

IN THIS ISSUE


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

## Make it for my lady's dressing table

 * FREE Design insideMAKING a jewel casket is an interesting project for the handyman, and is a subject which makes an ideal gift at any lime.

Apart from the attractiseness of our design with its 'swan' overlay, this is also in the nature of a trick box. Anyone not in the know will have quite a time finding out how to raise the lid.

Hinges are provided, 'tis true. but the lid is not a normal straight lift as is usually to be expected. There are also handes on the two sides, which are movable. but no amount of manipulation of these will secure the opening of the box. To add confusion, the two end handles are fixed.

## JEWEL CASKET

## (WITH A 'TRICK' OPENING OF THE LID)

The hinges, in fact, are dummies, being screwed to the tops of the sides only. And the movable handles serve merely to further mystify the would-be opener.
Actually the lid is removed by a halfturn which releases it from its locked position provided for in the makeup. But only the maker need know this. If carefully fitted, the opening of the lid will create a problem for those not in the secret.

Another novelty is added in the form of a musical movement which starts its tune when the lid is raised. The rest of the compartment provides space for my lady's jewels and trinkets. Alternatively, the musical movement can be omitted, in which case there is no need for pieces 8,9 and 10 , or the hole in piece 5 .

Make a start by transferring all the parts from the design sheet on to their appropriate thicknesses of wood. Cut
out with a fretsaw and clean up thoroughly. When working on the "swan' overlay, piece 11, cut out the internal frets before cutting the outline. Fig. 1 shows the position of the grooves cut on the insides of pieces 1 and 2 into which will slide the ends of piece 12 which operation locks the lid.

Glue and pin together the sides, pieces 1 and 2 , and ends, pieces 3 and 4, to the bottom, piece 5, as shown in

Fig. 2. While this assembly is allowed to dry, make up the lid from pieces 6 and
11 , adding piece 12 on the inside as hown in Fig. 1.
The base, piece 7 , can now be pinned At this stage, pieces 8 and 9 of the compartment containing the musical movement can be glued in position. Then screw the musical movement in place
with the winding screw protruding through the hole in piece 5 . The musical movement is activated by a wire plunger as detailed in Fig. 3. Make sure that when piece 10 is finally added to the musical movement compartment.

A Kit for $6 / 4$
Kit 3210 for making the Jewel Casket contains all wood and materials. Price Dereham, Norfolk (post free)

The handles on the ends of the box are fixtures, being glued in position as shown on the design sheet. The two movable
side handles are made up as shown on the design sheet, $f \mathrm{in}$. holes being bored part way through pieces 13 to take the dowels, pieces 15, which are then inglued to washers 14 inside the box Now add the mock hinges, screwing them to piece 1 only, and the box is complet. padded and lined with suitable mate be and a fine finish can be obtained by giving the exterior several coats of enamel paint, rubbing down between
each coat.

Hobbies' Crossword No. 5

Note: Figures in parenthreses denote the number of DOWN
letiers in the words required.
ACROSS:
3. Where nurse's uniform is kepp? (8).
8. Maybe $a$ bright thought (4) 9. Maybe a bripht thought (4)
12. Anilluminning wire (8).
12. The visitior may wind (i) adds a little bite to the 13. A. ocashy bong (s. 3). (3).
 20. An aid do service (h).
27. Mayye a man of highi degree (8).
2. A fanure or the chin

*
*
SOLUTION WILL
BE GIVEN NEXT WEEK

1. Possible power (5).
2. 

indian (hady
who comes to a sticky
5. Dry as dust (4).
. strous resulit (4) on with a mo
6. No stous result (4).


 17. The deec foriour upel about nothing, so 18. Anarrow passage (6). 21. Weat hecirimals (have. another animal 21. We all like a good one for our money 22. On which material may be turned to
23. Thiod fease cosensists of one vegetable 23. This feass consists of one vegetable 25. This slue in morethan enoush (4).

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## Handyman's project

## A HANGING BOOKGASE



T
made to fit ittle book-rack was mounted on the wall, and so leaving a larger area of the desk top free for working. It is, obviously, equally
suitable for hanging on a wall by itself, either as a bookcase or as a stand for vases, etc. The narrow lower shelf can then carry small ornaments.

## By R. H. Warring

The two ends are identical in outline shape, and can be cut from a 27 in . b in. panel of tin. ply. These ends are however, 'handed' in the manner in width groove carries the top shelf. The lower blind groove takes the 3 in. wide bottom shelf, whilst the back inside edges are to allow the hardboard back
to be inset flush and so give a clean' end appearance. All these grooves can easily be cut with a small stifr-back saw and a respect since is easy to work in this respect since groove depth is readily layer exposed when chiselling out.

The two ends should first be as-
sembled on the shelves. Standard 3 in. wide obeche sheet was. used for shelving on the original, so that the top shelf consisted of two separate lengths. The
shelves were glued in place and also pinned through from the outside, driving the heads of the pins below the surface of the ply with a nail set and filling the resulting small holes. The back panel is cut next, taking
care to get it exactly square, so when fitted, it trues up the whole assembly. This also is pinned and glued in place. The. top edge of the back,
incidentally, can be straight or curved, as desired. If the top shelf is to be used for books, a straight-edge can well be used, since this will be hidden. On the
other hand, if the fitting is being made other hand, if the fitting is being made line will look better.
The top shelf is reinforced along its length at the front, and also across the
middle with tin. by tin strips, middle with tin. by $\frac{1}{2}$ in. strips, pinned
and glued in place. This will prevent the and glued in place. This will prevent the
shelf from sagging even under a full load of books. The lower shelf is only intended to carry oddmients and does not
require bracing. The front edge of the top shelf is well
rounded off where it protrudes, and the whole unit glasspapered down perfectly smooth prior to grain filling, and then
either painting or staining and polishing.

## COLD WATER DYERNG

ise cold water method of dyeing is usefill for frazile fabrics. Instructions, naturally vary accorddetail on the packet, but the following hints should always be observed. Thoroughly wet the article befor immersing in the dye bath, and use a bowl large enough to allow it to be After dyeing, rinse the artic water under a running tap until free from all loose dye. If this is not done, dry dyed article will be patchy. Do no Remember it is useless an article to a lighter shade; and by the way, strong coffee may be used to dy


5
PIECE 13. CUT PIECE 13.
FOUR 14 in .


PRINTED IN ENGLAND.
PIECE 4. CUT ONE 1:4in.


PIECES 14. CUT ONE OF EACH $1 / 8 \mathrm{in}$.

PIECES 15. CUT TWO FROM $1 / 8 \mathrm{in}$. DIA. ROUND ROD.



Fig. 2. While this assembly is allowed to dry, make up the lid from pieces 6 and
11 , adding piece 12 on the inside as shown in Fig. 1.
The base, piece 7, can now be pinned At this stage. pieces 8 and 9 of the compartment containing the musical movement can be glued in position. Then screw the musical movement in place
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13. A ocahsion! ( (S, 3). (3).
15. A place of confinement (7).

They are carved out by the successful (7)


28. A fealure or the chin


``` GIVEN NEXT WEEK
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## Hobbies' Crossword No. 5



## Handyman's project

## A HANGING BOORCASE


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white articles a light brown.

SIMPLE SCIENCE EXPERIMENTS

THE ordinary method of filtration
is slow and can be speeded up by
it improvising
n in Fig. 55 .
Take a piece or namrow Take a piece of narrow bore glass
tubing, and after heating it wing flame, bend to shape (A). Take another piece (B), heat it in the flame near one end, and draw it out until it is very narrow near this end, then bend it
slightly as shown. Break off the end of (B) on the narrowest part. (C) is a straight piece of wider glass tubing. You will also require a bottle with a twoglass tubing with a fwo-holed stopper to fit one end and a one-holed stopper to fit the oticer end. Assemble your apparatus as shown. Make sure that all the

(55)

## FILTER IPUMP

rubber tubing and fix this to the glass lube and the tap with clips, wire or tring. Turn on the tap and adjust the drops most rapidly from the funnel into he bottle. Can you say how it is that his apparatus speeds up the process of ilration?

A syringe can be used for lifting and ransferring small quantitics or liquid. in a a Bunsen flame, and when it becomes plastic, draw it out to form a very narrow portion. Break the tube in the narrowest part. after making a mark
with a file, and then make this ragged with a file, and then make this ragged
edge smooth by holding it for a short time in a Bunsen flame, taking care not to melt the glass so much that it closes tube as in Fig. 56. Push a rubber-cat

## (56)

over the wider end of this tube, and you have an excellent syringe for placing
drops in ears or eyes or for other purposes.
Model Suction Pump
You will require a short piece of wide
wo pieces of fairly stout iron wire, piece of glass tubing, a small piece sheet rubber, small brass tacks, cotton and a cylindrical piece of cork with hole down the centre.
This experiment shows another of a tube, so that when the open end is under water, the water enters the tube. Push the ends of the iron wires through he cork (A) as shown in Fig. 57, and
bend them over. Twist the two wires together to make a handle. If the cylindrical piece of cork is not a good sliding fit inside the wider glass tube. otton and cork with water. soak th otton and cork with water.
lube (B) in some water and move (A) uppards. Water will rise up (B) and nepr the wide glass tubing. If (A) is now escape. To prevent this, make a valve to cover the upper end of the glass tube (B), using a small circular piece of
rubber sheet and a small brass tack to fix it in position as shown. Remove the cork (A) and fit the cork wemove the cork (A) and fit the cork rubber valve and you now have a model suction pump.
(1) What causes the water to rise up : B ) when the piston is moved upwards? (2) A suction pump will not lift water from depths greater than about 30rt
Why is this?

## Homes Under the Bark

THERE are insects with sharp jaws streets and here and there a path which trace intricate and beautiful patterns beneath the bark of decaying tree trunks, or bore smooth round holes into the tree.
Some insects make these holes or intricate network of passages for homes, where they may hibernate from the weatber and their enemies, though the
wood-pecker has a way of finding them! Others not only cut the wood but use the chips for food. Raise up the bark of an old tree and
break off clumps of the decaying break off clumps of the decaying wood
to see the variety of insects that scurry away, terrified by the noise and sudden blaze of light. You have probably dis-
cs with its winding a drill
streets and here and there a path
across the lots', a shorter route for the "across the lots', a shorter route, Often one finds perforations of such
extraordinary form that they look lik extraordinary form that they look like tiny palaces built by fairy architects.
Sometimes the channels lie just beneat and partly in the bark so that when it is peeled off the work of the tiny woodcutters has the appearance of fanciful
etchings. The ins
The insects which indulge in this tice (the 'death-watch beetle' once did housands of pounds worth of damage are called 'engraver beetles'. Cathedral) are called 'engraver beetles'. There are
others which make holes not by their jaws but by a long proboscis shaped like
a drill.
(R.L.C.)

A new hobby for collectors

METEIR MAIBKS

O you want to pioneer a brand $\begin{aligned} & \text { several kinds of limited-value machines } \\ & \text { new hobby? To be the first } \\ & \text { where the price is contained in a small }\end{aligned}$ meter postage stamp collector in $\begin{aligned} & \text { where the price is contained in a small } \\ & \text { part of the die which is automatically }\end{aligned}$ your class - or even in your school?
Perhaps you would like to know more Perhaps you would like to know more
about it before you decide! about it before you decide!
More than sixty years after the first adhesive postage stamp was used, a machine was ineented which reproduced the picture of a stamp upon documents
to be sent through the post. This saved


Fig. 1-Great Britain. Pitnep-Bowes. Fixed white. First ared 1922
changed by moving a small lever -a choice of four or six prices being avail
able to the operator (Fig. 2). Finally able to the operator (Fig. 2). Finally. print any price up to a given amount say, $19111 \frac{1}{\text { (Fig. }}$ 3).
Designs which came into use in 1926


H'). The method of numbering varies M' machines number 1 , upwards in localitities but ' U ' machines number upwards over the whole country.
Town-marks and slogans add colour to your collection, particularly if you can find local or dated references in the slogans or mis-prints in the town-marks. Then, of course, you must keep space for foreign meter marks - mos
countries have their own designs an you will occasionally come across them. Arc you ready to start your collection to save franked envelopes out of their business post. You will have to explain exactly what you mean by 'meter marks. because postage paid stamps
are quite different and should not find a place in this particular collection. Do not try to save every franked


Fig. 2-Great Britain. Neopost. Limired time and money, because large business day, and the buying, licking and sticking of stamps can be an expensive piece o office work.
The first franking machine was in found such a machine in London - set up in a Post Office where customers put their money in a slot, then held their documents to another part of the machine had been approved which would be the property of a business house, and the type of stamp it printed on letters is seen in Fig. 1.
Thirty-five years have passed, thou-
sands of businesses have their sands of businesses have their own
franking machines, and a wide variety of designs can be found. Payment is made to the Post Office on the amount a meter attachment to record the value of marks made on posted documents. Meter machines are of three main
types. The oldest machines made their types. The oldest machines made their mark wirt $i n g$ the price of the stamp in
incorporate
figures and words (Fig. 1). Then we find
meter marks from four reign The machines used in Great Britain are manufactured by one of three firms. Universal Postal Frankers, Letd. (identi-
fying letters ' M ' U ' and ' S ', R' fying letters 'M'. 'U' and 'S'), Roneo-
Neopost, Let. ('N'), and Pitney-Bowes Neopost, Lid. ( $N$ '), and Pithey-Bowes
Postage Meter Co., Ltd. ( ${ }^{\prime} \mathrm{P}^{\prime}$. PB ' and


ig. 3-Great Britain. Universal. Multi
envelope that comes your way - be
selective and see how many different types, reigns, identifying letters and prices you can find. Keep y our collection in a post card album, or a shoe box, and remember to give your duplicates to your friends, telling them how to launch

$D^{O}$ not throw away wicker no attractive gift baskets or mall hold-alls. Smooth any irrezuarities with glasspaper and then For 2 temporary 'gift' basket cover with decorative paper, such as coloured crepe or metallised paper, attaching with rubber gum. secure with paper clips. For a permanant basket cover with leathercloth or similiar
apholmaterial, secured with uphol-
sterers' solution. The handle
should be a length of leather (R.W.)

## Sleight of Hand

## CHANGING ACES INTO KINGS

A
METHOD of making trick cards issue of April 17th, and you are
int recommended to refer to this for full details, but here we have another set of and fitting together again.
From the old pack you used for the other trick, extract the four aces and the four kings. We shall need all the necessary to immerse three aces and three kings in water, reserving the others until later.


Fig. 1

When thoroughly soaked, peel off backs aside to dry. Allow all the pieces to dry, then take the face sides and make into a small stack. Lay these on a piece of cardboard,
cutting diagonally as shown in gram. Note from Fig. 1 that this cut is not exactly on the diagonal but from lin. to tin. from the edge. This is done so that the join cannot be detected at
to produce a clean cut
We shall now need. three of the backs for making our trick cards.
Fit neatly
Take a back, half an ace and half a king, applying a thin coating of gum to to the back. Try to fit them as neatly 25 possible without any overlapping of the joint or over the edges. Follow the same procedure with the two other sets giving and half king, plus a normal ace and a normal king. You will have some halves remaining which may be used in case of
a mishap or for preparing duplicates.

When the cards have dried, any surplus showing at the back of the card
should be neatly trimmed away and we are ready to explain the new trick. Take up the cards in your left hand, arranged so that all the aces' halves of
the three fake cards are showing, but the the three fake cards are showing, but the
joint of the third is covered by the normal card. This is shown in Fig. 2. You may count the cards for the benefit
of your audience, placing them on the ot your audience, placing them on the have only four, or reveal the backs to show that there is nothing on the reverse side, and explaining that you are

in. 2
To do this, lay the cards face upwards on the table, pick up the top ace, revealing to your audience, along with the untreated king. Here you should say that this king has very powerful ineverything he orders.

## Two Holes to Read

[^0]Cover up the cards with a handier chief or a box, after placing your king
card on top of the three fake cards, then card on top of the three fake cards, then
ask your audience to be perfectly quiet ask your audience to be perfectly quiet
so that you can hear the king giving his so that you can hear the king giving his
orders, and actually hear the cards changing!
The magic tap
Here you have to assume that you can hear the changes taking place, tapping change'. Perhaps you can with every patter by saying. This chap is being little awkward. Come on your majesty Whew him that you are the master card'. hanged you three cards have been chief, take up the cards in your left hand and fan out to reveal to your audience The main points to remember in per
The forming this little trick are as follows when the cards are laid on the table, hey must be face upwards, and laid in appeared to your audience. When the op ace is replaced by the king.' the cards must be either turned round, so that the kings will be revealed. or when handkerchief, take hold of them by the Age away from you.
A little experimenting with this aspect of the trick a few times before presenta
ton to your friends will reveal the best way of this manipulation, and when you reval the kings to your audience, you may still count them out to prove that there are only four cards, revealing the backs once again to show there are no
aces there.
(S.H.L.)

A
VERY pleasing hall lampshade
ER Y pleasing hall lampshade applied by multiple stores for a few pence per foot. The cutting list is not able, can be used as the longest piece is only 13 ins. long and only two are required. Four pieces each 8 ins. long and four shorter pieces at 3lins. long few tin. countersunk copper or brass rivets and three pieces of perspex. one $12 \pm$ ins. by 61 ins., one $4 \frac{3}{2}$ ins. by 11 ins. and one piece about 24 ins. dianicter. even coloured perspex may be used for the 'metal work'.
Make up as shown, rolling the
longest two pieces of rail into longest two pieces of rail into rings each
tins. inside diameter, riveting through the in. overlap as necessary, with the
 other pieces to place. Heat the two rectangular pieces of perspex in boiling
water and roll round while soft and fit to place. The perspex may require trimming place. The perspex may require trimming
at the edge to make a good fit inside the frame. Turn perspex round so that the joint is hidden by the framework. The
disc must be drilled for riveting to place and for taking the lampholder.


OSITIONED on the fire hearth, hill be found to be very handy for holding those much used spills. Soft-
wood or hardwood can be used as desired.

The only tricky operation in making he framework is the joggling of the vertical straps to clear the rings, but this may quite easily be done by placing

valance rail and hammering down with the joggling tool shown in Fig. 2. The
tool is just a piece of tin. thick steel
with a shallow slot filed in the bottom. The width of the strapping plus twice to thickness, e.g., if the rails are $\downarrow$ in. by tin. section, then the width of the tool
slot must be tin. plus in. plus tin. slot must be tin. plus to in. plus to in., equal the thickness of the strapping. Taper the sides of the slot as shown for clearance for the bend in the strap.


To use the tool, hammer lightly till To use the tool, hammer lightly till
joggle is complete. Do not hammer too heavily, or the brass may be permanently damaged.
Unpolished brass valance rail with matt surfaced perspex and a clear glass
bulb gives a very pleasing effect. The bulb gives a very pleasing effect. The
matt surface can easily be produced on perspex by lightly rubbing with a felt pad and some pumice powder. This
should be done on the inside before should be done on the inside before
bending. (T.H.M.)

Project for young woodworkers

## Simple Spill Holder

The thickness of the wood should be inserted inside the holder and fixed at lin. Using your fretsaw, start by cutting the sides to the shapes shown, two of (A) and two of (B). Once the sides have been cut and snugly together to form a square box having in. sides.
A piece of tin. thick wood 2 ins. by
ins. is next cut for
any desired height from the bottom to suit the length of spills you intend using. Arrange the base piece so that the spills. project about ins. beyond the top of securely nailed by panel pins inserted through the sides.
Finish off by staining and varnishing

Shapes A and B (lin. squares)


Period Furniture Design by Charles H. Hayward $T$ His book with its numerous dime sketches provides a wealth of authentic detail for home craftsmen. desiring to A wide selection of furniture pieces walnut and mahogany, is dealt with will find much the genuine antique absorbing at in these pages that is Published by Evans Bruiting. Hubusted by Evans Bros. Lid., Montague
Price is/..

To make your mouth water

## HOW (1HAMDAGNE <br> IS MADE



A 'carpet' of thousands upon thousands of grapes is formed by the neatly presses.
(Photo - Mercier Champagne)

N answer to several requests, articles
dealing with the preparation dealing with the preparation o recent issues of Hobbies Weekly. The subject is apparently a very popular one with our readers, and, although chamagne can mever be reduced to the ollowing facts regarding the making of he Queen of Wines will prove of great Ans.
An extraordinary amount of time and amous wine. To begin with. only the wine from a small part of France is allowed to be sold as champagne pagne country in the neighbourhood of pagne country in
the River Marne.
In Roman times
The wine from this area enjoyed a high reputation as far back as the days century a Benedictine monk, Dom Perignon. Worked the miracle that gives
us champagne as we know it today sparkling and gay. The basic principles developed by Dom Perignon are still
those of modern champagne.

Photo - Mercier Champagne)
In the gently undulating chalk hills of the soil are peculiarty, the climate and production of the best type of The cultivation of the vine, the harvesting, the processing, require the constant art. From early spring the vines are pruned and cultivated, and finally in the vines dramatic moment arrives when quality of the harvest on the flower the quality of the harvest greatly depends. comes in the autumn the harvesting when hundreds of people from near and far come to help.
There is an
There is an atmosphere of lightThe gatherers, who cut the bunches from the vine, are mostly women and children. The grapes are gathered into
wicker baskels where they are subjected to a minute examination. Such is the quality aimed at, that any. grach is not up to standard is rejected.
flat surface of the press, and the normally yield approximately will
gallons of juice. The and gallons of juice. The grape juice is stored

72
first in casks which generally contain ut 44 gallons.
Many of the great names in cham-
pagne have tunnelled into the chalk hills to make vast underground storehouses where the wine can be kept at an even temperature. One of the best known is
that of Mercier at Epernay, which supplies one in every three bottles of champagne drunk in France. Here there are twelve miles of underground celliars with electric trains to facilitate handling see the 12 million bottles of wine stored there.
In these cellars the casks lie while the
first fermentation takes place dring first fermentation takes place during the
latter part of the year. Around Chistmus latter part of the year. Around Christmas
time this first fermentation is finished and the clear wine is drawn off. to go through a further series of processes which give champagne its unique
character.
'Marrying' the wine
Experts and tasicers of long experience set about the task of blending, or 'marrying' the winc. The blending is done in great vats. If the wine of a particular harvest is of exceptional quality
and character, it will be preserved as a and character, it will be preserve
'vintage wine' to be remembered.
After blending the wine is bottled. Now the second fermentation of champagne begins, and it is this which gives
champagne its sparkle and lifc. The bottes are stored in racks at an angle of 45 degrees. neck down, in thic underground cellars, the temperature being Astant at 10 degrees centigrade. As a result of this second fermenta order to facilitate its removal each bottle is turned daily and slightly shaken by expert hands, so that the sediment gradually gravitates down on
to the cork. This process takes approxi mately six months, after which the bottles are taken from the racks and stored verticaliy, neck down, to mature for several years.

Finally the bottles are taken - still nock down - and the neek is iced: effervescence explodes the cork from the bottle, together with the frozen wad of Afier th
a liqueur of old wine and cane sugar. All that remains is to recork and re-wire. and the bottle is ready for despatch to accasions.


GOR the beginner in leatherwork this library book cover is comparatively casy, consequently the beginner has hardly any outlay which is an adsantage that will be appreciated by most anlateurs irrespectic
hobby. Approximate measurennents have been given, but it will be realized that these
may be varied to suit individual requirements. The measurentents supplied for the average book. Begin by making paper patterns of the various pieces needed; these include

## BOOK CDVEIB

## THIS BOW IS SAFER - AND MORE FLN

DLAYING Robin Hood with bows and arrows can be exciting fun. but, without wishing to appear old ashioned 'spoilsports' we must confess to sharing every parent's anxiety when
the youngsters wage war against the the youngsters Wage and the arrows begin to fly. Here is a way to have all the fun and excitement of Sherwood battles without the risk of pointed arrows and
the great damage they can so easily cause to young 'outlaws. Make this safe but equally thrilling Potato Bow.
It is a weapon which any wearer of the It is a weapon which any wearer of
Lincoln green will be proud to own. Pare away a stout ash branch to make
a bow $3+\mathrm{ft} .4 \mathrm{ft}$. long, 2 ins. wide in the a bow 31 ft . -ft . long, 2ins. wide in the centre and tapering to tin. wide at the
ends. Thickness at the centre should be ends. Thickness at the centre should be
in. diminishing slightiy as the bow narrows (Fig. I).


Drill a For arrow, take a tin. dowel 2 fl. long and notched at one end. Drill a tin hole lengthways through a 3 in. piece of tin. dowel and pass arrow through. The
notched end must project sufficiently

Project for
the beginner
in Leatherwork
By J. MacIntyre
one large picce to cover the back, front and spine of the book and one flap.
From the one paltern of the flap four pieces of leather are cut, one for cach corner. Once you have nade the paper
patterns lay them over the leather and cut out the various pieces. This nay be

done with a sharp knife or a pair of scissors.
When you come to stitching you will find that strong contrasting thread is deal. Place cach nap lengthways in a corner (see illustration), so that the tlap edges lie along the edges of the corner.
Now stitech through the two thicknesses of leather at the corners. Then proceed to stitch round the cover in the same
manner. Not only will this method add manner. Not only will this method add cover, but it will also prevent the leather from stretching out of shape. For further decoration a few pape the leather, so as to form an initial.
for the distance from the notch to the
far end of the thick part to equal the distance from the string to the inside of the bow when strung (Fig. 2). Secure with glue and pancl pins, driving heads
well home. The arrow (which never leaves the bow) is now sharpened and passed through the hole in the bow itself. For ammunition use littie potatoes, acorns or clay balls stuck lightly on A well-made bow will throw these
remarkable distances. The 'ammunition remarkable distances. The 'ammunition' is safe to use, easier to procure than a
number of arrows, and considerable skill will come with practice.
A simpler arrow can be made by whitling a piece of stred sht graine

An exciting indoor game

N interesting and exciting game or
cricket darts for two or more
players that will give endless amusement for evenings or partics, can be made in a few hours for a shilling or board with a cork-faced cricket bat scillating in front. Ordinary darts are


fic. 2.
thrown at the board in turn in an counted according to where the darts strike. The game is to score 500 points time large a score as possible in a given

Scoring shots
A hit on the bat while it is in motion counts as marked either $5,10,15,20$ or 25 points according to the section of the the board causes the player to lose points, again according to the section in which the dart sticks.
A dart in section (A) or (B) loses 2
points, in section (C) or (D) loses point, while a dart sticking in section ( $E$ ) or ( $F$ ) loses 3 points to the player. A dart striking in section ( $G$ ) is caught by a dart in section $(\mathrm{H})$ or (J) is caught in the field and so loses 4 points. If a dart sticks in section (K) it is a no ball and the player takes another throw. A dart
sticking between the stumps is L. and loses a turn and a dart striking the tumps loses the player's complete player throws a dart and it strikes the
bails he is out of the game complectely. in the board in such a position that prevents the bat from oscillating freely it must be removed and the bat set swinging again before the player throw his next dart, the score for the throw way along with the other two darts fo
that round. hat round
The game is not difficult to make. A board $18 \mathrm{ins}$. square of jin. or jin. ply-
wood or any piece of wood not less


H6.
To sum soxpo
$0 . \therefore=\left[\begin{array}{l|l|l|l|l|}\hline 5 & 10 & 20 & 25 & 15 \\ \hline\end{array}\right.$
than $\frac{1}{2 n}$. thick may be used. A facing of cork lin. thick is glued on. Soft yellow pine free from knots and about lin. quite suitable. Two lin. by lin. battens are nailed to the sides at the back to give clearance for the balance weight for the batt (sec Fig. 1). Two eyes screwed for fixing the suspending cord. The board is hung from a nail in the wall at the regulation height of 5 ft . from the
floor. A vec (see Fig. 2) is cut in the centre of the top and lined with a small piece of tin, cut from a discarded fruit can, nailed in place as shown. face of the cork as shown in on the Each section is painted a distinctive colour. The divisions can be clearly
defined with thin black lines or with thin tinned copper wire held in with with small staples or bent over pins. The use of wire divisions obviates any doubt regarding the section a dart has struck. The sections can be coloured with paint,
or poster inks in bright colours, the stumps and bails mid-brown, the spaces between - light green; section (A) and

ORICKET DABTN
(J) - red; section (C) and ( F ) - blue; (H) and (B) - green, and section (G) and (K) - pink, or any other colours or combination of colours to suit individual taste. cut from any suitable picce of bat face being covered with a sheet of cork about fin. thick. The bat and
balance are held together at the top by a piece of wood, as shown in Fig. 4, about tin. thicker than the thickness of the base-board. This connecting piece must be cut to form a knife edge and covered with a picce of tin before securing in
place. The completed bat must be able to oscillate quite freely in the vee slot in se-board

## Bat oscillates

The bat is painted red, yellow, blue reen and pink, starting at the bottom Wire is used handle and black cap. coring sections. An added refinement is to paint the scoring figures on th various sections of both base-board and
To play, start the bat oscillating hrows 3 darts at the bat from the usual fit. to loft. distance, as for ordinary darts. Play continues in turn according or the rules, and counting up the score close of play or the first side to reach 500 points is the winner. If a side or player rying for the 500 , scores more than is he game. All other rules have won ordinary darts.
A single dart may be thrown to etermine the rotation me th
(T.H.M.)

## FH

 NEXT WEEKAmong the many interesting projects to be described in nex Will hes por Hobbles Weekly' and handy sho vale seving box readers will be int. Younge an easy-to-make tost and a fretwork letter rack will have a Royal Crown overlay which will test your cutting
aecuracy.


74


## Chemistry Experiments

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## Replies to Readers 2s this YoUR Pooblem?

Defective Windowsill PLEASE advise the on repairing a rainfall, rain secps through and makes the wall very damp. I do not wish to remove
the windowsill if it is avoidable. (E.B. the windowsill if it is avoidable. (E.B.-
S.E.23.) SSUMING your windowsill is of
stone or cement, to fulfil its function it should have a gentle slope away from the window and be flat i.e. - no worn it should be rendered with a hen thickness of cement concretc, equal parts of sand and cement. Roughen up the surface first to provide a key for the concretc, by gentic chipping with a cold
chisel. Dampen with water, then trowel on the concrete. Level off lengthwise then slope outwards. Quite a gentle slope will suffice, and a straightedged
slip of wood will, if drawn over the surface, do the job satisfactorily. If the wall surrounding the window has suffered from damp, repoint the brick-
work with some or the cement concrect.

Painting New Concrete
WHAT treatrment does one give con-(F.S.-Billericay.)

Foun or five coats of paint should coats of white lead, well thinned with linseed oil, and the later coats mixed with equal quantities of turpentine and oil. Every coat must be allowed to dry account should the concrete be painted before it is quite dry.

Making Firelighters I BOUGHT a packet of firelighters as a chopped pieces of wood and shavings which had, so it seems, been dipped in an inflammable liquid and dried. I wondered if you could inform me of the formula of
the liquid as I would like to produce a the liquid as I would like to produce
quantity of them. (A.W.-Liverpool.) qu HE material needed is crude naphthalene - also known as creosote salts - Which is obtainable from gas works and tar distillers. The portions of 1 quart to 1 hundredweight
of naphthalene is an advantage if the firelighters are to be stored for a long
time. While it retards the deterioration bustion spened dhe slow up the coma vessel surrounded by boiling water. or by a steam jacket, and the shavings stirred in until a paste resuits, after bundled inside the sticks. Naturally with so inflammable a material, stric fire precautions must be taken during the melting. That is why stcam heating is to be preferred. The manufacture of
firelighters for sale is governed by Home Office Regulations.


TAPE DISPENSER
${ }^{7}$ Chis dispenser for self-ad- * an hesive tape can be made from * strip. The strip is bent to an ' L ' "

* shape and riveted to the lld, as "
* shown. Attach 2 short length of
* dowel to the top of the strip to
* hold the tape spool. The spool fits
on this dowel. Serrate one edge of
* cutting surface for parting ofr the *
* (R,W.)

Bleached Effect on Wood I HAVE just made a guitar from plyobtain thar bleached effect fnish how to dark edges with a clear centre. (V.S.二 $\xrightarrow{\text { Dagenham.) }}$
$T$ HE best method to adopt in order be to apply the stain to the surround and when dry, blend the edges into the
white unstained white unstained portion by careful .76
ubbing with a rag moistened with lin pumice poudder, finishing with fine glass paper. Test out first on a spare picce o wood to get the knack.

## Record Player

IM most interested in your articles on building a radiogram, but for myself wonld like to make a portable model without the radio receiver - I suppose you furnish the necessary , details for making the imit, as compact as possible? have a Garrard TA. surntable and pick and the cabinet I can manage myself F you wish to use the circuit as an -amplifier only, omit tuning coils, variable condenser, $6 K 7$ valve and all ing is required and the 6 K resistor is omitted. You will then have 615 and 6 V6 valves as a 2 -stage amplifier. A fairly small cabinet would hold the
parts, and a small speaker. Small parts, and a small speaker. Smal purchased. For example, from Premier Radio Co., 207 Edgware Rd., London W. 2 .

## Stains on Stove

 L HAVE an Esse stove which is cream chimney and made black marks on the front - it is also badly chipped. Is there Bradworithy.) $T$ HE stove is probably painted with a vitreous enamel to resist heat, andany discoloration may be difficult to any discoloration may be difficult to
eradicate. Try a good rubbing with a cradicate. Thensenser with abrasive quali-
tics. If you intend to re-enamel the tics. If you intend to re-enamel the
tove yourself, rub the surface down stove yourselfar rub the surface down
with silicon-carbide paper used wet. A ood enamel is aluminium lacquer o oloured effect you might try a heat resisting lacquer such as Starline

## Magnesite Flooring

HAS 'Magnesite' flooring a trade $^{A S}$ (D.W.-Huddersfield.)
$T \mathrm{HE}$ flooring in question is made up 1 with a solution of magnesium chloride to which powdered magnesia is
added. If Magnesite (a trade name) is not obtainable, any wholesale nememical manufacturer should be able to supply the above materials - for instance, Omeroid Taylor \& Sons, Sun Val morden.

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