miguided weavers, Mr. Chapman again helped them to organize, but the result was equally disastrous. At the present time there seems to be no recognized scale, and cases have been known where handloom weavers have received pay differing by from ten to forty per cent. from the rates for the same class of work from separate warehouses. This can scarcely be looked upon as being a satisfactory state of things either to manufacturers or operatives, although I cannot say whether the evil is so great as to warrant this pointed reference. At Crefeld there is a Weavers' Union which at first assumed the character of a Provident Society, and afterwards came to be utilized for purposes of trade, manufacturing silk, and supplying its members with cloth for clothing, cloths, and costumes, at cost price for cash, or plus interest for credit. There is a standard wages list which is altered from time to time if necessary by a joint Committee of manufacturers and weavers. Macclesfield is worse off than either Lyons or Crefeld in this respect, although the weavers of the former town are said to be excelled by their competitors only in education and general culture, certainly not in ability to work the loom. The Macclesfield silk operatives can manipulate a silk end as well as anybody, and it is surprising that with this skilled labour at command the manufacturers of the town have not taken up the production of those silk and wool mixtures for warm wraps, ties, et c., out of which Yorkshiremen have made so much money. They prefer instead, judging from appearances, to turn out a mixture of cotton which frays the fragile silk threads, and finally disgusts the weaver, however deprived his taste for the cheap and nasty.

*Report by Messrs. Clarke and Chapman on a visit to the Continental Silk Centres.

Designing.

NEW DESIGNS.

THE ARRANGEMENT OF FIGURES.

Perhaps nothing is so important to the figure designer as a thorough knowledge of the various systems of arranging figures. Even the skill with which natural objects, for example a few stalks of grass, or a twig from a tree, are reduced to a definite figure, is not of greater, if of so great importance, as skill in the application of a given form to produce the best make of cloth, and also to give the maximum figure with the least figuring capacity, and at the same time obtain the most suitable arrangement of the figure for the type of the spray or flower under consideration.

Probably the simplest method of applying a given figure is to make a stripe of it. Thus in Figure 6 last week we supplied a stripe design. There are, however, stripes and stripes; the more complicated forms will be dealt with later, but the one under consideration, from its simplicity, may well serve as an introduction to the more difficult arrangements. Figure 6 is a design in what Art students would term a "turn-over" pattern, that is to say, the right half is exactly like the left half but turned over or reversed. If the beauty of a fabric depends wholly on the design, this system should be avoided, since there is too much evidence of repetition at the same time if the design is full, or rather too full of detail; this arrangement will often prove most serviceable. Again the type of the design should be taken into consideration, some designs absolutely requiring this management, while others would be rendered ludicrous by any such application.

In Figure 7 we furnish an example of another stripe of simple composition. On examination it will be found that the square figure which forms the stripe consists of a repetition of a given figure four times, i.e., to form each quarter of the figure. The repetition of this design is shown by 7a, where the figures are developed in warp and weft, and weft flush on a plain ground. In order to produce this figure a point draft must be adopted, and the weaving would be 7a and 7a turned over, thus occupying 160 picks.

The system of applying figures is often exceedingly useful, and should claim the careful consideration of all designers, whether engaged on dress or other fabrics.

For the present let us leave stripes and proceed to consider the allotment of space for obtaining equal distribution of the figures employed, &c.

Design 44 is illustrated the simplest method of applying a given form. Here the idea is to introduce a straight thick line of some material other than that employed in the ground, usually silk. Thus, on this system the given figure is simply placed in the centre of a square, and the ground put in around it. The figures must be equidistant from each other, but the great drawbacks to this are that the figure is always leaning the same way, thus retaining no variation to the eye, though this can be compensated for to a certain extent, by running a twist in the opposite direction; and further, under certain forms of development, large figures, if simply supplied as this, are liable to affect the structure, either in a greater or less extent, and this can quite be got over by the adoption of other methods of distribution.

The next system of applying figures, viz., what is termed filling in a square, is perhaps one of the most difficult until practice renders it quite the reverse, and the designer feels that he has here one of the most useful methods, since useless repetition is avoided, and thus the full figuring capacity of the loom is taken advantage of. Great care however, must be taken to distribute the figure well, obtaining what is termed an "all-over" effect. Figure 8 is a design of this type consisting of a spray really arranged in the centre of a square, with the leaves, &c., at one side, filling into the leaves at the other. More than one repeat of the pattern is given in order to show the system of applying the figure; but more will be said about this in our next paper on this subject.

DRESS FABRICS.

If Figure 7 be utilised as a dress fabric the warp and weft flashes should be tied every six or eight ends. The plain stripe should be developed in, say the three end twill, to compensate for the flashes of warp and weft in the stripe. The set furnished for Figure 5, in the issue of Feb. 1st, or the following set might be used:

<table>
<thead>
<tr>
<th>Warp</th>
<th>Weft</th>
</tr>
</thead>
<tbody>
<tr>
<td>All 3/20's worsted.</td>
<td>All 3/20's worsted.</td>
</tr>
<tr>
<td>14½ reed 4's.</td>
<td>14½ reed 4's.</td>
</tr>
</tbody>
</table>

FANCY WAISTCOATS.

Design 44 is suitable for this class of goods.

![Design 44](image)

**Warp**
- All 3/20's worsted
- 14½ reed 4's

**Weft**
- 8 picks of 15½ worsted
- 8½ picks of 50's worsted
- 10½ picks of 3½ worsted
- 20 picks per inch of the ground worsted

The silk picks would be better tied at least once into the ground, coming over a warp thread with ground pick up at each side.
COTTON SHIRTINGS.

No. 1 is on 8 shafts, 56 ends draft, and 24 to round. Read 80, two in a dent 24’s twist with 60 picks per inch of 14’s weft; warp mid brown, blue, in any depth of tone or tint; weft all white, soft spun; warp may be white or any very light shade, and weft dark browns, blues, or amber of a deep tone. If a certain weight per yard is required, it will be found by the rule that the diameters of the threads vary as the square roots of their counts; thus a 36’s thread to that of a 16’s is not as 16 : 36, but as square root of 16’s : 4 is to square root of 36 = 6 or as 4 to 6. It may be a guide to give with each design the materials or details of a cloth which it may suit; but some designs will suit many cloths, and No. 1 is not an exception.

No. 1 PEGGING PLAN.

No. 1 DRAFT.