Designing.

NEW DESIGNS.

The analysis of gauze patterns in some respects is much easier than the analysis of ordinary cloths, since with gauzes each class is usually quite an easy matter to follow each individual thread throughout the repeat. This is due to the fact that the threads of the gauze are not twisted together, and the whole pattern is simply a collection of threads, which can be numbered and followed separately. The analysis of the patterns is based on the principle that each thread remains in the same position in the repeat, thus making it possible to follow the entire pattern by simply following a single thread.

THE ANALYSIS OF PATTERN.—VII.

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figured fabric. Since each thread does an equal amount of bending, the first question which arises here is—which are the stationary threads? It is quite allowable in one sense for either of or to be taken as such, but if (which in reality represents two threads) be examined, it will be found to be bound to the weft only by the crossing threads, therefore fulfilling the same conditions as indicated in Figure 2. Threads a must therefore be taken as the stationary.

There is another point also which must not be overlooked, viz., that the effect is constructed as indicated, with the idea of making the stationary threads bend, and thus produce more of a lace-like effect, since the crossing threads, k, interweaving with the picks, obtain a firmness to which the stationary threads, in their comparatively loose state, must yield. Design 23 is the point-paper design for Figure 2, which should be followed out, remembering that a and l each equal two threads, which will be split in the figure to form plain, etc., picks i, i, which equal two picks, each likewise split in the figure into two separate picks.

Having shown the method of transferring gauze effects on to design paper, attention must now be directed to the weaving, or "dapping" as it is termed. Figure 14 illustrates the draft for Figure 2, and Design 22 the pegging plan, in which it will be observed that the only difference from Design 22 is the relative positions of doup and doup shaft, it being a custom in practice to place these together, while the threads they really represent, i.e., the positions they represent, are separated by the stationary threads.

The draft and pegging plan for Figures 2 are given in Figure 24 and Design 23, where it will be noticed that should the figure be drafted as indicated, two doups will be required, while should threads a be taken as crossing threads,

there will be only one doup required. The fact that this is a ground effect for a figure accounts for this, which will serve as well as an introduction to the conditions to the reduction of the number of doups. The simplest case in which this is possible is illustrated in Figure 25 and draft Figure 26. The wales become evident that this is simply what is termed a point draft, one doup under those conditions working the crossing thread on opposite sides of each group of stations. The analysis then should carefully examine the pattern before him with the idea of grouping these threads together, which work alone or exactly opposite.

Another case in which figures can actually be woven with one doup only is illustrated in Figure 30. A careful examination of this effect will show that the doup lift the crossing threads on the right hand side of the stations, it must be lifted every other pick to form the plain weave, while the shafts lifting on the left hand side of the stations form the gauze crossing: should the positions be reversed there will be no reduction in the draft, but a considerable increase in the number of doups required.

The introduction of thick threads may sometimes prove confusing to the analyst, so he should remember that thick threads conform to the same laws as thin ones. For example, in Figures 27, if the thin threads edging the stripes be examined, it will be found that they work precisely the same as the thick threads, therefore an extra doup, or there is not needed. Another type of effect, to which attention should be briefly directed, is that illustrated in Figure 7. Here we have a combination of gauze, twill, and plain stripes. It is evident that in this case ordinary shafts will be required for the twill and plain, while the full complement of doup, doup shafts, and stationary will be required for the gauze stripe. This means specially constructed shafts, which of course involves extra expense, while at the same time it should be noted that once constructed the shafts will only produce that particular width of stripe.

In analysing any type of gauze effect, there are two laws which may be of great service to the analyst. They are—firstly, in order to produce a clear precise crossing, the crossing threads must go over the pick preceding and succeeding such crossing; and secondly, in order to comply with the above law, all picks and threads must be grouped together in odd numbers when gauze and plain, etc., are combined.

To summarise our remarks as follows will conclude this section of our treatment. In analysing gauze fabric proceed as follows:—

1. Indicate clearly on design paper the number of shafts required for the plain or twill, etc., stripes, should there be any, and for the gauze as already explained;
2. Group all the picks and doups as they appear in the pattern, by means of brackets on the design paper;
3. Obtain the full design by following each thread throughout the repeat by means of the piece-glass;
4. Examine to see what reduction can be made in the number of doups, and make the draft and pegging plan accordingly.