

# HOBBIES *weekly*

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**A DESIGN OF  
ELEGANT  
BEAUTY**

**ANTIQUE  
GOTHIC  
CLOCK**

★ **FREE**  
*Plan*  
*inside*



**FOR CRAFTSMEN OF ALL AGES**

**6<sup>p</sup>**







**T**HIS week we would like to talk about art of two different kinds on postcards. Among the most popular and best known firms publishing art cards were Stengel & Co. of Germany, Sborgi of Italy and Tuck's of London. A number of American publishers also issued some fine art cards but many of these were also made in Germany. The

## ART ON POSTCARDS

Rotograph Company issued quite a few of them, as did Illustrated Ullman, Bosselman, and several others. The old firm of Tichener & Rudolph issued some very nice but not too well known cards of this type. One series included such beautiful paintings as *Madonna, Virgin of the Doves, St. Cecelia, The Sistine Madonna, The Billed Cupid* and several others.

Several publishers, including Bosselman, Reynolds, & Illustrated issued a number of cards showing some of the familiar paintings in the Library of Congress in Washington.

The French, German and English manufacturers have also produced many cards showing reproductions of the famous art objects found in the great museums and galleries of London, Paris, Berlin, Brussels, Florence and other European cities. These include not only famous paintings by the great masters but also statuary, relics associated with famous people of history, etc.

Many of these latter cards are not in colour but in sepia, black, blue or green but the subject matter is there and while they are not as pretty as the ones in full colour they still make an interesting collection.

Some of the greetings cards of the early part of the century also had many fine paintings done by leading artists of that period and some of the cards bearing the signature of the artist, such as the Ellen Clapsaddle cards, are very much in demand by collectors.



In the early days of post card manufacturing, many of the finer cards were finished by hand. The basic work was done by machine and then the cards were hand decorated in various ways to make them more beautiful.

One of the most common ways of decorating was with coloured sand of mica and other glittery material. In some cases a name of a person or the name of a city was put on the card in this manner. In other cases, the main design on the card was outlined with the decorative material. The way this was done was to draw or outline with a special type of pen, using a thin glue. The sand or mica was then sprinkled over the glue and the excess shaken off. The card was then set aside to dry. Some of them had a few larger pieces of mica placed here and there for 'jewels'. Women did this work in their homes. It was also possible to buy small kits of materials with which to decorate one's own cards. (Aren't we having a revival of this art today?)

Another popular means of decorating was to paste gold die-cut lettering on various types of cards. I have one such

\*\*\*\*\*  
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card on which are pasted gold letters saying 'Happy New Year' and in the opposite corner of the card is what is evidently the same greeting in Hebrew.

Metal objects were often fastened to cards. Animals, small automobiles, angels and various other small ornaments were thus used. Small bits of silk and other cloth cut in the form of dresses, caps, etc, were also pasted on cards to form the dress or other items of clothing of the girls, Santas and other figures. Some cards were also hand painted or tinted. The design was embossed on the card without colouring and the colours were then added by the individual by hand painting or by air brush.

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## CHUCK AND GIDEON

**O**NE of the brightest close harmony vocal duos to appear on the pop music scene for a long time are Chuck and Gideon — yet it was only a matter of three years ago that the pair were firm rivals. Both ran their own bands in Glasgow, and says Chuck:

'I was always sure that if I ever met Gideon I wouldn't like him because people were always telling me that his group was far better than mine!' Now that keen rivalry has turned into a keen partnership.

Born in Govan, Glasgow in July 1941, CHUCK (real name Iain Campbell) started singing when he was knee-high to a Scottish grasshopper.

'My family were all very musically minded and my father taught me to play a guitar when I was about six. I got a lot of practice because as a youngster I lived with my grandmother in a castle in Glasgow, and as there was so much room, relatives were always coming over with their instruments. We used to have sessions playing and singing country and Western and folk music. "Home on the range" was my piece de resistance for a long time!'

At the age of 14 he had joined a Glasgow jazz band as a rhythm and blues singer. He stayed with them till he was 17, then when the band broke up, decided to form one of his own. This played regular evening dates in and around Glasgow and appeared on the annual 'Riverboat Shuffle' on the River Clyde.

And it was as a result of his performance on the 'Shuffle' that Chuck got his first 'break'. He was seen by a Scottish Television producer who later offered him an eleven week series on an S.T.V. programme called 'Dance Party', singing

country and Western and rhythm and blues numbers with a T.V. backing group. This was very successful and led to Chuck being asked to be the male vocalist on another S.T.V. show — 'Rocking House'.

During this time, Chuck's original band had split up and another one had been formed. This played on one-night stands in large dance halls, and it was at one of these that Chuck first met...

GIDEON. Born Leonard Kelly in Clydebank, Glasgow in May 1940, Gideon has always been interested in country and Western music and when he was 17, played guitar and sang in his own band — 'The Honky Tonks'.

They did a lot of evening work at dance halls, and it was on one of these dates in Edinburgh three years ago that Gideon first met Chuck... which is where we came in!

Both groups had been booked to play through the course of the evening, but during the interval rivalry was forgotten and the pair got together and soon discovered that they had the same tastes in music. After the show they got out their guitars, and it didn't take long for them to realise that they could sing in close harmony. Gideon decided to amalgamate his group with Chuck's so the newly formed duo got in plenty of practice.

Then last year the pair decided to go to Brighton for a fortnight's holiday — and liked it so much they wanted to make it their home. Chuck went back to Glasgow



to finish his apprenticeship, while Gideon stayed on and took a full-time job as a guitarist and vocalist in a Brighton public house which put on a nightly show for its customers.

And it was there that things started to happen. Gideon was seen and heard by London music publisher Maurice Clark — whose home is in Brighton — who was so impressed with his performance that he took visiting personalities along to see his act — E.M.I. artist and repertoire manager Norman Newell, and singer Dorothy Squires included.

'The thing that really impressed me about Gideon was his guitar playing,' says Maurice. 'One night I went up to him and told him that I might be able to do something for him. He told me that he would prefer me not to do anything until his "brother" had come down from Glasgow. Of course the "brother" turned out to be Chuck.'

When Chuck arrived in Brighton in the August of last year, Gideon immediately got in touch with Maurice Clark. He heard their double act and was so impressed with it that he contacted E.M.I. A and R manager John Burgess, who arranged for them to have a recording test.

This they passed with flying colours, which resulted in *The Tender Touch* backed by *Cherry Berry Lips* being released on Parlophone R5011.

Personally speaking Chuck has fair hair, blue eyes, is 5 ft. 9 in., likes casual clothes, steaks, relaxing and anything by Hank Williams.

Gideon has blonde hair, blue eyes, is 5 ft. 7 in., likes smart suits, eggs, taking it easy, and all records by Ray Charles.

Their joint ambition is to visit the United States.







# EXPOSURE INDICATOR

IT is not always realised that successful photographs can be taken indoors quite easily, and this is in some ways very suitable for shots of models, handicrafts, and similar subjects, or for portraits. The exposure may vary from a fraction of a second up to many seconds, according to the lighting, and other factors. The indicator shown here automatically gives a suitable exposure, and can be used for all ordinary indoor photos, by artificial light.

## By 'Photographer'

The larger part of the indicator is marked with lamp wattages from 100W to 600W. Ordinary household pearl lamps are to be used, with no shades or reflectors. More than one lamp may be employed.

The smaller section of the indicator carries distances in feet, from 1½ (1 ft. 6 in.) to 7 feet. One section is rotated, so that the appropriate distance comes opposite the lamp being used. Exposures and lens apertures can then be read off, from 1/50 second to 60 seconds, and f/4 to f/22.

### Making the Indicator

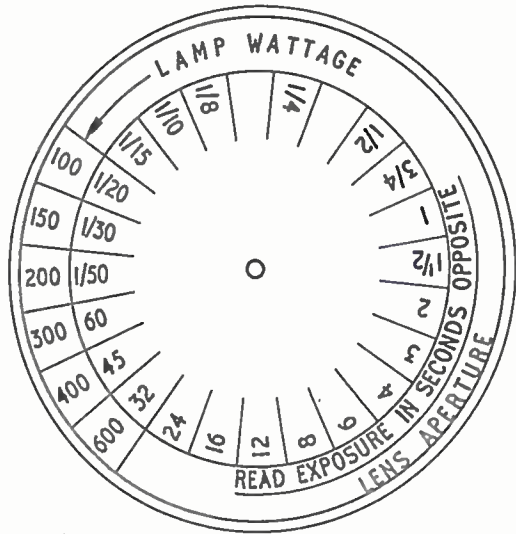
The two parts are glued on cardboard slightly larger than necessary, and left under light pressure until dry. Sharp scissors are then used to cut round the outlines. The larger section is a complete circle, but the smaller part is specially shaped, as shown.

The two parts are pivoted together with a small paper-fastener or rivet, or with a small bolt with two nuts, or any similar means.

### Lamps

Ordinary domestic lamps, without shades, are used, as mentioned. In some cases the ceiling light will be able to contribute to the illumination of the subject. One or two table lamps will be convenient, or several yards of twin flex, equipped with an adaptor one end, and a lampholder the other end.

Shades and globes differ greatly in the light they let pass, so the indicator is designed for bare lamps, with no shades. However, if a lamp has a very thin, transparent shade, which has very little effect on lighting, it can be left in place. But heavy or dense shades and globes have to be removed.



When more than one lamp is used, the total wattage is taken. For example, two 100W lamps would total 200W. One 100W lamp and one 40W or 60W lamp could be taken as 150W, while two 60W lamps can also be considered as about 100W, and so on.

If two lamps are used, a good position should be found for them. Generally, it is considered wise to have one fairly strong lamp, for main lighting, and another to relieve shadows. The strong lamp can be placed fairly high, to the right of the subject, and the fill-in lamp somewhat lower, to the left.

Lamps should be so placed that they

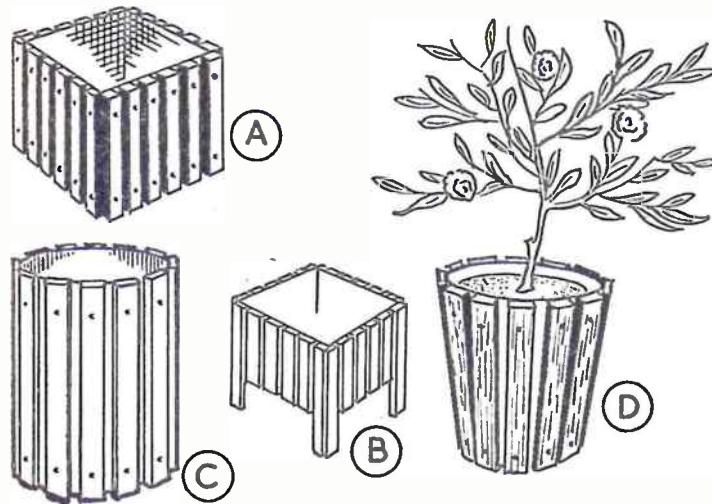
do not shine directly on the camera lens. This can be arranged by having the lamps at about the same distance as the camera, or by holding cardboard between lens and lamps, during the exposure. The lamps should also be positioned so as to give frontal lighting of the subject. That is, they should not be more than about 30 degrees or so away from a direct line to the subject.

A 600W photoflood is useful for some subjects, but for models and other still objects the same results can be obtained with a suitable long exposure, and lamps of ordinary wattage. Should a photolamp with polished reflector be used, all the exposures indicated can be halved.

### Distances

These are taken from the lamp or lamps to the subject. The distance of the camera from the subject will depend on whether a close-up or ordinary shot is taken, and has no bearing on the light intensity.

The distance between the lamp and main part of the subject is measured, or estimated carefully. Two or more lamps are at about the same distance. For example, one 60W lamp at 4 ft. and one 100W lamp at 4 ft. would equal a 150W lamp at 4 ft., so the '4 feet' sector would be set opposite '150'.



ATTRACTIVE containers which make ideal waste paper holders or plant tubs can be made from such unpromising material as empty biscuit tins or various sizes of cylindrical metal drums, plus a few lengths of stripwood.

The larger size of biscuit tin which is almost cubic in shape can make a handsome household fitting for either of the above purposes, Fig. A. After the tin has been thoroughly washed and dried, six lengths of 1 in. by ½ in. stripwood, the same height as the tin, are laid out, spaced equally apart, on each side of the

tin and the positions of the strips marked out on the sides of the tin in pencil.

One point to note is that biscuit tins are not square; there may be a variation of up to ¼ in. between each pair of sides. Two rows, each of six holes, are punched in each side of the tin. The upper row is 1½ in. down from the top, and the lower one is 1½ in. up from the bottom. Each hole should be on the centre line of the positions marked for the wood strips. The holes should be punched out from the inside with a nail while the tin lies on

Continued from page 6

## EXPOSURE INDICATOR

### Film and Exposure

The indicator is designed for fast panchromatic films of popular type, such as HP3, and other films of roughly 33° Sch. speed. There is sufficient latitude for satisfactory results with fast pan films even when the maker's speed rating is not exactly 33° Sch.

Most exposures will be relatively long, so the camera must be on a tripod or other firm support. A cable release is also helpful, so that the shutter can be operated without shaking the camera.

As example, assume that two 100W lamps are used, each at about 3½ ft. from the subject. With 3½ ft. opposite 200W, suitable exposures and lens apertures will be ½ second at f/4, ¼ second at f/5.6, and so on, round to 8 seconds at f/22.

If there is any chance of movement, short exposures are necessary. So a portrait could be taken at, say, ¼ second, using f/5.6. Small apertures

such as f/16 and f/22 give more depth of field, however. So to photograph a model or still object, 8 seconds at f/22 would be chosen, with the same lighting.

It will be seen that fairly good lighting is required to take portraits, where an exposure of 1 second is about the longest possible, and ½ second, or less, is preferable. But with still objects, no difficulty arises in giving long exposures, and small apertures (such as f/22) are chosen.

Many box cameras have lenses which can be taken as about f/16. With these, the exposure shown opposite f/16 is used. Even simple cameras usually have a time, or brief time, shutter setting.

Very powerful lighting is usually inconvenient for a sitter, so exposures in the region of ½ second to 1/10 second will often be best. A comfortable position in a chair with a fairly high back will be helpful if a person must remain still for 1 second for so.

Brighten the home

# MODERN PLANT HOLDERS

its side, resting on a board to prevent distortion. Two holes are also drilled in each wood strip, 1½ in. from each end.

The interior of the tin is then enamelled black, and the exterior is enamelled white, or in a colour which harmonizes or contrasts with the colour scheme of the room where the container is to be used. The wood strips are stained, if desired, then waxed or varnished, and all the parts are left to dry thoroughly before being assembled.

Small nuts, washers and bolts are used to attach the strips to the tin. The heads of the bolts can be countersunk, the holes filled with plastic wood then varnished over, or the bolt heads can be left protruding. In this case, the screw slots are best filled in and the heads painted with gold gilt or black enamel to make a decorative pattern. On the inside, the nuts should also be painted over with black enamel. The little extra painting involved in assembling the pieces in this way is well worth the effort, for the finish is greatly superior to that obtained when the container is completely assembled, and then painted.

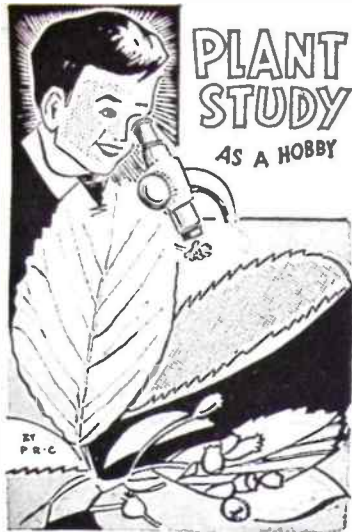
If a taller container is required, the strips at each corner can be lengthened to form legs, Fig. B, and braced on the inside by pieces of 1 in. square stripwood or small brass angle brackets.

Cylindrical metal drums can be treated in exactly the same way, Fig. C, and this method can also be employed to convert plastic containers, such as pails from which the handles have broken off, into attractive and useful fittings. Here, the holes in the plastic can be made with either a drill or a hot wire, and large washers must be used with each screw on the inside of the pail. The finished container makes an excellent waste paper basket. With holes drilled in the bottom, it forms a plant tub, Fig. D.

Different sizes of stripwood can, of course, be used to achieve different effects. For example, 1 in. by ½ in. strip, or ¾ in. square strip both give attractive slatted finishes. (A.L.)

Continued on page 7





alternation of generations. This means that there are two different types of plant, called a gametophyte and a sporophyte. In the case of the Bryophytes, the gametophyte plant is the one we usually see and produces gametes, male and female reproductive cells. By the fusion of these cells, a zygote or fertilized cell is produced, which develops into a minute sporophyte plant, growing on the gametophyte.

## MOSSES AND LIVERWORTS

By P. R. Chapman

This is not noticed by the casual observer, but can be found by the student. This sporophyte plant eventually forms spores which on germination give rise to a new gametophyte plant. This is shown as a diagram in Fig. 1.

### Damp places

We have seen that these plants produce male and female gametes. The male gametes are provided with minute swimming hairs, or cilia, somewhat like the swimming Algae mentioned in an earlier article, and must swim to the female cells. This can only take place when there is a film of moisture on the plants. For this reason the Bryophytes are inhabitants of damp places, and although many of the mosses can survive periods of drying out, they cannot reproduce under these conditions. Also, the plants are small, since a small plant, close to the ground, is likely to find it easier to remain moist. We shall see in the next article how the ferns (many of which are much larger) get over this difficulty.

### The Liverworts

Probably everybody can recognise a moss, even if it is considered 'just a moss', irrespective of the fact that there are over 500 species in this country alone! However, few people other than students have ever noticed a liverwort, for they are inconspicuous and have little claim to beauty, as have many mosses.

There are two types of liverworts, the thallose and the leafy, illustrated in Fig. 2. One of the most common of the former type is *Pellia epiphylla*, forming small, flattened, dark green clumps on the damp earth beside streams. The male and female cells are produced on the upper surface of the plant. In some liverworts, the different cells are produced on separate plants, but in *Pellia*



Moss *Funaria*, showing spore capsules

they occur on the same plant. The fertilized cell gives rise to the sporophyte plant, which remains growing on the surface of the liverwort. This stage is reached in the autumn, and the sporophyte remains quiescent during the winter; the following spring, a stalk is produced, carrying the spore capsule at its tip.

If a *Pellia* plant is examined in the spring, the white stalks with black capsules on top are striking in appearance. The capsules dry and split open, releasing the spores, which under suitable conditions, can germinate to produce other gametophyte plants.

The 'leafy' liverworts are more moss-like in appearance, having a stem and leaves. They may however be distinguished from mosses by their more delicate and filmy structure and the fact that their usually larger leaves are arranged along each side of the stem, not around it as in most mosses. Most of the liverworts are included in this group and may also be found in wet, boggy places.

The delicate leaves of these little plants are most suitable for examination

under a low-power microscope or a good magnifying glass, when their full beauty and delicacy of structure can be appreciated.

### The mosses

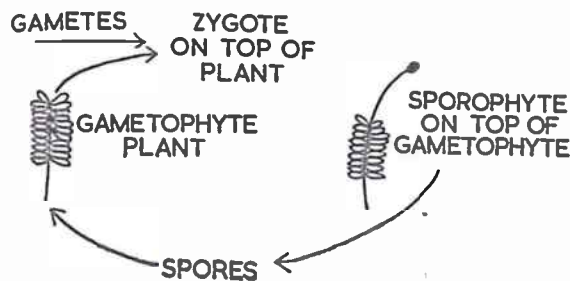
The mosses are far better known generally than the liverworts, even if only as unwelcome inhabitants of

it may be purely for study purposes, without claim to artistic merit, if you prefer!

### The capsules

The reproduction of mosses is much the same as already described for liverworts. The plant that we see is the gametophyte generation, and the sporo-

FIG. 1 LIFE CYCLE OF A BRYOPHYTE



lawns and pots of greenhouse plants. This occurrence usually indicates poor drainage. Although also dependent on water for their reproduction, the mosses are able to withstand rather drier conditions than the liverworts, and are therefore somewhat more widespread. As already stated, there are around 500 species in this country, and it would take a real expert to identify with certainty some of the closely-related ones.

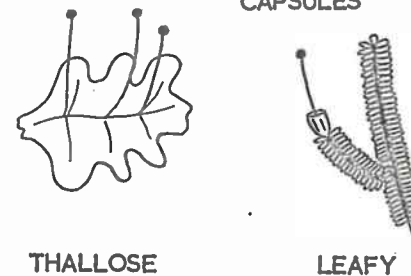
However, there are a number of common types quite easily identified and although liverworts are rather difficult to keep in a collection, mosses make excellent subjects for a dried collection. If the moss is gently pressed between newspaper, it will dry in a few days and can be mounted on a sheet of paper by small dabs of an acetate glue such as Durafix. The name (if known) and place and date of collection should be added.

Even mosses dried for several years will resume a life-like appearance if placed in water, so that a dried specimen may be restored for identification at a later date.

### Making a garden

If you have an old aquarium, perhaps leaky, you can start a living collection of mosses. Quite a small aquarium will do, and it should be about a quarter filled with peaty, sandy soil, preferably some soil from the place where the moss was collected. Although the soil should be kept moist, it should not become waterlogged; a sheet of glass on the top of the container will maintain the necessary moist atmosphere. The 'garden' should be placed in a shady place. The actual arrangement of the mosses in the garden will naturally depend upon your artistic skill; however

FIG. 2 LIVERWORTS. SHOWING SPORE CAPSULES



THALLOSE

LEAFY

around for mosses he will find them in all sorts of places, tree trunks, old walls and paths, by ditches and in the woods. It is quite impossible to give details for identification here, but again there is a good book in the 'Observer' series for five shillings.

There is another group of mosses, the *Spagnum* mosses. These plants are bog inhabitants, living under waterlogged conditions. They can absorb an amazing quantity of water and are often used for lining hanging plant baskets.

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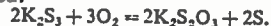
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# CHEMISTRY AT HOME

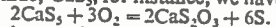
It was seen in the last article that the yellow solution of liver of sulphur is decolorized on exposure to air. This is due to a potassium polysulphide oxidising to potassium thiosulphate,  $K_2S_2O_3$ . For example, with potassium trisulphide,  $K_2S_3$ , oxygen, O, is supplied by the air and sulphur, S, is also deposited:



## EXPERIMENTS WITH SULPHUR

### Part 2

The orange solution which was produced by boiling together slaked lime (calcium hydroxide),  $Ca(OH)_2$ , with sulphur and water,  $H_2O$ , also contains polysulphides and these undergo a similar oxidation forming calcium thio sulphate,  $CaS_2O_3$ . With calcium pentasulphide,  $CaS_5$ , for instance, we have:



and the reaction product can be used to prepare sodium thiosulphate ('hypo'),  $Na_2S_2O_3 \cdot 5H_2O$ .

First repeat the preparation of the lime/sulphur solution using 4 grams of slaked lime, 8 grams of sulphur and 64 c.c. of water. Boil for an hour, filter, and expose the filtrate to the air in a beaker. After about a fortnight the solution will be decolorized. The reaction can be much speeded by bubbling air through the solution with the aid of a filter pump using the apparatus shown in Fig. 1.

Filter the solution and stir in a little at a time a solution of sodium carbonate (washing soda),  $Na_2CO_3 \cdot 10H_2O$ , until a white precipitate of calcium carbonate,  $CaCO_3$ , just ceases to form. This end point may be ascertained by filtering a little from time to time and adding a drop or two of sodium carbonate solution when no precipitate should form if the reaction is complete.

We now have a solution of sodium thiosulphate containing a precipitate of calcium carbonate:

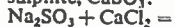
$CaS_2O_3 + Na_2CO_3 = Na_2S_2O_3 + CaCO_3$ . Separate the two by filtration and boil down the filtrate until it is syrupy. Let it cool and stand overnight. If the sodium thiosulphate has not crystallized out,

drop in a tiny crystal of sodium thiosulphate from the stock bottle, when crystallization will soon take place.

A more direct method of preparing sodium thiosulphate is by boiling sulphur with sodium sulphite,  $Na_2SO_3 \cdot 7H_2O$ , solution:



Dissolve 10.08 grams of sodium sulphite in 50 c.c. of water in a flask fitted with an upright condenser, add 1.28 grams of flowers of sulphur and boil for 1 hour. After this time most of the sulphur will have dissolved. Continue boiling, but each half hour test a small filtered portion with calcium chloride solution,  $CaCl_2$ . When the liquid ceases to give a white precipitate of calcium sulphite,  $CaSO_3$ :



$CaSO_3 + 2NaCl$  (sodium chloride), the reaction is complete and the liquid may be filtered. Boil down the filtrate of sodium thiosulphate solution as before so as to obtain crystals.

Potassium thiocyanate,  $KSCN$ , an

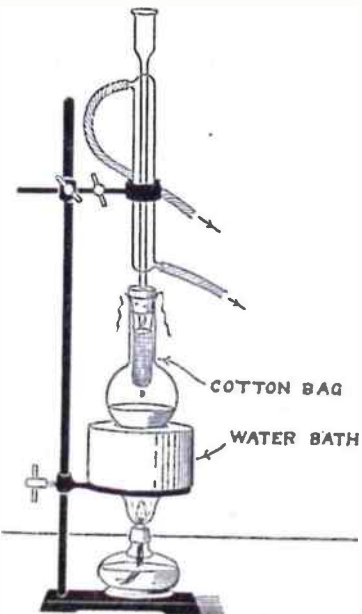


Fig. 2—Continuous extraction of potassium thiocyanate

invaluable reagent for detecting ferric compounds, is also made by a direct combination of sulphur. By heating sulphur with potassium carbonate,  $K_2CO_3$ , and anhydrous potassium ferrocyanide,  $K_4Fe(CN)_6$ , potassium thiocyanate is produced together with other products, among which are carbon dioxide,  $CO_2$ , iron, Fe, and sulphur dioxide,  $SO_2$ :

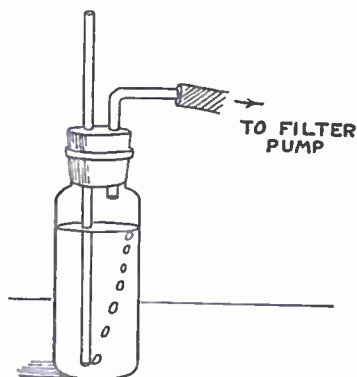
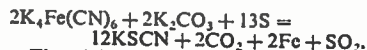
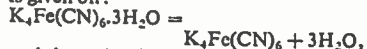


Fig. 1—Speeded oxidation of lime sulphur solution



First dehydrate 15 grams of ordinary potassium ferrocyanide,  $K_4Fe(CN)_6 \cdot 3H_2O$ , by gently heating it spread in a thin layer on a metal tray. Water,  $H_2O$ , is given off:



and the end point may be ascertained by occasionally holding a watch glass near the substance. When the glass no longer mists over with condensed steam the salt is anhydrous.

In an iron ladle heat a mixture of 4.25 grams of potassium carbonate and 8 grams of sulphur until the mixture melts, stir in with an iron rod or nail 11.5 grams of anhydrous potassium ferrocyanide. Continue heating gently until the whole is in tranquil fusion (about half an hour) and then let the black liquid cool. Chip out the solidified mass.

Make a small close-woven cotton bag and suspend it by means of two lengths of thread in a flask under a reflux condenser as shown in Fig. 2. Coarsely powder the solidified melt and put it in the bag. In the flask put a small piece of porous pot and 40 c.c. of methylated spirit. On boiling the meths. the vapour liquifies in the condenser and the hot liquid drips into the bag and through the powder, extracting therefrom the potassium thiocyanate. The solution of potassium thiocyanate solution drips

Continued on page 12

# ALL ABOUT PHOTOMONTAGE-2

In a previous issue we considered the preparation of composite montage pictures and we now propose to proceed a little further, showing how other novelties may be prepared. The photographic processes conveniently lend themselves to all manner of tricks and we can employ these to advantage for montage pictures.

In Fig. 1 you will see a complicated example which has been made from a simple shot of piano keys, and no doubt you will be interested to learn how this may be achieved.

An exposure was first made to take the piano keys and a positive transparency made on a lantern plate from the original negative so that several reverse prints could be made showing the white keys as black.

A large sheet of photographic paper

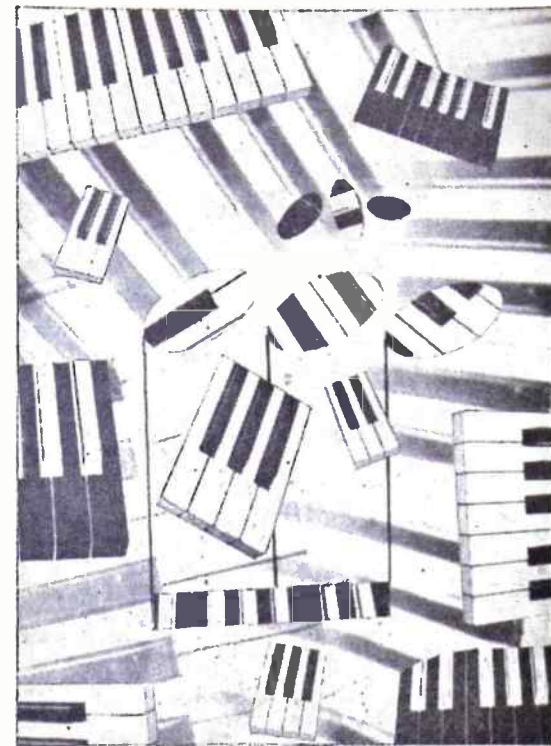
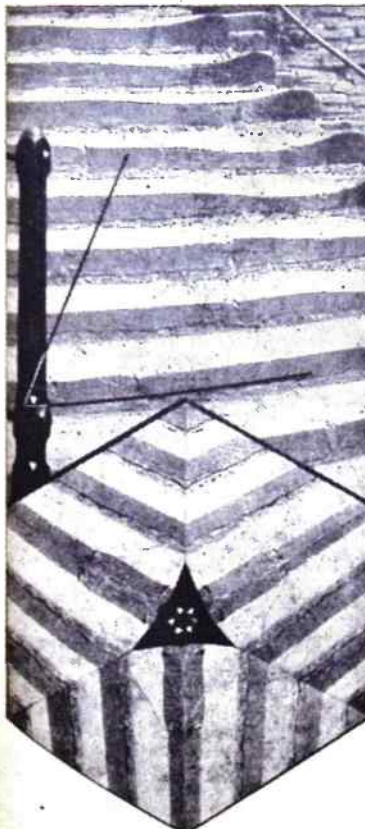


Fig. 1—Piano keys are used for the original negative for this photomontage



Note the small highlight included to form a central feature for this hexagonal pattern

(10 in. by 8 in.) was used as a base when a high degree of enlargement was used to print the keys in a grey tone at different angles and overlapping. This is done by shading one portion of the paper while one part is exposed, then shading that portion while a second exposure is made.

The next stage is to make several prints of the keys in varying degrees of enlargement from both the negative and positive transparency.

Some 'notes' were cut out from the prints and mounted in position along with a bar, stems being ruled in with Indian ink. If you know anything at all about music you will be aware of such terms as thirds, fourths, fifths, sevenths and octaves. These are depicted in various parts of the picture by cutting out the appropriate number of keys and trimming to shape. You will observe that we have high notes, low notes, strong and weak notes bouncing about the basic picture which, to be brief, is intended to portray a musical joke, the precise term being a 'scherzo'.

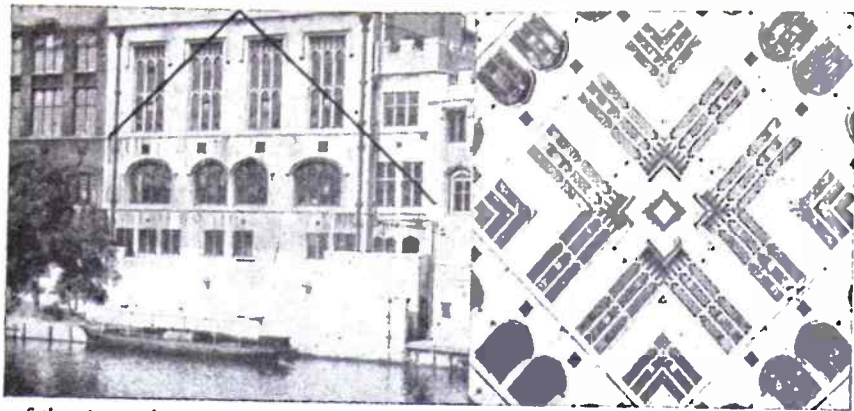
### Colour the edges

The cut out prints were arranged in what were considered the best positions and then stuck on the base. Here it is a decided advantage to rub the edges of the backs of the cut-outs with fine sandpaper, not only to remove the burr but also to make them paper thin. The edges are then treated to a thin wash of grey water colour so they will not be visible. The montage may be left in this stage if desired but I find it preferable to make a new negative of the montage when the handiwork is invisible.

Photo-designs can be made by similar methods although a little more patience is required, also careful trimming and processing.

Architectural studies, which usually include lines and shapes, are ideal for making designs and one print may reveal many possibilities. We lay the print on the table, standing a pair of small mirrors on top. The latter are temporarily hinged together with Sellotape so they will stand upright at any desired angle.





The portion of the picture shown on the left was used in four parts fitted together to form the square design on the right

When viewed from a suitable angle and with the mirrors at right angles you will discern four distinct images in juxtaposition. It is then up to you to decide whether this makes a good design worthy of experiment. All parts of the print may be examined and you will be surprised at the many novel images you will find.

By adjusting the mirrors to 60° a kaleidoscopic effect will be seen producing a hexagonal pattern. Or you may adjust the mirrors to 45° to obtain an octagonal design.

#### Reversed images

A little reflection will reveal that when viewing the print through the mirrors the images on either side of the original are reversed and this is quite an important factor. When making a square design we need two prints identical with the original and two reversed — achieved by reversing the negative in the enlarger carrier. Similarly, the hexagonal designs require three of each and the octagonal four of each.

Uniformity of tone is essential, so accurate timing for both exposure and development becomes essential.

The original print may be marked in pencil as a guide but those you are to use for the montage should be a little larger to allow for trimming to correct size and angle.

Before attempting to mount the sections it will be found best to start with trimming the originals. Trim one and carefully match with another original. Make guide marks on the second and subsequent sections and be extremely

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careful with the fittings, testing the size and angles by placing together and tapping on the table, when any errors will be apparent.

An old mount may be used for sticking the sections down. Start with an original, remove any burr remaining on the back with a piece of worn, fine sandpaper and see that the edges adhere. Follow with a matching section, that is a reverse print, and so on until the whole is complete.

You may leave your design as it is but if you wish to make a copy negative you can modify by a little retouching. Features may be strengthened with Indian ink or process white as required,

while some features may be entirely blocked out.

A print made from such a negative is entirely free from joints, of course, and it becomes possible to make any number of smaller prints for making a large, overall design. Moreover, you may make several designs of the same shape and fit together for a really novel pattern. Small specimens can also be used as motifs for ornamenting books or boxes.

You will appreciate that the technique of montage combined with photographic processes can lead us to interesting experiments. Apart from the creative and novelty values montage is also useful as an exercise for processing. (S.H.L.)

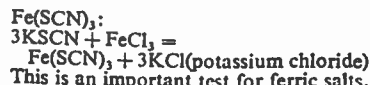
● Continued from page 10

## EXPERIMENTS WITH SULPHUR

through into the flask where the meths. boils off again, and the process repeats itself continuously. After about 1½ hours nearly all the potassium thiocyanate will have been extracted. Halt the boiling and let the whole cool.

White needle-like crystals of potassium thiocyanate separate out. Filter these off, press them dry between filter paper and bottle them. A further crop of crystals may be obtained by distilling off most of the meths. on a water bath and allowing to cool again.

Dissolve a little of the product in 2 or 3 c.c. of water and add a few drops of the solution to one of ferric chloride, FeCl<sub>3</sub>·6H<sub>2</sub>O. A blood-red colour appears owing to formation of ferric thiocyanate,



Another important substance in the laboratory is the ferrous sulphide, FeS, which we use for generating hydrogen sulphide, H<sub>2</sub>S. Should you run short of it at a critical moment a supply is soon made.

Intimately mix 7 grams of iron filings and 4 grams of flowers of sulphur. Spread out the powder on a tin lid and heat it. When a certain temperature is reached the mixture begins to glow and this spreads throughout the mass. When the glow dies down let the whole cool and it is ready for use.

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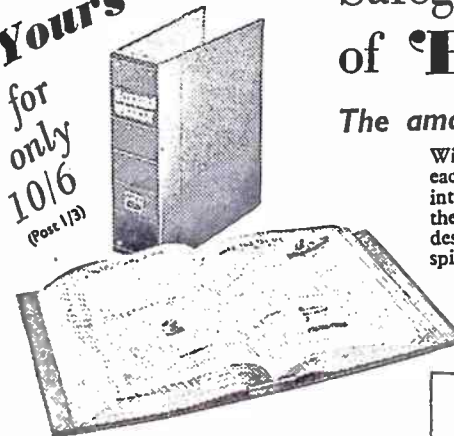
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## Lifting and Storing Dahlias

the stems. Leave them for a week or two, if possible, to allow the 'eyes' to ripen. If the ground is required for spring displays of wallflowers or polyanthus then the tops should be cut off in good time, even though the plants are still flowering.

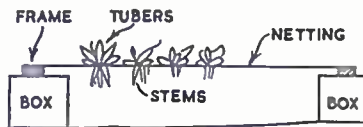
Dig up the tubers when the weather is fairly dry, label them carefully, and lay them out in an exposed position so that they can dry off in the wind and sun. Drying will take a few days and they should be turned frequently to enable all parts to dry. Gently tease out any lumps of earth between the tubers but on no account wash them or allow rain to wet them.

Water may have collected in the hollow stems and it is advisable to lay the tubers upside down for a period to allow them to drain. It is a good plan to stretch a piece of 2 in. mesh wire netting over a wooden frame and stand this on boxes. The tubers can then be laid on the

netting, with the stems protruding underneath as in the diagram. Air will circulate round them and they can quickly be carried under cover if rain threatens.

When the tubers are dry they should be dusted with 'green' sulphur and a proprietary brand of insecticide powder for aphids.

Pack them away in cartons or tea chests and cover them with dry sand, peat or sawdust. The cheapest and also the most effective covering, is sawdust. Put a layer of about 4 in. in the bottom of the box, then a layer of tubers, keeping them 3 in. or 4 in. from the sides. Cover them with sawdust, then add a further layer of



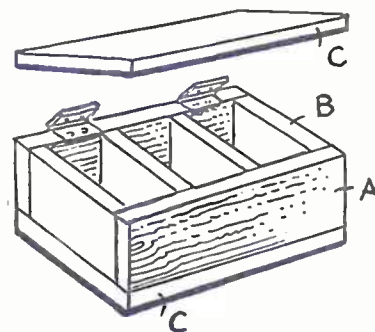
tubers and so on. Place the box in a cool, frostproof room. They will take no harm whatever in an occasional frost, but when the weather becomes really severe day after day, with freezing day temperatures and very cold nights, it is time to remove them to a safe place.

In the spring the tubers are taken out of store, divided if necessary and planted out in late April. If it is desired to increase by cuttings the tubers should be boxed up in February and started into growth in a warm greenhouse. (M.h.)

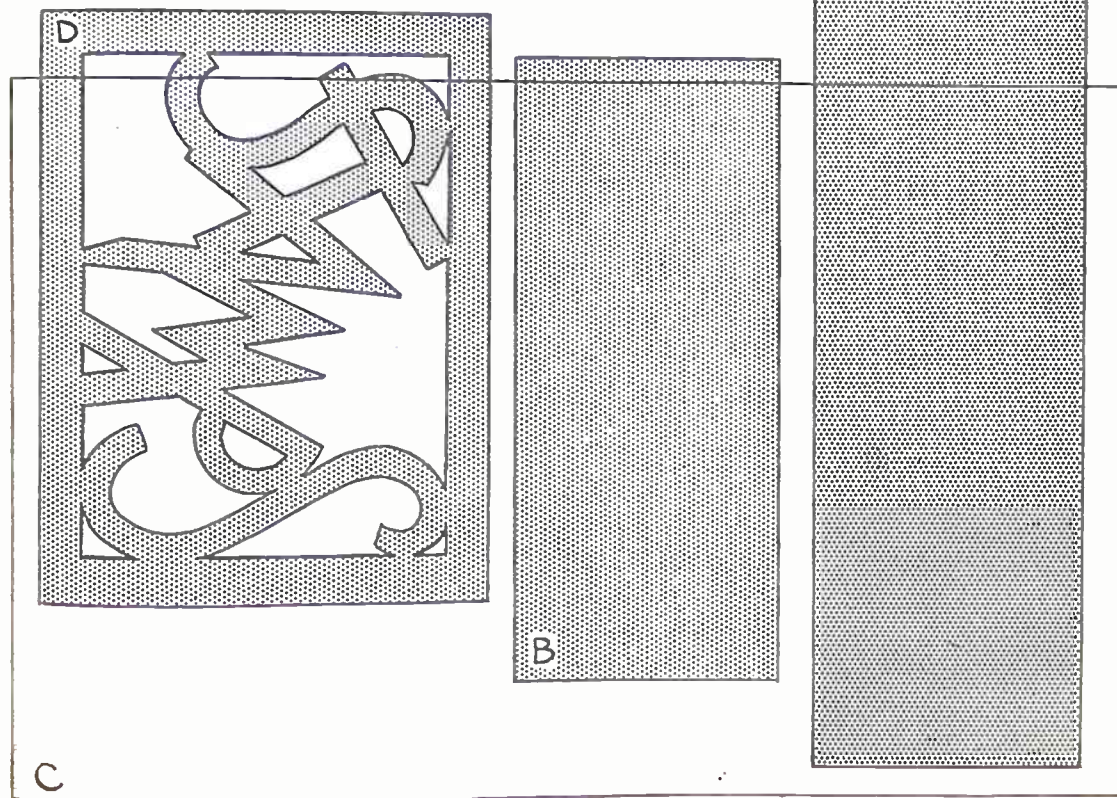
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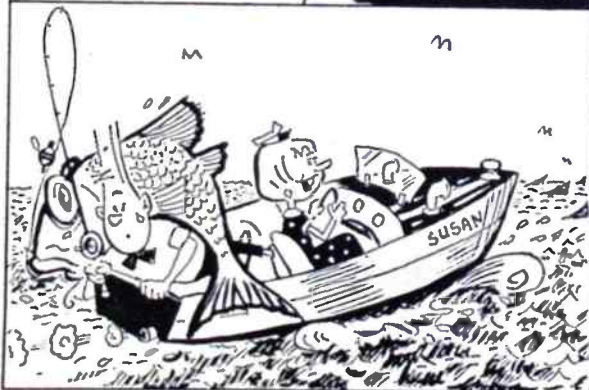
Make the main parts of the box from  $\frac{1}{2}$  in. wood and the overlay D from  $\frac{1}{4}$  in. Cut out all the parts with a fretsaw and assemble them as shown in the sketch. You will need two each of A and C, and four of B. Recess  $\frac{1}{2}$  in. light brass hinges as shown.



(M.p.)



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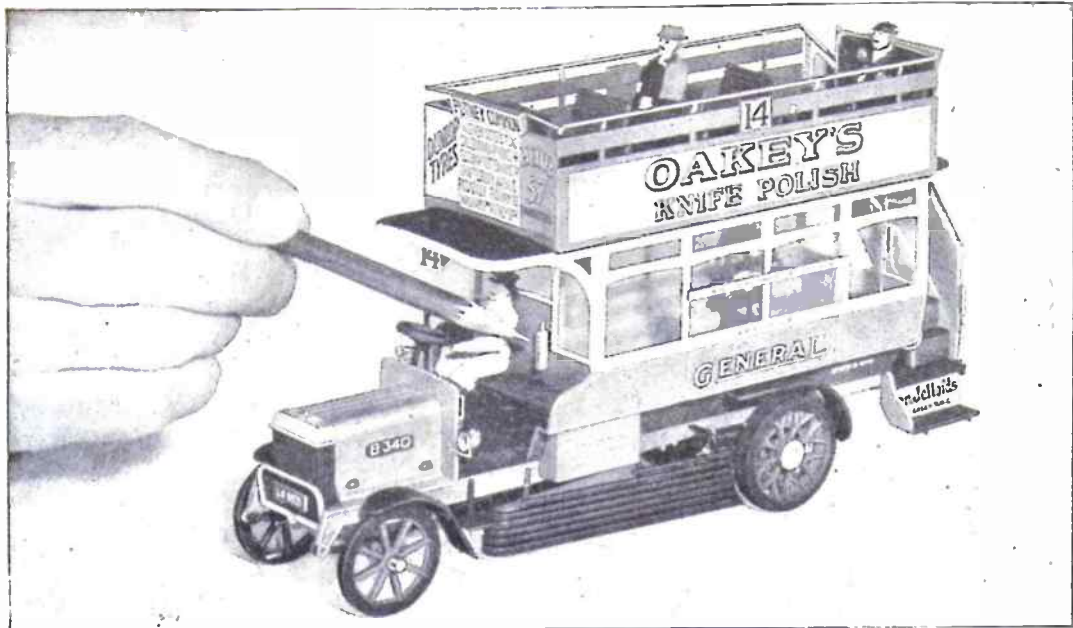
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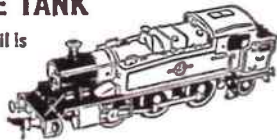
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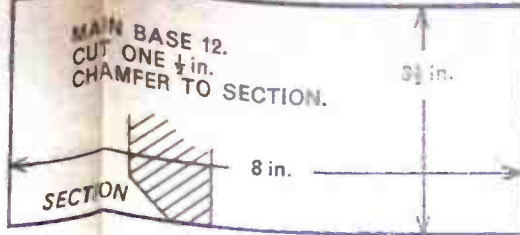
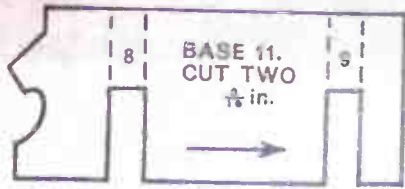




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BASE 8. CUT ONE 1/8 in.

9

8

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SIDES  
4.  
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1/8 in.