

exhausting the funds of the unions? By the workmen allowing themselves to be manipulated like troupes of marionettes by a lot of ignorant and noisy charlatans, they are rapidly driving the various industrial interests of the country to the conclusion that some very drastic treatment will have to be meted out in order to repulse the senseless aggressions directed against them. The present condition of trade in many of these industries, and especially in the textile trades, would justify such a step, and it may be much nearer than at present any one would suspect it to be. A general shut-down all round might do something towards reviving the demand for the productions of Lancashire, which sadly need it, and which low prices have failed to stimulate. The non-effect of low prices to induce better trade is a fact that deserves serious consideration, as it may be that the present consuming markets to which we have admission are comparatively incapable of taking more than they have done, even at low rates, and if this should prove to be the case there are only two courses that can be taken, namely, a considerable reduction of wages, or a general stoppage of work until the markets are cleared. These are considerations that are increasingly engaging the attention of men's minds as necessities of the early future, which only the most discreet and considerate course of action on the part of working people will help to stave off. It cannot, however, be affirmed by the most favourably prejudiced that they have in any section of industry manifested such consideration for a long time past.

MAX DOLLFUSS, the son of a well-known Alsatian textile manufacturer, who ascended shortly before attaining the age for military service, ventured recently to return, but found that a paternal government remembered his shortcomings, and he has therefore been compelled to resume his life in a foreign land.

## Designing.

### NEW DESIGNS.

#### DRESS GOODS AND CORDS.

*Design 1* may be made in 24's twist for warp, 24 dents per inch, 3 in a dent; weft 16's soft cop, 50 picks per inch; warp all dark shades. For pronounced checks, 36 light violet, 36 cream; weft 72 picks per inch, pattern same as warp. Another variety: 36 dark buff, 36 bleached white; weft pattern the same; also 36 cardinal, 36 white; weft pattern same. A good combination would be 36 light pink, 36 claret brown. All the spring colours, with creams, light straws, fawns, dove, &c. can be very advantageously combined. Finish 30 inches wide.

#### LACED ZEPHYR STRIPES.

In plain weaves, 40 dents per inch, 30's twist for warp, 80 picks per inch of 30's weft. Warp pattern: 40 dark blue 2 in a dent, 1 thread of 2 white, 2 red, slack twist, making 4,200 yds. to the lb. This compound thread in one dent, 36 white, reeded as follows: one dent empty, one white in one dent, one dent empty, 3 white in one dent, 2 white in one dent, and reeded in this order until the 36 ends of white are completed, the repeat pattern commencing with the 40 of solid blue. There are many ways of diversifying this class of zephyr pattern by reeding and colour, the weft in all cases white, or one shuttle of some light tint, equal in colour to one of the warp stripes. The solid blue may be altered for shrimp or very light brown. We will endeavour to produce a few patterns of these fancy colours in a short time.

#### CLAN TARTAN.

"Lamont of Lamont," on 6 shafts, 3 up, 3 down, straight draft, 40 dents per inch, 2 in a dent, 30's warp twist, 80 picks per inch of 30's weft. Pattern: 40 light blue for centre, 4 black,

4 blue, 4 black, 8 blue, 32 black, 40 dark green, 4 white, 40 dark green, 32 black, 8 blue, 4 black, 3 blue, 3 black, and repeat from 40 light blue; weft pattern the same.

#### VELVET CLOTHS.

*Design B* is a suggestion for a new cotton cloth, velvet or cord, producing small square tufts of pile, 24 to the round on 5 shafts; if the squares are required to be larger with the same reed let the number of warp threads and picks be increased. For cords the intermediate picks of weft may be dispensed with, so that the weft will bed close.

*Design C* is another suggestion for a two-stripe velvet fabric, one stripe warp, the other weft. There is nothing original about the idea, but as a demand for this class of goods is made, no apology is required in giving the design, which may be useful to makers of this class of goods, or others desirous of commencing. If properly finished and dyed well in the piece or bleached, sales can be effected and good business done. Care must be taken to make the warp stripe denser, that is, 3 in a dent, the weft stripe 2 in a dent. To make a really good cloth it will be found an advantage to use two beams; where this is not convenient let the yarns in each stripe be a balance in counts, the warp one to have a finer grit of yarn in proportion.

#### DRESS CORD.

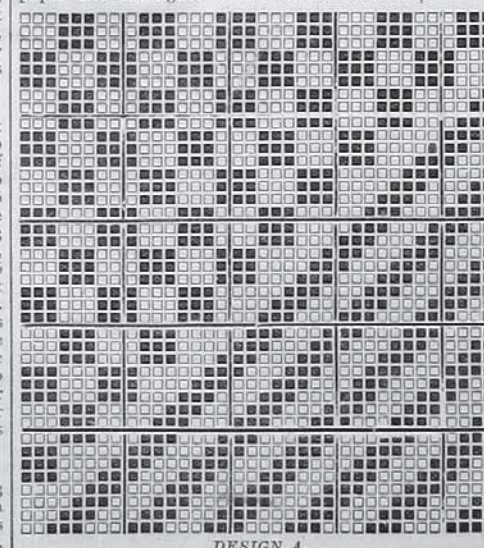
*Design D* is for dress goods, a thickset-cord uncut on 6 shafts, straight draft, 9 to the round. This is a fine cord effect, one of the least in plush that can be made, and it is only within the past few months that it has been brought to the front for dress goods, jackets, vests, etc., as a light uncut cord. The back is similar to a velveteen. We might not be far from the mark in saying that a 30 reed with 16's twist for warp, single count, would be a good sett; of course the quantity of weft is easily determinable, because no more is necessary than to give a clear well-defined vertical cord.

### THE ANALYSIS OF PATTERN.—VI.

#### FIGURED FABRICS.

##### WARP AND WEFT WEAVE FIGURES.

This class of figured textiles is very extensive, embracing fabrics designed for coatings, ulsterings, mantle cloths, and dress fabrics. *Design 16* is a small example demonstrating the principle of constructing these figures, the usual method being as follows:—Having decided upon the extent and form of the figure, the designer pencils the required form—in red or blue—(any transparent colour will do)—on the design paper, as indicated in *Diagram 11*. He now proceeds to put the ground weave on to the white part of the design paper and the figure weave on the coloured



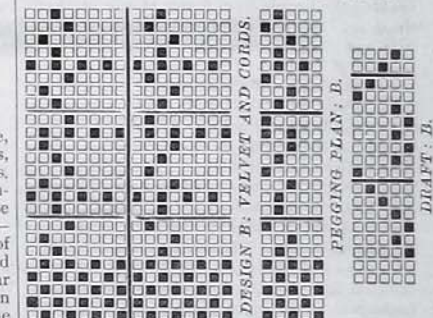
DESIGN A.

part, having previously found the best relative positions of the two weaves. This is very simple, and the only difficulties to be overcome in analysing such cloths are (1) the various weaves combined and (2) the extent of figure. The first difficulty we have previously dealt with under the headings "Stripes, Checks, Twills, etc.," the principle of finding the weave being exactly the same in each case. Having found the weave, the extent of figure may readily be ascertained by placing the piece-glass on the face of the fabric and counting the number of repeats of the figuring weave in the figure: thus, for example, in *Design 16* there are four repeats of the 2-and-2, and 4 x 4 = 16 threads, the extent of pattern in the thickest part. A sectional view, from which a similar demonstration may be made, is given in *Diagram 12*; thus it is evident that the examination of the curvature of the threads and picks may be of aid in clearing up both the above-mentioned difficulties.

##### EXTRA WARP AND WEFT FIGURES.

Fabrics figured on either of these principles may be divided into two classes, viz. (1) those in which the extra material simply flushes on the surface as a spot figure, as shown in *Diagram 13* and *Design 17*, and is tied on the back when not flushing on the face; (2) those in which the extra material flushes as a weave on the surface of the fabric and is tied on the back when not flushing on the surface, as shown in *Diagram 14* and *Design 18*; or if the fabric is required for very light goods it is allowed to flush on the back and is cut off in the finishing process.

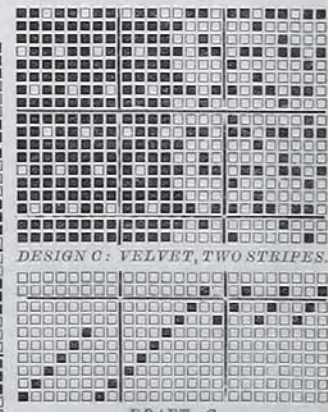
The analysis of the first class is evidently very simple, the only points requiring attention being, firstly, the extent of flush, which may readily be ascertained by counting the repeats of ground weave as previously explained; and, secondly, the ties binding the extra weft or warp to the back of the ground fabric, a



DESIGN B: VELVET AND CORDS.

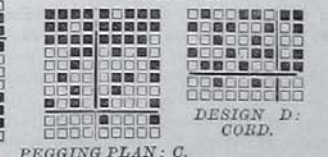
PEGGING PLAN: B.

DRAFT: B.



DESIGN C: VELVET, TWO STRIPES.

DRAFT: C.



DESIGN D: CORD.

PEGGING PLAN: C.

thorough comprehension of the principles of tying doing away with all difficulties in this case as before.

The analysis of the second class is of course much more difficult, for the extra weft or warp may interweave with the ground threads in any and every order. For example, it is no extraordinary thing to find leaves and flowers developed most beautifully by means of the extra weft interweaving with the ground warp, or *vice-versa*. Under these circumstances the method of development adopted should be carefully examined and the figure be carefully sketched on design paper (as will be explained hereafter), and developed as nearly as possible according to the original, irrespective of minute examination by the piece-glass—though of course this may be occasionally used to confirm the surmise of the analyst. The extent of the figure may often be decided, as previously indicated, by the number of repeats of the ground weave, while the ties, should any be required, must be inserted strictly according to principle.

List VI. indicates the capabilities for floral, etc., development furnished by the various principles of introducing extra warp or weft.

DOUBLE-CLOTH FIGURES.

A means of figuring largely adopted in almost every branch of the weaving industry is that obtained by weaving two plain cloths together and allowing them to change places for the figure. The simplest method of effecting this is shown in Design 19, a useful set for a mantle cloth figured on this principle being—

- Warp.*  
1 thread 30 sk. black; 1 thread 30 sk. white.  
12's reed 4's.
- Weft.*  
1 pick 30 sk. white; 1 pick 30 sk. black.  
48 picks per inch.

A fabric made to the above particulars with Design 19 would consist entirely of a black and white cloth, which simply changes positions from back to face and *vice-versa* for the figuring, thus obtaining the designation "figured reversible."

By means of Design 20 a double 2-and-2 twill cloth is produced, while Design 21 produces a small figured double plain cloth, one cloth being as coarse again as the other. Other systems there are, but our duty is not to demonstrate the construction, but rather to indicate the means by which the construction may be ascertained. It is evident, then, that in their ordinary form these cloths may be analysed, so far as weave is concerned, as ordinary double cloths. To find the extent of figure is rather a more difficult task. The curvature of the threads may often prove of service here, but perhaps the best method of obtaining this is by means of the weaves used, these being first found; but it must be remembered in analysing these or any cloths that a knowledge of the principles of cloth construction is half the battle.

LIST VI.

Order of Warping or Wefting.	Possible Colours.	Type of Cloth.
(1) 1 thread ground (black)	Black and red	Dress Goods.
1 thread figure (red)	Black and red	Waistcoatings, etc.
(2) 1 thread ground	Black, red, and green	Waistcoatings, etc.
1 thread figure (red)	Black, red, and green	Figured silks, etc.
1 thread figure (green)	Black, red, and green	Figured silks, etc.
(3) 1 thread ground	Black, red, and green	Waistcoatings, etc.
1 thread figure (red)	Black, red, green, and blue	Figured silks.
1 thread figure (green)	Black, red, green, and blue	Figured silks.
1 thread figure (blue)	Black, red, green, and blue	Figured silks.
(4) 1 pick ground	Black, red, and green	Dress Goods, Shawls, etc.
1 pick figure (red)	Black, red, and green	Dress Goods, Shawls, etc.
1 pick ground	Black, red, and green	Dress Goods, Shawls, etc.
1 pick figure (green)	Black, red, and green	Dress Goods, Shawls, etc.

Note. A combination of 3 and 4 is adopted for the production of Paisley Shawls, etc.

FIGURE ANALYSIS.

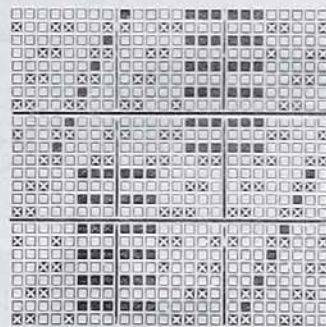
In the case of figured textiles, the finding of the weave is only part of the work to be done; the unit or repeat of the figure has still to be

ascertained. Should a full repeat or more than a repeat of the pattern be obtainable, several methods may be adopted. A simple plan, largely resorted to by professional analysts, is to place the pattern on cardboard and prick with a needle round its edge, thus obtaining a representation, in outline, of the figure. The repeat must then be enclosed in a square or oblong and this be divided into squares representing 8, 16, or 24 threads and picks as required, Diagram 15 illustrating this system.

Another system is to paste the cloth upon cardboard and divide it into spaces by wrapping threads round it, equidistant from each other, as shown in Diagram 16. Other modifications of the same principles are in use according to the fancy of the particular analyst. Whatever system, however, be adopted, it should be remembered that what is required is simply the

division of one repeat of the figure into squares or oblongs, each representing a certain number of threads and picks on the design paper.

When only a portion of a pattern is obtainable the difficulties are greater, since no further advance can be made unless there is sufficient of the figure to decide the method of arrangement adopted, and even then the analyst can go no further unless he is thoroughly conversant with the various systems of arrangement in vogue.



DESIGN 17.

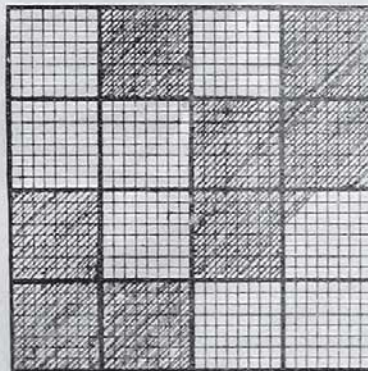
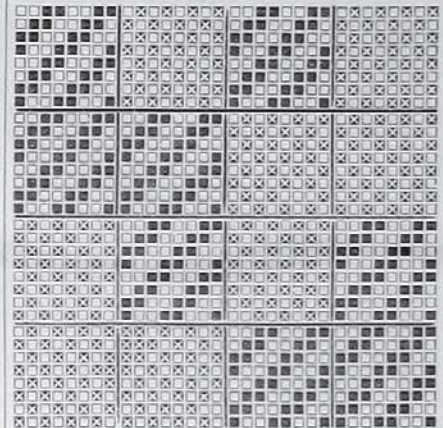
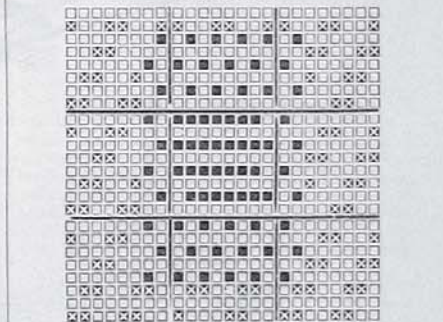


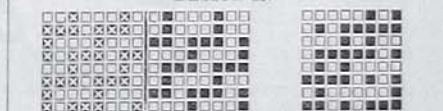
DIAGRAM 11.



DESIGN 16.



DESIGN 18.



DESIGN 19.

DESIGN 20.



DIAGRAM 12.

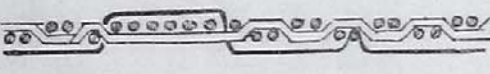


DIAGRAM 13.

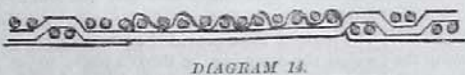


DIAGRAM 14.

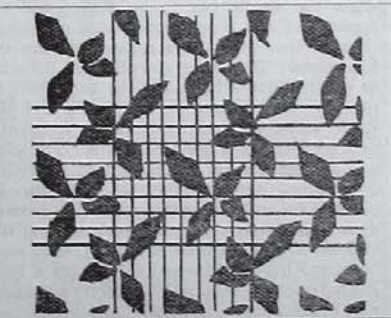


DIAGRAM 16.

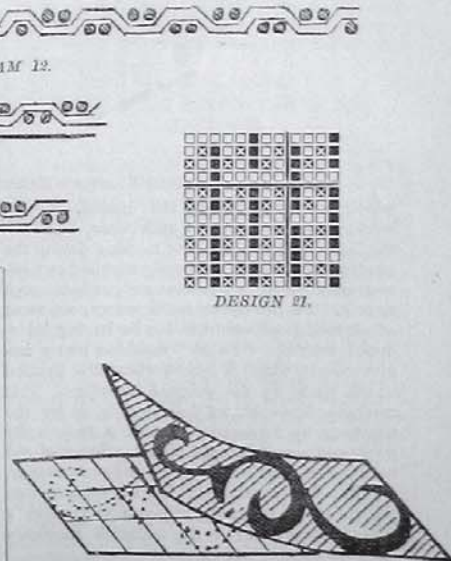
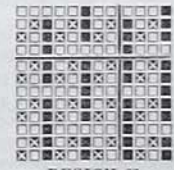


DIAGRAM 15.



DESIGN 21.