig. 29 shows the theoretical circuit of an amplifier using one transistor. In Fig. 30, this circuit has been wired up on a small insulated panel. If Fig. 30 is compared with Fig. 29, it will be easily seen how the circuit is similar to the practical layout.

Sheets of thin Paxolin can be cut to any suitable size, with a small saw. Terminals, or bolts with two nuts, may be used for some connecting points, particularly for external items such as headphones.

When there are more than a very few components, they should be secured to the panel. This is most easily done by drilling small holes where necessary, and passing the wire ends down through these, as in Fig. 31. Wires should not be bent down immediately at the ends of resistors, or near the body of a transistor, or they may break here.

Another method of securing components is to make small staples from tinned copper wire, and push these into small holes, as also shown in Fig. 31. It is then easy to see all wiring from one side of the panel only.

It is quite usual to have wiring, or components, on both sides of the panel. This is not necessary with very simple circuits, and extra care has to be taken not to make mistakes.

Boards with rows of tags fixed in

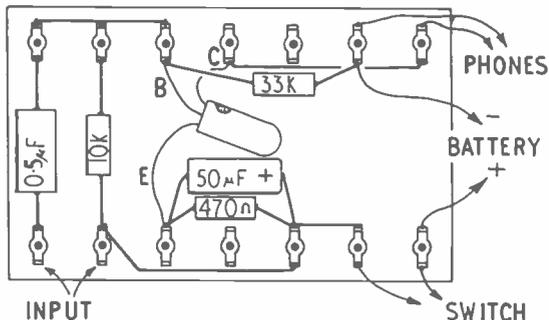


Fig. 32—Amplifier built on tag board

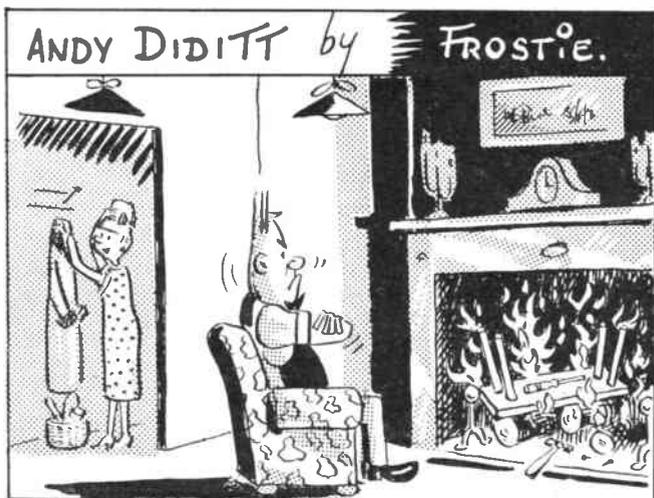
The actual layout of parts has been changed somewhat, but this will make no difference to a circuit of this kind. The same circuit could easily be constructed on a board with fewer tags.

The finished amplifier can be enclosed in any suitable case, or may be incorporated in the receiver case, if it has been added to a crystal set or other small receiver. The switch can be mounted on the front or side of the case, as convenient.

If stages are built one by one, and components are placed in roughly the positions they occupy on a theoretical

will be ideal for wires. If tagboards are used, as in Fig. 32, no tools at all will be required, other than the soldering iron and wire cutters.

When building a circuit which will probably be changed, it is best not to twist the wires round tags, or each other, before they are soldered. It will then be easy to unsolder components, to use them again. If a permanent piece of equipment is being made, it is usual to loop the leads and wires round tags, or each other, before soldering, to make a mechanically strong joint.



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THE GAME OF TICKTACKTOE

YOU will probably have seen the television game called Criss Cross Quiz and realized that this is really a modification of the old game of Noughts and Crosses. The only difference is that before a player can record his mark in the selected box he has to answer a question correctly.

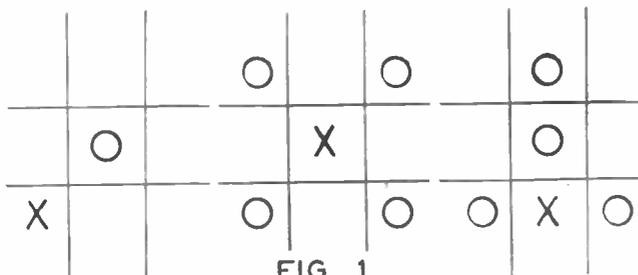
Noughts and Crosses is an unusual game in that there are not many rules. Consequently, there is a lot of trial and error in the game although there are many fascinating features. In fact, you may find it difficult to believe that in the

may play with halfpennies, heads uppermost for one player and tails uppermost for the other.

This particular game was popular as

By S. H. Longbottom

long ago as the 14th century when it was called 'Three Men's Morris' and the Oxford Dictionary of Mother Goose Rhymes quotes the following interesting verse:



first five sequences there are no less than 15,120 different moves! If some of you mathematicians care to test this here is the sum: $9 \times 8 \times 7 \times 6 \times 5$.

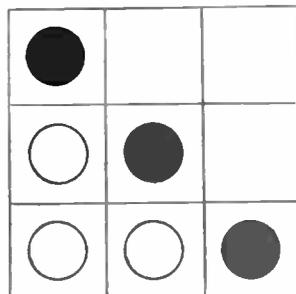
Yet this is perfectly true and counter-moves may be studied to make you unbeatable.

Surprisingly, there is another name for this game which is Ticktacktoe and there are some variations we will describe later. Refer to Fig. 1 where we show three different opening positions for *Cross*. Undoubtedly, the strongest opening position is the corner because *Nought* can only avoid being trapped by taking the centre box. You will also see that we indicate a centre opening as well as a central side opening. *Nought* can avoid losing against such opposing play only if he takes one of the squares shown. A trial of these tactics will soon prove that if you cannot win you can force a game to a draw and you should memorise the positions for both *Nought* and *Cross*.

Many games end in draws, probably due to the fact that the moves are known to the players but often it is possible to catch the unwary opponent by an astute opening.

We have already mentioned a variation of this game and as a consequence suggest you try the following with a friend. You will need a 'board' — a piece of cardboard will suffice — marked out into nine equal squares as shown in Fig. 2. You will also need six counters, three each in two differing colours, or you

If neither player has won by achieving this — vertically or diagonally — the game may be continued by moving a counter on each turn to any adjacent and vacant square. Note that only vertical moves are permitted and the first player cannot take the centre box with his first move. This is the simplest form of ticktacktoe, a game once popular in ancient China, Greece and Rome, while another variation is credited to the American Indians.

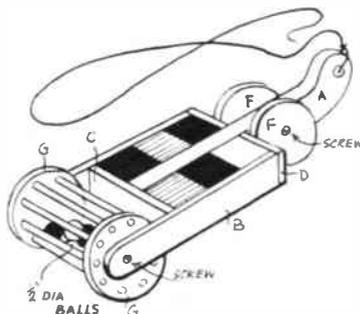


Tit, tat, toe,
My first go,
Three jolly butcher boys all in a row,
Stick one up, stick one down,
Stick one in the old man's crown.

There are not many rules in this game, the object of which is for one player to get his three counters in a straight row.

Noughts and Crosses remains a fascinating game despite its simplicity but you will find the modification we have just described far more intriguing. Since only a small piece of card is required for a board you will find it an easy-to-make pocket game.

A NOVELTY BRICK WAGON



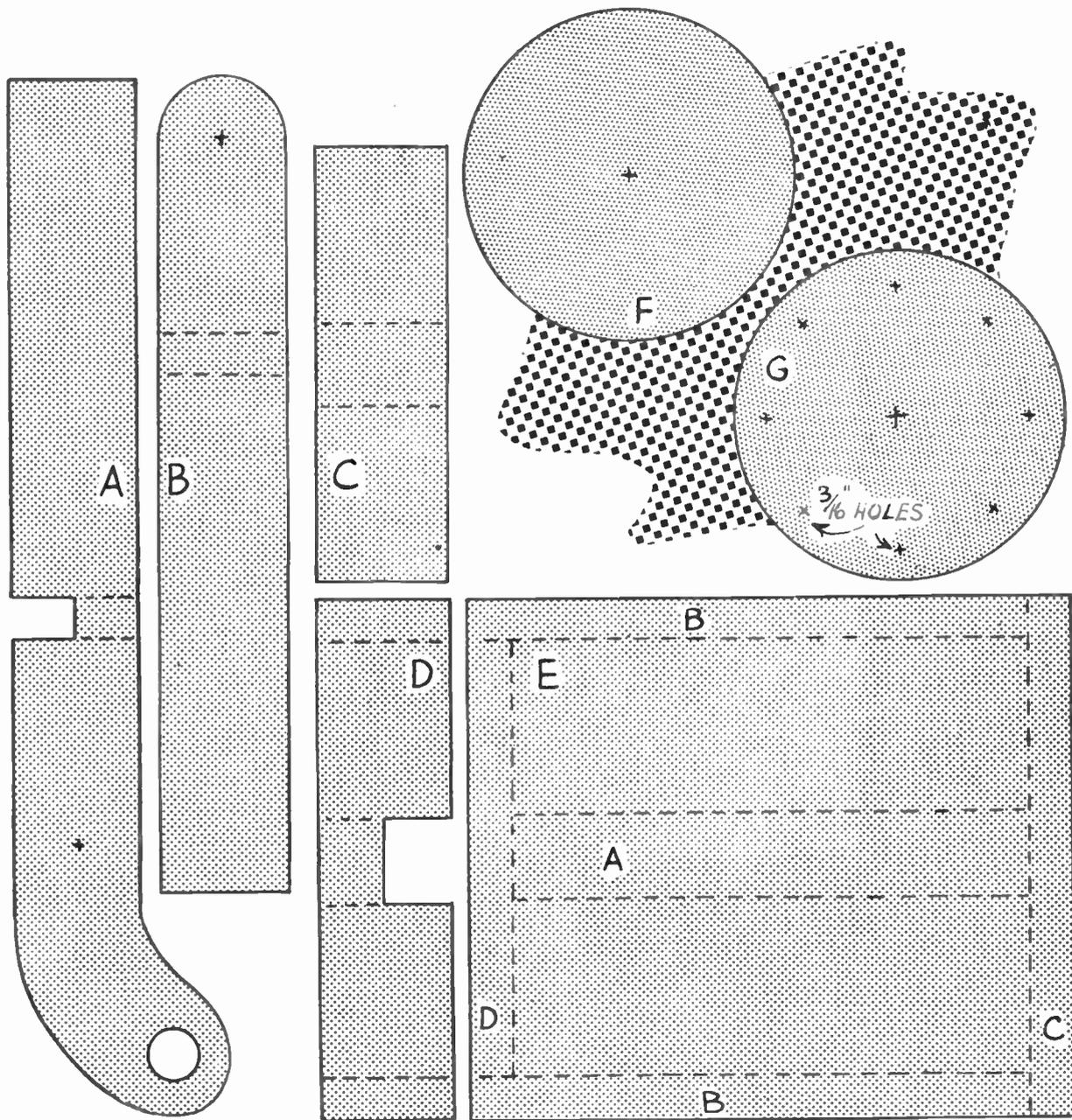
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To pull this toy along a cord should be attached to piece A as indicated in Fig. 1. The wooden balls may be obtained from Hobbies Ltd, Dereham, Norfolk, price 1/- a dozen, postage 6d. on any quantity. (M.p.)

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