they were received into our spinning and weaving mills. Thus, German, Russian, and Spaniards were taught our trade. This, however, occurred only on a small scale prior to the introduction of mule threads, after which they came in shoals. It is useless now to discuss the wisdom, or otherwise, of our course of action in relation to that movement; it has been carried out, and we cannot roll back the current of events and begin anew. Suffice it to say that every country now has a distinct combination with Lancashire, and nothing short of calling in the aid of the State to its assistance if our rivalry presses it hardly. Each and all have used one or more striking advantages when compared with the others, which, so much to nullify those we possess over them; whilst, when it is remembered that the State lens is such an intrinsic part of the present generation, what is it that felt they could capture our trade, at any rate with their own countries. This has very largely been the result in France, Germany, Russia, Italy, and Spain, and Peru is closely following suit. The last movements made in several of these countries, and especially in France, will sweep away every vestige of our little trade that remained.

We do not care upon the present occasion to enter into the question of our national policy in relation to this matter, as we desire to point to another factor which is of great importance in the situation. This is the conduct of our working classes, who seem to have given themselves over body and soul to a number of fussy little people who, owing to the circumstances of their lives, have a fair opportunity of observing and being objects of observation to the hungry eye of the spinning-room, or the bonnet-ale of the weaving shed, have had no chance of attaining any conception of the world of conflicting interests beyond, and have certainly not sought to attain any. Yet they have come forward and have assumed the leadership of the working men and the masterieship of the establishments of their employers, and have organised the former and terrorised the latter, as professional politicians, seeing this usurped power in their hands, have had court to them, with the result that they have got laws made whereby to persecute everyone who opposes them. They have, in reality, succeeded, and that the term of office of the Lancashire engaged in the same class of work to leave it, on the allegation of "spinning bad," as at Accrington. They go to an employer and demand that he shall dismiss almost half his staff of workers because they have not joined their union, or the remainder will strike—which means they will neither work themselves nor permit others to work. Such a demand has been made at three large mills in Bury during the past few days. Cases of the kind we have indicated are of daily occurrence in the cotton trade, all of which are the outcome of the feeling of resentment and insubordination to the absolute necessity of principle of that which is a part of and is inseparable from modern industry. This acts as a revolt, not against tyranny but against organised industry itself, and can, if it is persisted in, only have one ending—the utter ruin of their employers and themselves. The trade in this position is blind and grotesque. Sanction, who are bent upon pulling down the whole fabric of civilized industry upon their heads by the heads of everybody else, without even the motive of revenge for any injury done them. Now, we ask, how with such prospects as these in front of them can employers in the spinning and weaving industries of Lancashire be expected to maintain in the pre-eminent position it has attained, mainly by the genius of its inventors, the enterprise of its capitalists, and the steady industry of a generation of workers who managed their own affairs and never permitted either presidents, secretaries, or delegates to dictate to them, how then they should strike, but who kept such officials rigidly in their places as their servants and not their masters? This position cannot be maintained under such conditions. Consequently, we have only to ask whether the workers of Lancashire desire to destroy the grandest industrial system the world has ever seen, and perish themselves in the ruins? If not, they must change their policy.

Designing.

THE ANALYSIS OF PATTERN.—V.

FANCY COMBINATIONS.—Continued from p. 219.

Another type of combinations, at times of extreme want, is often used; it is a combination which we have termed "fancy twill." How would it be difficult to draw a definite line between this and the latter at times very extensive; but if the term combination twill be substituted for fancy twill its meaning is not made clear. In Design 1, a typical example of a combination twill is shown, consisting of the combination of 8 by 8 satin and Novel or Campbell forming a twill running at an angle of 45° provided equal quantities of the warp and weft be used. In Design 2, an example of an upright combination twill, consisting wholly of 8 by 8 satin and twilled hoppers. In analysing such cloths as these, the use of knowledge obtained by experimenting with the various makes is most effectively demonstrated. Probably the weaves first noticed by the designer for woollen and worsted weaving are the ordinary simple twills and the 8 by 8 satin makes. This latter make possesses the peculiarity of forming an upright twill in one direction but an ordinary twill in the other, as shown in Design 11 and 12. Now, a glance at Design 9 and 10 will show that, in the first instance, the ordinary twill effect has been made the basis of combination; while in the latter case the upright effect has been utilised for the same purpose. Thus it is evident that a knowledge of the weaves combined in these two cases will account for an apparent impossibility. Since these weaves are of a stripe type of effect, all the remarks made with reference to stripes are equally applicable here. Particular notice should, however, be made of the method of combining the weaves employed, and also of the number of ends each warp occupies, which point may often be decided by the curvature of the threads and the methods already explained. Another point to which attention should be directed is that in such combinations as given in Design 13, a common practice is to make the fabric of woolen or worsted except other parts, which is moire: thus a lustre twill is developed on a woolen or worsted ground.

BACKED CLOTHS.

Attention must now be directed to fabrics backed with warp or weft for the purpose of obtaining extra weight, warmth, and handle. In the first case we shall have two series of warp threads and one series of weft, and, in the latter case, one series of warp threads and two series of weft threads. The following procedure should be adopted in analysing these cloths:

1. Ascertain whether backed with warp or weft.
2. Ascertain the relative proportions of back and backing threads or picks and counts of the same.
3. Ascertain the warp and weft are a single cloth.
4. Ascertain the backing is thin.

No further reference to the first three is really requisite, but the fourth may profitably be considered more fully. In tying the backing to the face, of course, under any circumstances the conditions of perfect tying must, if possible, be observed, whether warp or weft or both be employed. To Demonstration 1 is always an interesting fact concerning the backing of the two-and-two twill: it is a thread taken from the face, leaving as indicated two and two two down; this is the backing thread, indicating the tie. It will at once be observed that a and b always come into relatively the same position, a being repeated twice to c once. This leads us at once to decide that the backing is tied to the face in 8 by 8 satin order, since, as shown in Design 14, this matters ties on every other pick. We need scarcely note that it is almost impossible to analyse these cloths successfully without a complete theoretical knowledge of the underlying principles and some practical experience; for, in addition to the above difficulties, it is found in practice that at times the influence of tying is quite remarkable, a slight variation in the position internally influencing the result.

DOUBLE CLOTHS.

The principles governing the construction of these are very similar to those governing backed cloths, the only difference being that there is a distinct back cloth formed. The analyst should proceed as follows:

1. Find the face weave or design.
2. Find the back weave or design.
3. Find the relative qualities of face warp and weft to the backing warp and weft along with the counts of same; and
4. Find the method of tying, whether with warp or weft, and the method of distribution.

With reference to this latter proceeding, Diagram 1 demonstrates a very simple case. Here i is a thread taken from the face of a cloth, made as follows:

Face 2 threads 2 and 2 mixed with a thread 18 ø, woolen. 12 ø, and 6 ø.

Wgt. Same as warp: 72 picks per inch. 2 represents a thread taken from the plain back of 18 ø, woolen. It will at once be observed that, owing to the face being as fine as the back cloth, the curves of the two and two twill coincide with the plain. Further, it is evident from an examination of the curve of the backing thread that the back cloth has
made up either as a blouse, vesting, or skirting. That is truly a marvellous freak of fashion, causing the more costly material to play a subordinate part, but so it is, and manufacturers must bow to the flat. In respect of colours as usual all the delicate endive hues and spring blues are sought for, but as is natural the early primrose and cornflower tints will lead, to be later on blended with pale or dark violets—these are the most tasteful arrangements that the eye can possibly dwell upon in feminine costumes whether made up of cotton or more expensive materials. Where cost is no object the most lovely of all dress goods are cannet-olds of good design and pleasing colourings, forming the prettiest of all spring dresses, being exquisitely fresh, giving grace and beauty in every modulation of the drapery.

Design A is constructed for a fancy zephyr stripe, with a small warp spot for ornamentation (see draft and pegging plan). The distances between the figures may be increased or decreased by repeats of the draft and ground, 40 dents per inch, two in a dent for plain ground; spotting in a dent; ground warp 8 twist, spotting in two-fold 10's, every white band possible, with 80 picks per inch of 30's soft spun. At a glance we have marked the shafts on the pegging plan in numerical order, so that the pattern may be drafted without any mistake: 22 light mauve, 22 white, 22 white, the figures to be only on alternate white stripes; 22 light mauve and 8 of white on the plain shafts 1, 2, 3, 4, then a double end in a herald of dark chocolate on 5th shaft; 1/2 white ground on 5 and 3 shifts which makes the 4 in a dent; a double end in a herald of chocolate on 6th shaft with 2 white on plain shafts; double chocolate end on 7th shaft, and two white plain, and double chocolate end on 8th shaft with two white plain complete one figure. For the alternate stripes, 8 white, 22 light mauve, on the r., 22 plain shafts; double chocolate on 5th shaft; 2 white plain double and chocolate on 6th shaft; 2 white plain double and chocolate on 7th shaft with 8 white on plain shafts, the repeat commencing with the first 22 of light mauve. These particulars carefully followed will give exactly the drafting of this pattern. Any other arrangement may be made—the chocolate changed to green, the size of pattern increased or the figures placed on each shaft if required; we have simply indicated what can be done, and consider the design worth notice.