

JACQUARD DESIGNING.

The Circle as the Base of the Design.

The circle is of great importance to the textile designer, since its curved lines add beauty of form to designs having a geometrical base, tending also to remove any stiffness in appearance which many of them possess.

Though not much used in its purely geometrical form in woven fabrics, there are many ways by which it may be modified to suit the needs of textile design, or by

on the lines of each circle a curled feather effect is built, which is alternately turned in opposite directions so as to make the effect continuous.

In the two designs described, not only the base of the design, but also the stiffness of the stripe is largely hidden by the treatment adopted.

In Fig. 3, which consists of circles interlaced in chain form, the stripe as well as the circular base is emphasized.

Another method of using the circle for foundation of the design is to combine it with some conventionalized flower or leaf, or with some simple form or object with which it will harmonize in the production of figures, which afterwards can be distributed in a suitable manner over the surface of the fabric. The designer should never lose sight of the development of the designs in a manner suitable to the material and the construction and texture of the fabric.

In Figs. 4, 5, 6 and 7 other methods of forming figures from the circle are shown. These have been formed almost entirely by means of the compass, as will be evident after a brief examination of their structure.

Fig. 4 represents a five-petaled flower, formed by dividing the full circle in which the flower is enclosed into five equal parts. Lines are then drawn from these divisions to the centre, and smaller circles are described which have their centres on these lines and their peripheries touching the outer circle. These circles are made large enough to overlap each other, and tapering radial lines are drawn from the centre in order to give the flower the appearance of opening naturally. Flowers with a varying number of petals might be constructed on this principle, and the petals might be modified in shape so as to avoid a sameness of appearance.

Fig. 5, for example, is constructed in such a way as to include six small circles within the bounds of the larger one, and smaller circles still are snipped out to give

variety of outline. In the central space between the circles, a small six-petaled flower is introduced to give fullness and precision to the effect.



Fig. 6

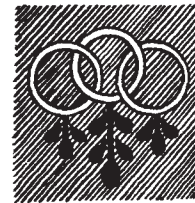


Fig. 7

Fig. 6 illustrates a Japanese method of constructing an ornamental object representing overlapping fans from the lines of the circle, and shows how the outline of the circle may be modified and the interior broken up by arcs in such a way as to add to the attractiveness of the figure.

Fig. 7 shows three circles linked together in chain form, with small twigs attached in the form of pendants.

Figs. 4, 5, 6 and 7 have been drawn with a view to their being utilized in a cloth where warp and



Fig. 1



Fig. 2



Fig. 3

which it may be made to serve as the basis upon which designs can be built.

Figs. 1, 2, and 3 are designs arranged in stripe form, showing

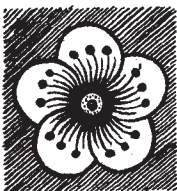


Fig. 4



Fig. 5

facts of this statement; in each instance the *circle* has been used as the framework, upon which to build the design.

In Fig. 1, three sizes of circles have been arranged to interlace with each other, fullness being afterwards given to the design by the introduction of conventionalized leaves within the circles.

In Fig. 2, circles are placed one-sixth of their diameter apart from each other (see dotted lines) and

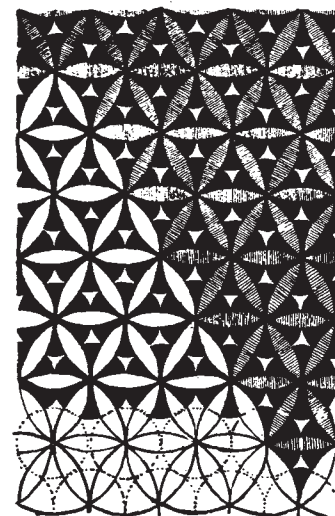


Fig. 8

filling are of different colors, one portion being intended for filling figure, and the other for warp.

Purely geometrical designs are seldom used in dress goods, but for many woven fabrics (including table linen and damasks) the circle may be used to form patterns of a diaper character on purely geometric principles. The simplest

forms of these are built with the centres of the circle on the square or diamond plan, and the edges touching each other.

By making the circles overlap each other in different ways, a very large variety of designs may be obtained. Thus Fig. 8 is obtained by dividing a circle into six equal parts and then constructing circles



Fig. 9

of a similar size upon it, using the points where the circle is cut as the centre from which the others are described. In this illustration the gradual evolution of the figure from the circles is shown, the dotted circles being for the purpose of getting the wedge-shaped spots in the ground.

Fig. 9 is a design based upon the semi-circle, and the structural lines overlap each other in the form of scales, and in a smaller form might be made to represent the scales of a fish or the imbrications on the fir cone. In this case they are large, and a small spray effect is introduced to add variety and beauty to the figure.

Design for Carpet.

The new and ornamental design suitable for carpets, rugs or tapes-



try, shown above, has been just brought out by the ALEXANDER SMITH AND SONS CARPET COMPANY, of Yonkers, New York.

The Knowles Fancy Worsted Loom.

(Continued from February Issue.)

Shuttle Binders.

The form given to the shuttle binder has much to do with the smooth and true boxing of the shuttle. A poorly formed binder can affect the true delivery of the shuttle and be the cause of the shuttle crumbling and splintering on its side, because of its contact with the binder after having made its flight. A binder not properly cared for can also be a cause of much trouble to the weaver and the fixer by causing the filling to cut in the shuttle box. This trouble quite often means imperfect cloth caused by picking out and starting up to avoid misspicks.

The form of the binder consists of a curved part which projects into the path of the shuttle, and a part which stands parallel to the back of the shuttle box, when the shuttle (by contact with the curved part) has thrown the projecting end of the binder as far towards the check pin on the shuttle box as may be desired.

The action of the binder on the shuttle is to check its flight by frictional resistance (caused by the binder spring and protecting rod springs) after the shuttle, by means of the curved part of the binder, has thrown the shuttle checking part of the binder in a position true to the face of the shuttle. The curved part of the binder should be so formed that the shuttle will not meet an abrupt angle but something more like a long, easy curve. This will prevent the pounding and consequent slivering of the shuttle for two reasons:

First, the shuttle, when thrown will not be able to be whipped out of a straight course by the side pressure of the binder and protector springs and the curve of the binder.

Second, on entering the box it will glide in smoothly and then be gradually checked by the flat part of the binder which stands parallel to the back of the shuttle box and true to the face of the shuttle.

The rear end of the binder should not bind the shuttle too far back towards the binder pin, since if it does, the shuttle will be pretty sure to cause trouble by holding in the picker and retarding the movement of the shuttle boxes, thereby causing the shuttle to fly out or break the picker stick or some other part of the picking device and probably cause a smash or breaking of the warp ends.

The binder should not be thrown out so far as to strike and hold against the binder pin, but should have at least $\frac{1}{8}$ inch clearance between the binder end and the check pin. This will allow the shuttle to slide freely into the box when the binder is held open and will allow the shuttle to leave the picker easily when the box is changing positions.

Quite often it will be found that the binder pins will creep upwards when the loom is running and it may puzzle the learner why, since he finds the holes are large enough in the binder for the easy fitting of the binder pin. The trouble will be found to be in the lining of the binder to its lugs, through which the check pin passes. The end of the binder will bind on either the top lug

or the bottom one. This should not be, and as long as the binder has room to go between the lugs easily it should not be filed to position, but taken out and thrown to a position which will let it work freely between the lugs and rattle easily from one lug to the other. This throwing can be readily done by a stroke of the hammer on the edge of the binder as follows: Place the binder edgewise on a flat hard surface and strike it as near to the pin hole as possible until the desired alignment is obtained. When all the binders are working freely, there will be no trouble about pin creeping.

Where the protector finger rests on the binder, it should be flat against the box and where the binder covers the truing holes in the shuttle box, it should be bent away from the box very slightly, in order to prevent the binder cutting the filling. This also applies to the binder in relation to its position with the part of the box near the check pin lugs. The filling will get between the box and the binders at times and if these precautions are not taken to prevent its cutting, it will cause an unnecessary amount of trouble to the weaver and in many instances damage the goods.

The groove in the shuttle binder is placed there for the same reason as the groove is made in the side of the shuttle, *i. e.*, to prevent the filling cutting when the shuttle is entering and leaving the filling box.

This groove on the binder should be smooth and rounded on its edges and the face of the binder should be polished with emery cloth, especially when fine yarns are used for filling. If the binder does not show a truly positioned *face to the face* of the shuttle, it can readily be made true by twisting with a wrench. To do this, the binder should be taken from the shuttle box and held in the vise, because if trued while in the shuttle box it would be very apt to bend the pin and twist the box cell.

Binder pins, springs and binder lugs, as well as the hole worn in the picker by the shuttle, all make for a smooth moving box if they are properly oiled.

The binders to work well should be:

(1.) Properly lined between lugs so as to work freely.

(2.) They should be formed to present an easy curve for the shuttle to act upon and have a reasonable checking length to hold the shuttle, and the shuttle should not be too closely bound near the fulcrum pin of the binder.

(3.) The binder should not be thrown by the shuttle nearer than $\frac{1}{8}$ inch to the check pin and should not touch the box back of the check pin lugs, nor the truing holes near these lugs. Binders should stand true to the face of shuttle.

(To be continued.)

A New Service Flag.

A new and original design of service flag is being put on the market. It has a red felt body, cut in the form of a banner, upon which is a large white star, with a blue star in its centre to denote that one person from a family is in the service of his country, or more than one where necessary.

Below the white star are the words "Over There" in blue letters on a white back and separating the two words is the country's shield in red, white and blue.