

Pamphlets on Art Teaching. No. 6

EDITED BY HENRY T. WYSE, LECTURER IN ART
EDINBURGH PROVINCIAL TRAINING COLLEGE

STENCILLING

By HENRY T. WYSE

EDINBURGH: ANDREW BAXENDINE & SON,
15 CHAMBERS STREET.

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STENCILLING

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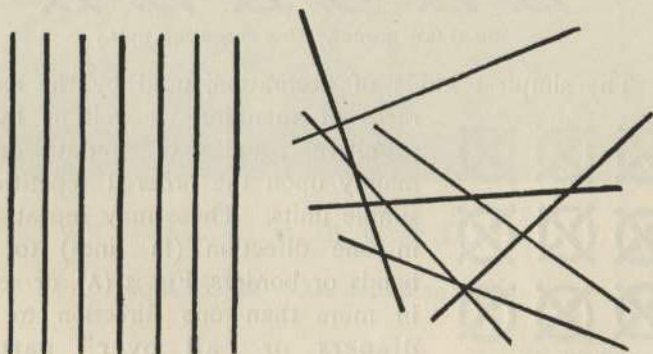
CHAPTER I.

STENCILLING.

DESIGN (GENERAL).

ANY pattern or unit, no matter how crude or simple in form, will, if repeated according to some ordered plan or arrangement, invariably result in a more or less pleasing ornamentation. It is the ordered repetition of the units rather than their individual form which gives the sense of decoration. This principle of order may be seen in contrasting the appearance of a team of football players with a regiment of soldiers on parade. In each case the individuals are uniformly attired, but the footballers are scattered irregularly over the field, while the soldiers are disposed regularly in serried ranks. The former illustrates disordered activity, the latter discipline and order.

This principle of *order* is well illustrated in a group of lines shown in Fig. 1. At A these lines are standing upright, parallel and equidistant from each other, ordered, erect, and



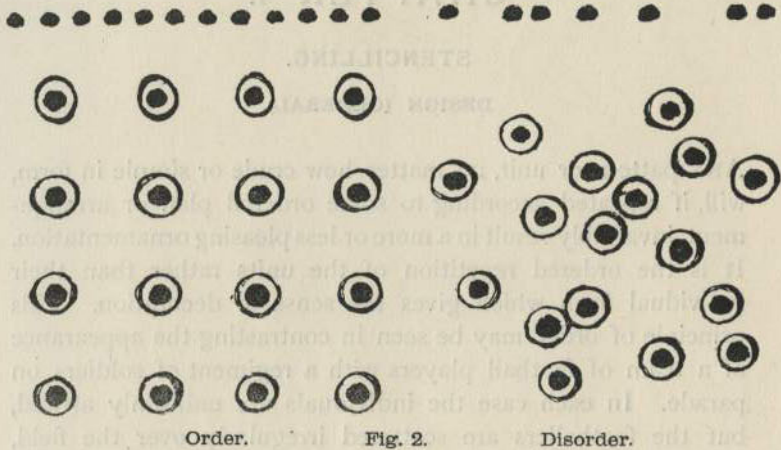
A-Order.

Fig. 1.

B-Disorder.

decorative. At B the same lines are thrown together regardless of design, illustrating disorder, anarchy, and confusion.

Fig. 2 shows this principle of ordered arrangement applied to a simple decoration, the units of which are spots. When



the form of the unit is more graceful the effect may be more decorative and beautiful, but it must be remembered that the success of a repeating decoration is due more to the order of its repetition than to the form of the unit employed.



Fig. 3 (a)—Border. One repeating unit.

The simplest kinds of decoration, used by the earliest races of mankind as well as by the primitive peoples of to-day, depend mainly upon the ordered repetition of simple units. These may repeat—first, in one direction (in lines) to form bands or borders, Fig. 3 (A), or second, in more than one direction to form diapers or “all over” patterns, Fig. 3 (B).

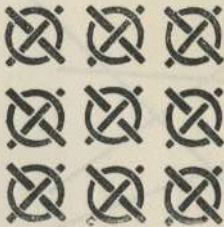


Fig. 3 (b)—Diaper.
One repeating unit.



Fig. 4. A. B. C. & D.

BORDERS. One repeating unit.

In both types of decoration the repeats are uniform both in size and shape, and occur at regular and equal intervals. In utilising this principle of ordered repetition the varieties of pattern based upon the same unit are infinite. When the various parts of the unit are varied (as in Fig. 4), it may be repeated in different positions, each arrangement forming what is practically a different pattern. In Fig. 4 (A—H) four bands or borders and four diapers or “all over” patterns are illustrated. In each of these eight decorations the same unit has been used. It consists of a stem carrying three leaves and one flower. In the first border, A, the unit (which is designed within a square, shown by a dotted line) has been repeated again and again in a horizontal line, every repeat being identical in *position* as well as in form. In B, every second unit is in the same position, the alternate units having been reversed or turned face downwards, the resulting pattern illustrating the decorative arrangement of *repetition* and *reversion*. This reversion or turning over of each alternate unit alters the whole character of the border, producing a series of double-sided or symmetrical units. In the next border, C, every alternate *double unit* has been repeated upside down, this again changing the character of the pattern. In border D, the unit has been laid on its side, every alternate repeat being reversed. In this border the “motif” is a continuous undulating branch with leaves and flowers springing from it. The diapers E and F are similar in construction to the borders A and B, being formed of a series of borders one below the other. In the diaper at G, the units are moved one place to right or left, giving a particularly well disposed and pleasing arrangement of units; the branches carrying leaves and flowers, forming what is known as the “ogee” pattern. This “ogee” form is one of the most common of decorative devices in all mechanically repeated units, occurring in wall-paper as well as in textile patterns. The unit in the diaper H has been rotated about a centre forming a new pattern composed of four units springing from a common centre. This “wheel” arrangement in which the repeating units spring

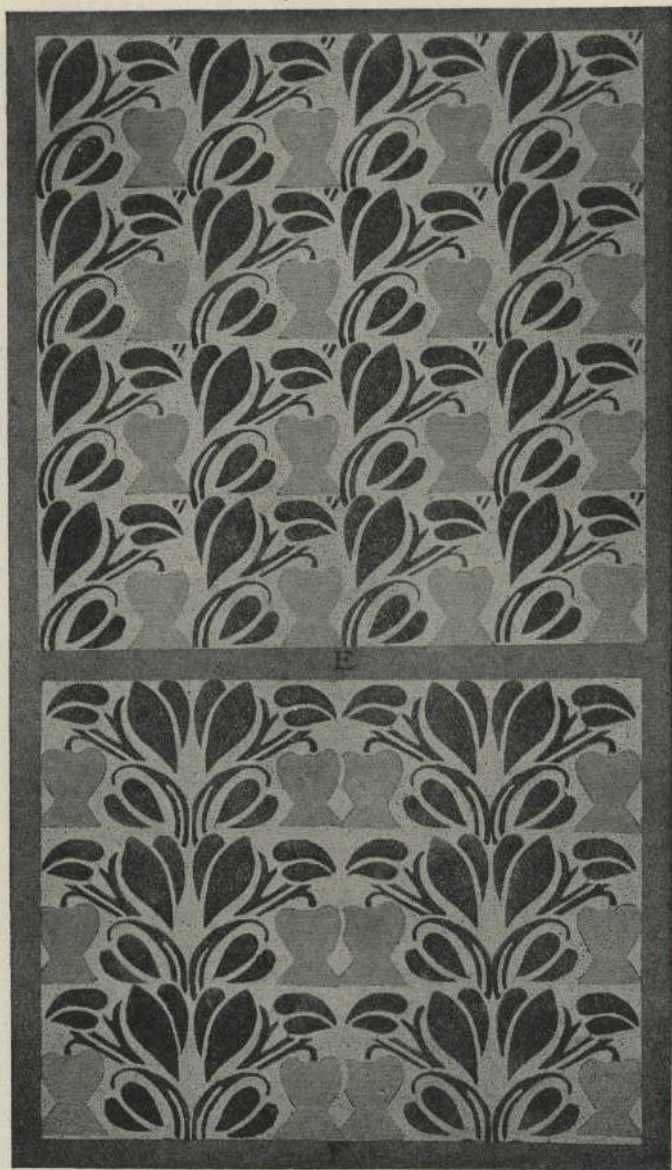


Fig. 4, E. & F. DIAPERS. One repeating unit.



Fig. 4, G. & H. DIAPERS. One repeating unit

from a centre is capable of infinite variation. It is a designer's device which seldom fails to please us, perhaps because the same arrangement occurs so often in nature, for instance the petals of many flowers radiate in the same way, and this decorative idea has been in use among decorators since the beginning of time.

All these diaper patterns are repeated upon a network of squares formed by vertical lines placed at equal intervals, and crossed by horizontal lines at similar distances apart. Such a network of squares is the skeleton of all chequers and tartan patterns, and is similar to the simple unintentional pattern formed by the weaver, where the long threads (the warp) are crossed by the short threads (the woof) woven by the shuttle.

The eight patterns just described and illustrated in Fig. 4 are called "close" patterns, because the units are repeated close together. In both "borders" and "diapers" the *ground* of the decorated surface is practically covered.

"Open" patterns may be made with the same or similar units. In these the units are separated from each other by intervals or spaces (Fig. 5). Instead of the units and spaces being of the same size as in Fig. 5, they may be dissimilar (Fig. 6). By this arrangement a new class of patterns is evolved; such patterns are usually termed "spot" patterns, especially where the ground is much greater in area than the



Fig. 5—"Open" Diaper.
One repeating unit.

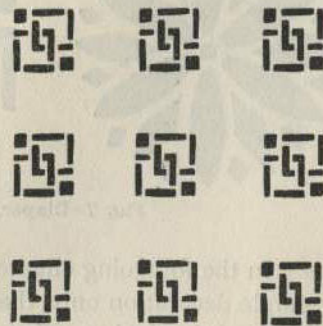


Fig. 6—"Spot" Pattern.
One repeating unit.

pattern. The relative sizes of units and spaces are fixed at the will of the designer.

In all the foregoing patterns, a single unit only has been used in each; but two or more units may be repeated, and this increases the scope for ingenuity on the part of the designer (Fig. 7).

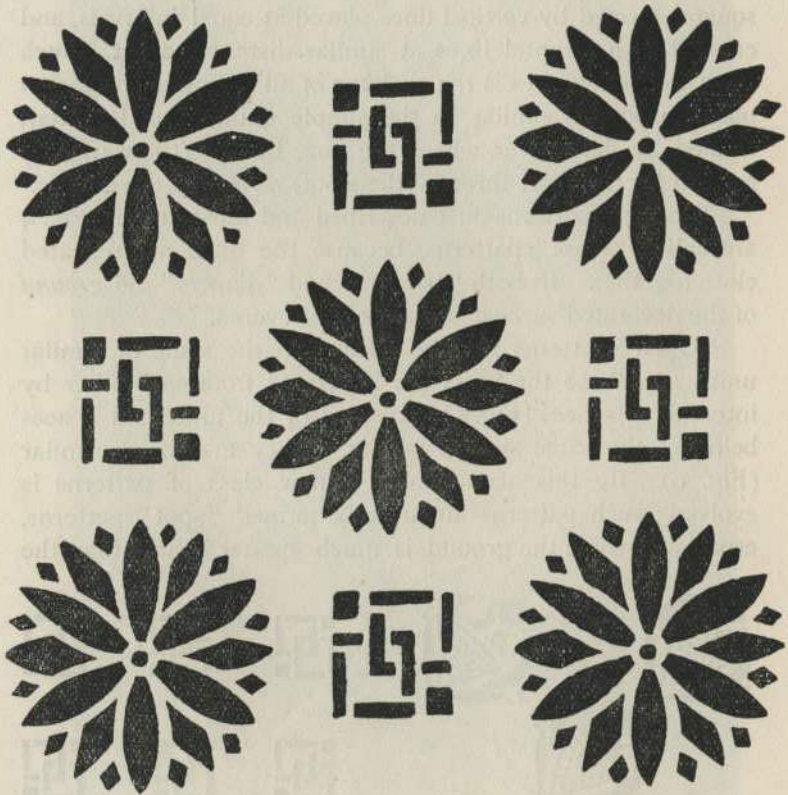


Fig. 7—Diaper. **Two** repeating units.

In the foregoing chapter, reference is made to one class of simple decoration only, that is "repeating patterns." In some forms of simple decoration the same unit is not repeated, but in most cases of mechanical production, a repeating unit is used,

These descriptions are specially applicable to patterns repeated by means of a stencil or stencil plate, as it is often called. Many stencil plates are made of thin metal, brass or zinc being often used, but in most cases they are cut in stiff tough paper. We may have seen the process of stencilling being carried out by a painter on a shop front. The method may be described thus:—The design is drawn out full size on a piece of strong tough paper. The parts intended to be stencilled are cut out with a sharp knife on a sheet of glass or zinc. The perforated sheet of paper or stencil plate is now laid against the part to be decorated, and is usually kept in position by pins or by the fingers. A short stiff brush is dipped into paint (a small quantity only being used) and dabbed all over the stencil plate. The ground is protected by the stencil, but the parts behind the openings receive the paint. When the stencil plate is removed the pattern appears on the ground.

• While the forms of the repeating unit must in every case be uniform, there are several ways of varying the effect of the repeats, as for instance by using more than one colour: thus the leaves and stems may be of one and the flowers of another colour. Or again, the various items of the units may be varied so as to produce different degrees of tone, and this may be done without attempting to express any sense of reality by means of light and shade. The use of more than one tone introduces *variety* in a repeating design, and variety as well uniform repetition both make their appeal to our eyes and minds.



CHAPTER II.

MATERIALS USED IN STENCILLING.

STENCILS may be used for repeating patterns upon many materials. In Western countries the repetition of patterns on such flat surfaces as paper or cloth is usually produced by means of the printing press, but in Eastern countries and especially in Japan, stencils are used for decorating both cloth and paper.

The crepe cloth used for clothes by both sexes in Japan is patterned by means of stencils, two examples of which are shown in Figs. 8 and 9. In each of these stencils the dark parts have been cut out, the white parts being left. A casual reference to these figures will show that the Japanese are particularly expert in the cutting of stencils. Observe the



Fig. 8.—Japanese Stencil.

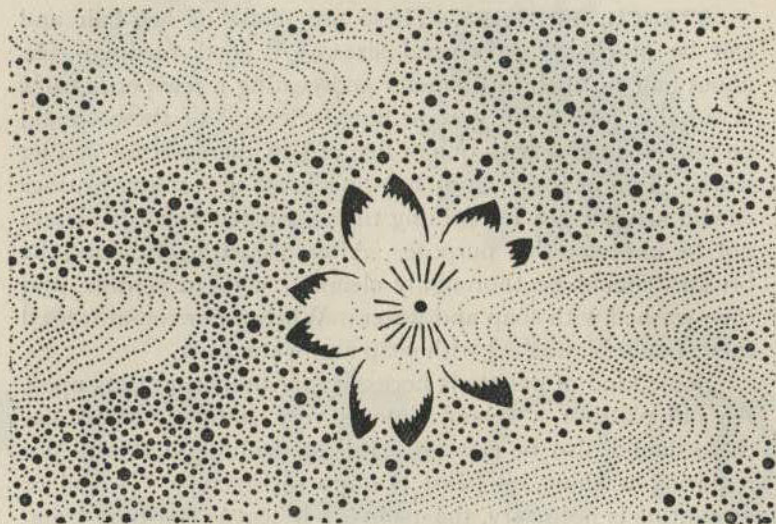


Fig. 9.—Japanese Stencil.

thinness of the white lines in Fig. 8. The stencil, Fig. 9, is almost entirely composed of spots of various sizes, which are cut by means of metal punches.

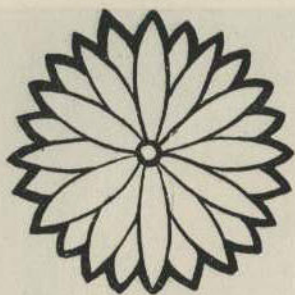
The paper used for stencil cutting should be tough and not too thick. It should be water-proof, and is generally coated previous to use with some penetrating drying oil. This serves a double purpose—filling up the pores of the paper, making it easier to cut, and preventing the stencil from warping or breaking when colour is applied to it.

A pocket-knife is usually suitable enough for ordinary stencil cutting, the smaller the blade and the sharper its point the better. The stencil should be cut upon a small sheet of glass (a spoilt photographic negative makes an admirable cutting ground) or hard millboard may be used. The former enables a cleaner cut to be made, but being harder, wears the cutting-point more quickly than the latter. From time to time the point of the blade should be sharpened upon an oil-stone, well oiled with paraffin or lubricating oil.

STENCIL BRUSHES.—These are made of hog-hair and can be purchased in several sizes. A good medium size, about half an inch in diameter and costing a few pence each, is suitable for ordinary stencilling. Several of these should be provided along with one or two of $\frac{1}{4}$ in. diameter for smaller work. Two or three small hog-hair artist's oil colour brushes should also be got for mixing tints. Stencil brushes should not be used for this purpose. After use with oil colour, the brushes should be thoroughly cleansed with turpentine, and then washed with soap and water. When water colour is used they should be washed with soap and water only.

Some kind of palette is necessary for preparing tints upon. An old plate or a school slate is very suitable. After use these should also be cleaned. For stencilling on fabrics not requiring washing, oil paint is quite satisfactory. No oil or turpentine is necessary, the paint as it leaves the tube being of the proper consistency. It must be remembered that very little colour should be applied when stencilling on woven fabrics, so little that the pores of the material will not be filled or clogged with paint. Should this be done the character of the material is spoiled, and a most amateurish and unworkmanlike result produced. For fabrics to be washed, water colour mixed with albumen or white of egg may be used. The first time the material is to be washed it should be plunged into boiling water, it may then be boiled gently in soap and water, but rubbing will cause the albumenised paint to leave the material and thus spoil the piece of work.

OIL COLOURS.—Three or four colours along with white will be sufficient to give a wide variety of tints. One yellow (yellow ochre or cadmium), one blue (ultramarine or cobalt), one red (carmine or light red). A small quantity of each colour should be squeezed from the tubes along one edge of the slate or plate. From these dabs of colour the tints should be prepared. The artist's brushes should now be used and the tints mixed. Very little colour is required, the quantity necessary being determined by the size of the stencil-unit and the number of times it is to be repeated.



A



B

Fig. 10.—A—Conventional Chrysanthemum.

B—

"

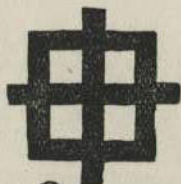
adapted for Stencilling.



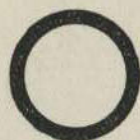
c



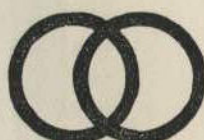
d



e



f



g



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h



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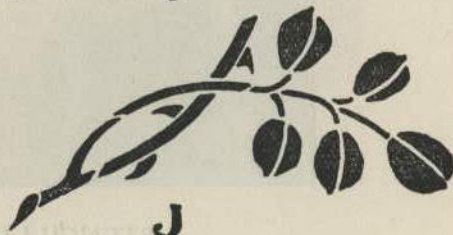
H



I



j



J

Fig. 10.

c-j—Conventional Units.

C-J—

"

"

adapted for Stencilling.

STENCILLED TEA-COSY.



STENCILLED CUSHION

CHAPTER III.

PROCESSES.

MANY patterns (not necessarily complicated) are unsuitable for reproduction by stencilling, and a glance at the illustrations in Fig. 10 will make this evident. A stencil is simply a series of holes or apertures cut in a piece of paper; through these holes the pigment is applied to the exposed ground. The conventional chrysanthemum shown at A is quite unsuitable for stencilling, as all the petals within the thicker outline would, in being cut, fall to pieces. It would therefore be necessary to redesign such a flower for reproduction by means of a stencil, and the appearance of the suitable chrysanthemum stencil is shown at B. Some other simple decorative forms and their stencil counter-parts are also shown: square, hollow square, hollow square and cross, circles, etc., Fig. 10 (c C to i I). Long lines, such as stems of plants, require careful treatment. These long spaces would be torn or broken in use, and so ties or short connecting pieces of paper are left where such long spaces are being cut (shown at j J).

Let us suppose that all these important matters have been kept in mind, and that the stencil unit has been designed and drawn out full size on plain paper. We may now consider the processes necessary in *cutting the stencil*. The unit should first be transferred by means of carbon paper to a piece of the special stencil paper already described. The stencil may now be laid upon the glass plate, and, selecting one of the easier simple shapes, the point of the blade should be firmly entered at one end of the space and the outline followed, a firm and equal pressure being exerted upon the blade all the time. The knife should always be drawn towards the operator, and the stencil sheet may be moved round for convenience in

cutting, this being usually easier than changing the direction of the knife. The outline of the space should be followed till it finishes at the point where it first entered, and the first stencilling aperture will then be complete. If the knife has not been once lifted during the operation, the cut part should drop out without any coaxing. By following these directions a sharp clean cut will be ensured, and no hacking required to persuade the cut part to leave the body of the stencil. The other spaces should now be cut in the same manner till the whole stencil is complete. Great care must be exercised all the while, but especially when spaces near each other are being cut, to avoid accidentally cutting through the narrow divisions of paper separating space from space.

Should a part of a large or intricate repeat be spoiled in the cutting, it may be carefully repaired by cutting a new part and fixing it in the place of the damaged part. This may be done by means of pins, but is more neatly done if it is glued.

SETTING OUT THE REPEATS.—Next in importance to the cutting of the stencil, is the method of setting out the repeats. Stencilling, as a craft, depends much upon accuracy of repetition. When units are repeated in one direction only, bands or borders are formed, when repeated in more than one direction, all-over patterns or diapers are produced. The most convenient form of repeat is the square, though other shapes, such as oblongs and triangles, may be used.

Several methods are available to ensure accuracy in the repetition of the unit. One is to rule the necessary skeleton lines with chalk on the linen or other material to be stencilled; this is a clumsy method however, and the chalk is sometimes difficult to brush off after the stencilling is complete.

Another and better method is to stretch threads held in position by drawing pins over the work; this method though neat and workmanlike is rather cumbersome.

The most efficient method is to use a moveable paper gauge; this involves little trouble, and by its means a most satisfactory result may be produced.

A uniform margin of not less than $\frac{3}{4}$ in. should be left round the outside of the stencil; this is for the purpose of preventing the stencil brush soiling the surrounding paper or cloth ground.

The lines surrounding the pattern, as shown in Fig. 11, should be extended to the edge of the $\frac{3}{4}$ in. margin; at these



Fig. 11.—Stencil Plate, showing margins and V cuts.

points small triangular pieces should be cut out to serve as guides when the unit is being repeated. The lines themselves might be sufficient, but are apt to become obliterated by the paint in the process of stencilling. The gauge consists of a strip of paper 2 ins. wide, and rather longer than the longest line of repeats. Suppose a lady's waist-band is to be stencilled. The material (in this case linen) has been cut of the requisite length and width, margins for hemming being included. A strip of paper 2 ins. broad and rather longer than the waist-band has been cut, and the distance between the two lower V cuts has been marked with pencil along the upper edge of the strip. From these points, lines should be drawn at 90° to the long edges and crossing the strip. The paper gauge is now laid upon the material, part of which is shown in Fig. 12, its upper edge coinciding with the lower edge of the stencil pattern. The illustration shows the stencil in position for the

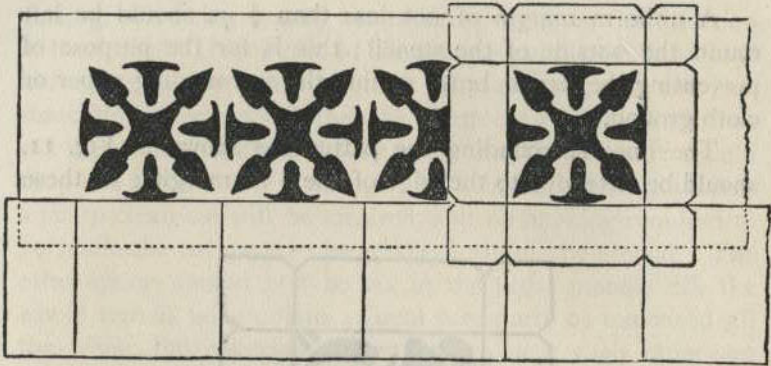
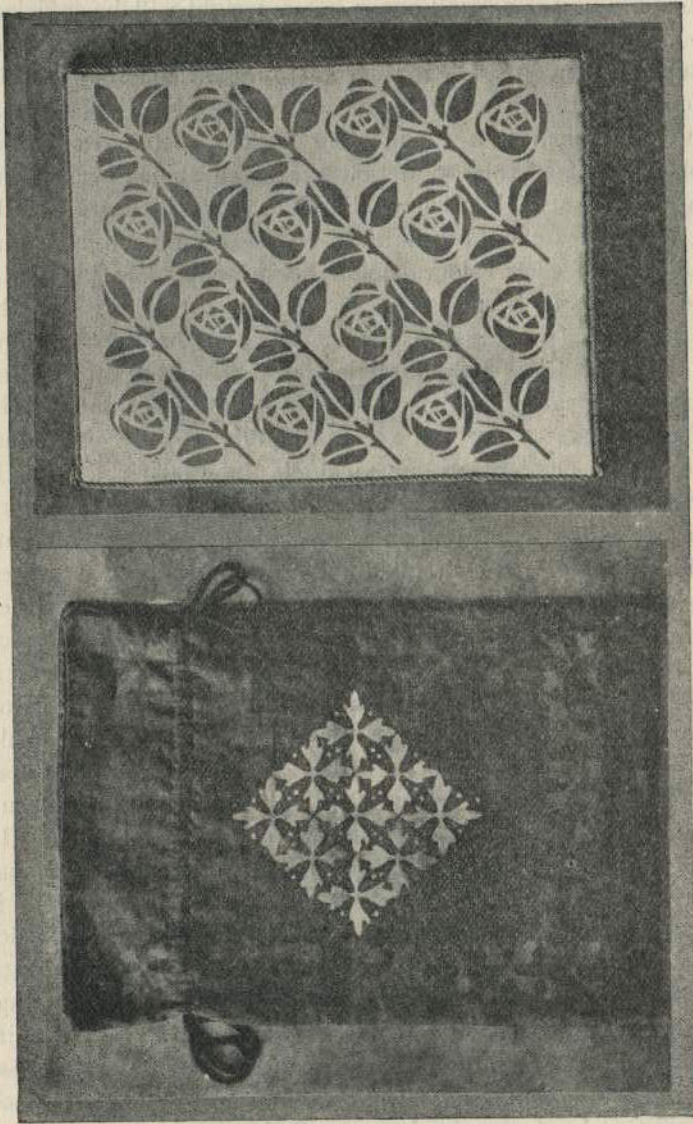


Fig. 12.—Repetition of Stencil by means of "guage."
(Waist-band.)

fourth repeat. The two **V** cuts of the lower edge coincide with the fourth and fifth short lines of the guage, and the lower left and right hand **V** cuts coincide with the upper long edge of the guage.

The tints having been already mixed and prepared on a slate or plate with an artist's small hog hair brush, a clean stencil brush is now taken and a *very small* quantity of colour incorporated with the extreme ends of the hairs by means of the artist's hog hair brush. The stencil brush should now be dabbed on a clean part of the plate and the colour thoroughly incorporated with the ends of the hairs of the stencil brush. At no time should the paint cover the hairs from end to end. The smaller the quantity of paint applied to the material in stencilling, the softer and more beautiful will be the result. When too much colour is used, the pores of the cloth are filled and a heavy result is obtained. On the other hand, when little paint is applied, the effect resembles an inlay of differently coloured cloths. When more colour than is necessary is used, it is apt to spread under the stencil plate and smudge the material. This cannot possibly happen when the right amount of colour is used. The stencil plate may be kept in position during the process by two drawing



STENCILLING ON LINEN.

pins; this is often advisable when the repeat is large, but when the unit is a small one, a heavy weight will be sufficient to keep it in its place, or the pressure of two fingers will usually be enough. When several different colours are to be applied to the material by means of one stencil plate, care must be taken that each colour is kept within its proper sphere. It is at this point that the small stencil brushes are particularly useful for stencilling the more intricate details. A separate stencil brush must be used for each tint, and sufficient of each colour should be mixed before beginning the work. It is advisable for beginners to carry out the entire work (roughly) on a piece of paper before beginning to the stencilling on the material, for the purpose of ensuring that the repeats shall fit into their appointed positions. The other repeats of the waist-band should now be carried out, the stencil plate being moved along and registering exactly by means of the V cuts as in the first case. If these directions are faithfully carried out, each repeat will fit exactly and no difficulties will arise with bad joints or unintentional spaces. By such a method the position of each repeat is determined beforehand, the guage being the means of ensuring accuracy in repetition. In the case of diapers the same process is followed. Fig. 13 illustrates a work-bag in process of being stencilled. The paper guage should first be made, and should be as wide as the bag; the distances marked on its upper edge (as before): the first one is 1 in. (margin), the next four, 2 in. (the width of the unit), and the last one 1 in. also. In this design the unit is a "double-sided" one, that is, it not only repeats, but also "reverses." In the top line the unit is repeated four times—twice in its normal position and twice reversed (turned face down). Each line has four unit repeats, but the arrangement is different in lines 2 and 4 from that of lines 1, 3, and 5. The better plan is to repeat all the units facing to the right in the whole five lines first, and then those facing to the left. Between the two operations the stencil plate must be thoroughly cleaned. This may be accomplished in several ways, one of the best being to lay the stencil plate

(painted side up) upon a piece of waste paper. Next take a clean stencil brush charged with a little turpentine, and brush the paint from the stencil plate on to the waste paper under-

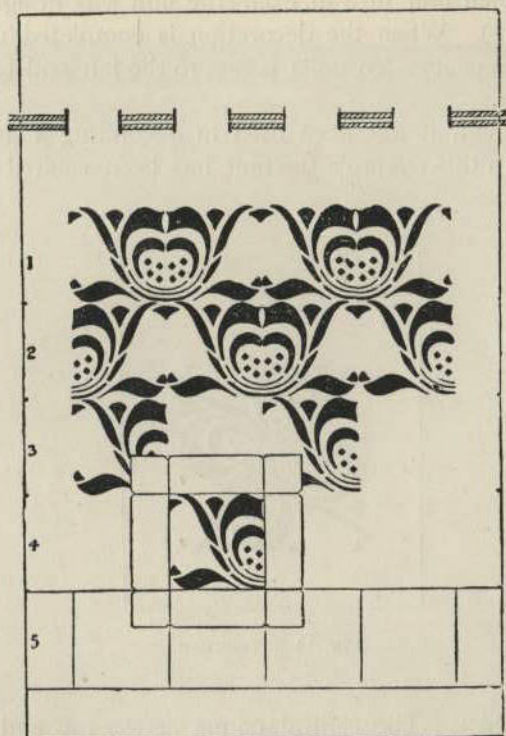


Fig. 13.—Repetition of Stencil by means of "guage." (Workbag.)

neath and through the stencil openings; this should be repeated till all the paint has been cleaned off and the stencil paper dried between two pieces of blotting paper by the pressure of the hand. The same method should be adopted after the stencil plate has been in use, and especially if it is required again at any future time. In Fig. 13 it will be noticed that marks are shown at the two vertical edges of the

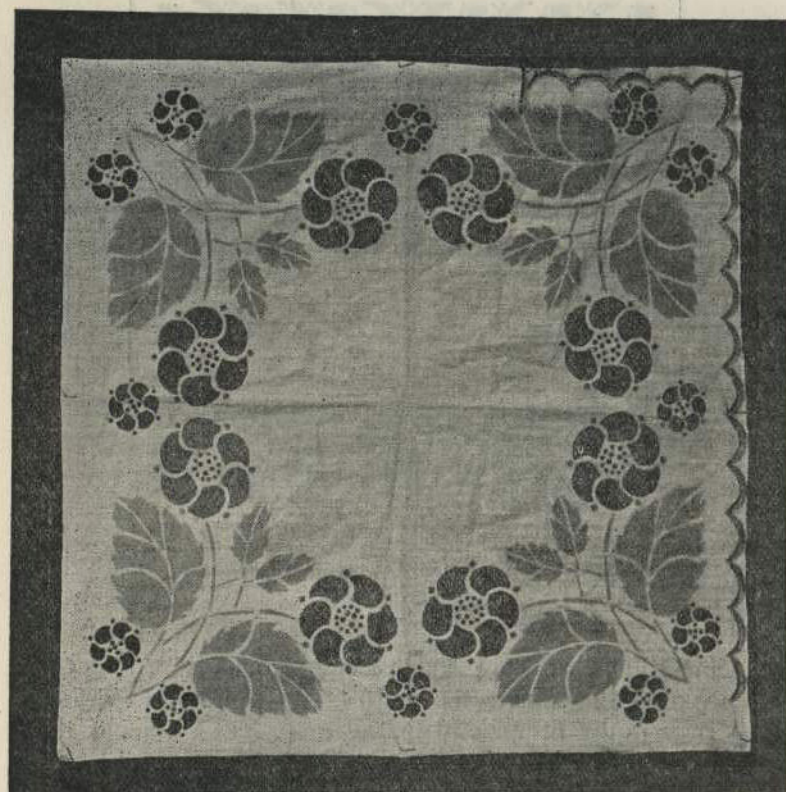
workbag. The distance between these points is equal to the vertical edges of the square surrounding the unit; these distances may be measured and marked with chalk from the lower edge of the bag. In the original the first distance is 1 in. and then four of 2 in. each (the unit was designed in a 2 in. square). When the decoration is completed, there will be twenty repeats—ten units facing to the left and ten facing to the right.

The same unit has been used in decorating a small bag, Fig. 14. In this example the unit has been rotated about a



Fig. 14.—Workbag.

common centre. The central points at the top and bottom of the bag have been marked with chalk, and two other points on left and right, at distances from the lower corners equal to half the width of the bag. The gauge should be laid between the two sets of points and an ordinary pin pierced through the lower right hand corner of the pattern. This pin serves as a pivot upon which the stencil is rotated, and should not be withdrawn till after the four repeats have been stencilled. It will be noticed that the pattern has been placed in the lower part of both bags, this allows space for the draw-cords which are indicated in both illustrations.



STENCILLED TABLE CENTRE.

In the case of a cushion cover or table-centre (Fig. 15) where the stencilling is in the form of a surrounding border, a piece of paper of the exact size and shape of the part to

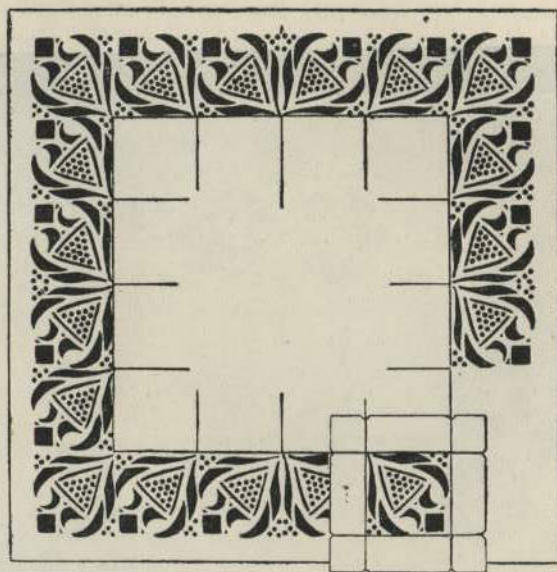


Fig. 15.—Repetition of Stencil by means of "square guage."
(Cushion Cover.)

be left unstencilled is cut—in this case a square. Along the four sides of this square the width of the repeats is marked, and these must fit exactly in the four sides. Should the repeats not fit exactly, the side or sides must be reduced so that the units repeat exactly, leaving no space over. From each of the points marked, lines at right angles to the sides of the square should be drawn not less than 2 ins. long; upon these the V cuts already spoken of will fit, and also upon the sides of the square. In fact the paper square is a guage, divisions being marked upon its four sides. When this guage is to be used, it must be placed in the centre of the material and held there by ordinary pins. To ensure that the paper

square shall lie exactly in the centre of the material, thus leaving an equal margin all round, the material may be folded diagonally, and the corners of the square guage made to fit upon the diagonals. It will be noticed in this design that the position of the unit is changed at the centre of each side, half of the units pointing to the right and the others to the left of the centre.

In stencilling a repeating pattern upon a curved border, as in the case of a round collar or tea cosey, a somewhat different method is pursued. In this case no guage is used, the material itself being folded in two to find the centre, and folded again at the points where the other repeats occur. Ordinary pins may be inserted at each end of the fold. These central lines will radiate from the centre of the circle or arc of circle enclosing the form of the material. A similar centre line should be drawn in the centre of the stencil, and the centre lines on material and stencil should coincide when the repeat is being stencilled. In such a case as the collar, shown in Fig. 16, it is important that the centres of the rosettes and double hollow squares should be of equal distances from the

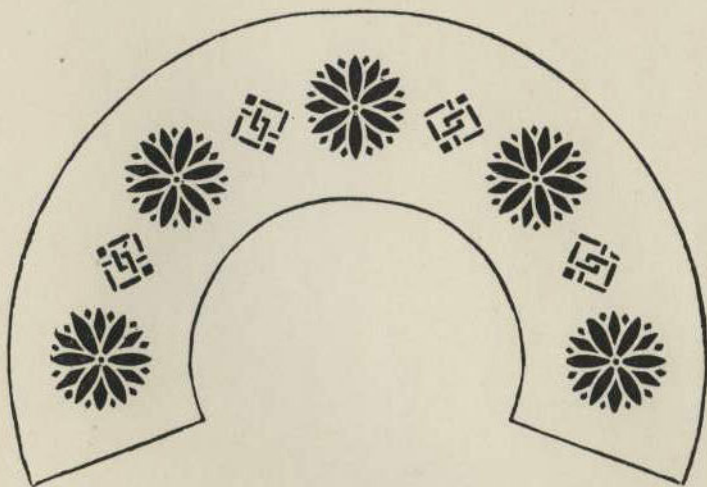


Fig. 16.—Linen Collar.

outer and inner edges of the collar. In the example shown, Fig. 17, it is sufficient to find the central line of the material by folding, and then to stencil the pattern one side at a time.

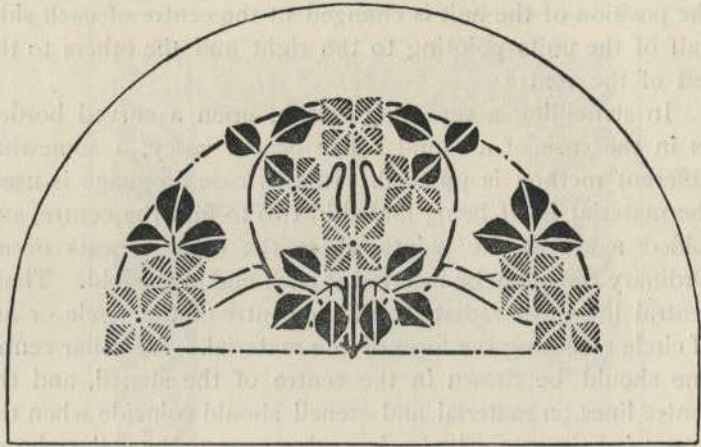
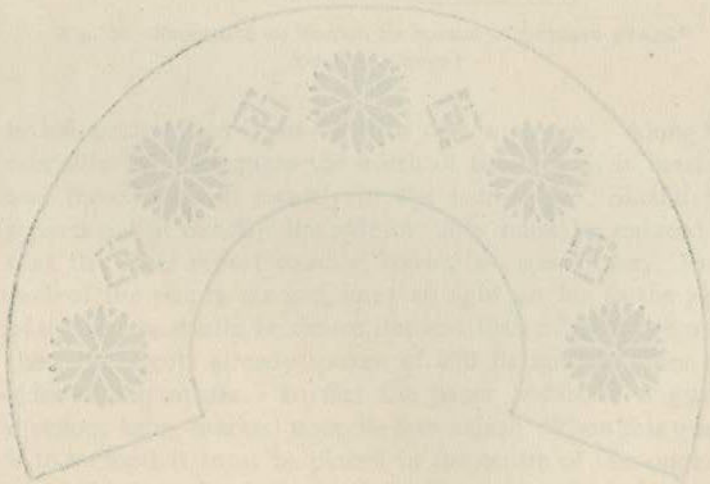
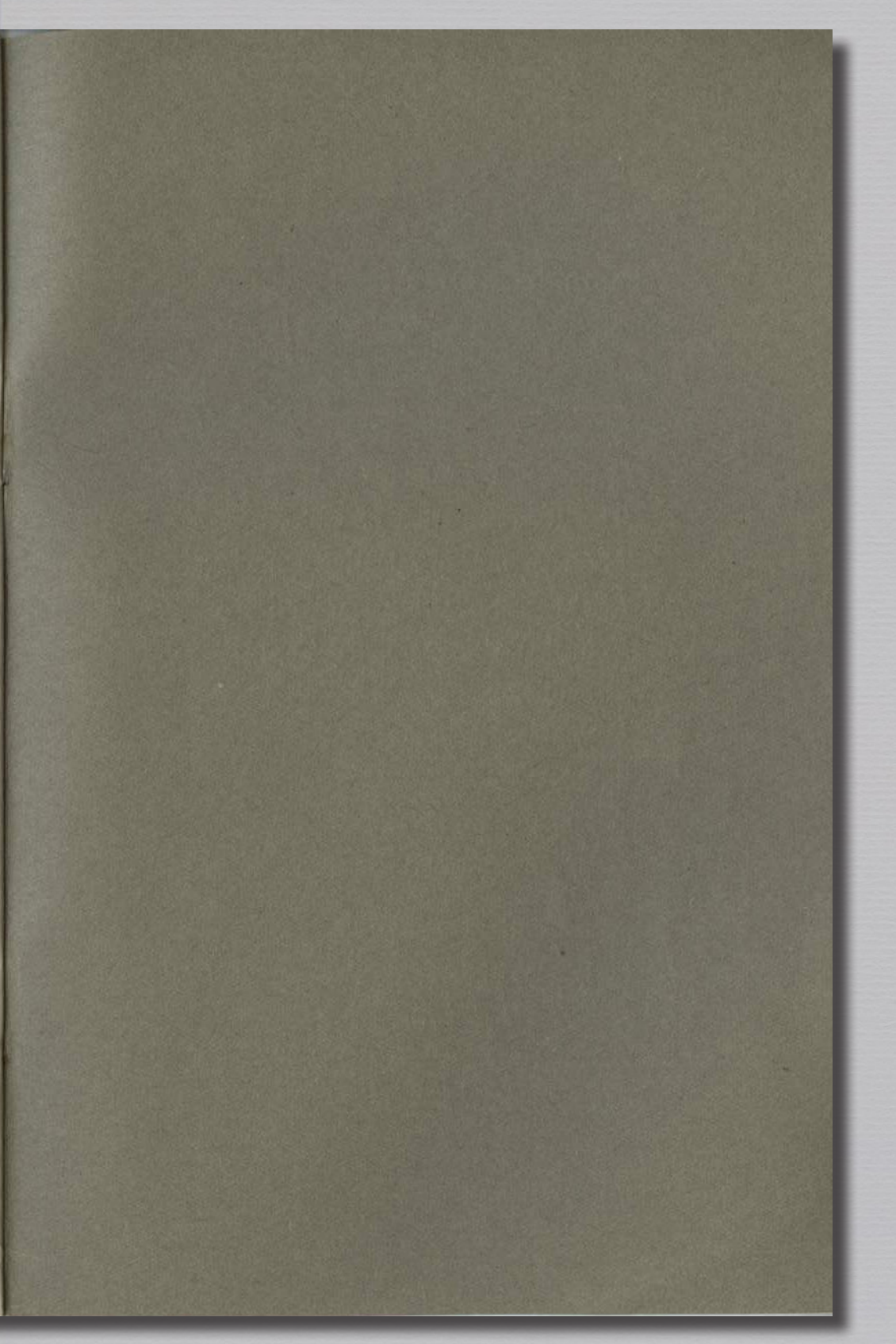


Fig. 17.—Tea Cosy Cover.





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