

coarse sheetings, seven-eighths wide, at 9½d. to 11d. a yard; dowlas, 28 inches wide, at 7d.; Osnaburgs at 7d. also. There are eight or more bleachgreens in the county, but they bleach, generally speaking, only for the county consumption. The great bulk of the linens are sent green to Dublin. In the town and neighbourhood of Lochrea there are 300 looms employed on linens that are called Lochreas, of 28 inches in width, which sell at 7d. a yard. All the flax worked in the county is, generally speaking, raised in it. The yarn spun is pound yarn, not done into hanks at all. The linen and yarn of the whole county has been calculated at £40,000 a-year."

These few details will show what an animating and impressive book might be made upon the subject we have indicated; and other intimations of what has been done in several directions will give some idea of what a big book it would be, and what a brightly-coloured map might be filled in to furnish a frontispiece for it. Not that we have by any means exhausted the materials which would be at disposal for such a volume. For one thing, it may be noticed that no mention has been made of all the relief operations, by associations or individuals, which are at present in working order. For good and sufficient reasons, complete enumeration of these is, for the time being, withheld. For another notable omission, none of the names which make the history of lacemaking in Ireland glow with good works, from the days of Lady Arabella Denny downwards, have been introduced. Are they not written in the book of Mr. Ben Lindsey? But now, having all this wealth of effort in mind, and remembering that we have only been able to give the baldest reference to aims and conceptions which have, in many cases, each involved years of struggle and willing labour which cannot be measured at all, we are tempted to put the old fatalist question, *Cui bono?* What good has it been to spend all this energy and devotion upon that which seems destined to failure; or to squander effort and pains upon that which appears to leave no mark of benefit bestowed upon the broad pages of time? What good to keep up the dismal, unrewarded, and profitless struggle? Happy is it for the people that human sympathy and all the better side of human nature rises superior to despair, and continues work which must, for a' that and a' that, have had influence beyond what we can tell, but which will not be without its reward, upon social conditions and upon the fortunes of the country.

What does all this expenditure of time and money and noble effort mean? Well, it has not been in vain; for undoubtedly a gradual improvement in the condition of the people has come round, and since the famine period of 1846 much better conditions prevail. The people are better housed and fed, wages have materially advanced, whilst the purchasing power of the sovereign is probably 20 per cent. more than it was forty years ago. But what an immensely greater progress might have been recorded if the national education of the children of the peasantry had included a well-devised system of industrial training, by which they would have been taught to use their hands, and had obtained a practical knowledge of the cultivation of the soil. The bulk of the land might by this time have been transformed into a garden, and the ignorance and idleness, with the consequent waste, would have been practically unknown. Even yet—notwithstanding the admitted necessity of better industrial and technical education—little or nothing is being done to remedy the defects of our primary system.

But it has not been for the purpose of bewailing the failures of days gone by, or of discounting the efforts which are still being made, that this subject is now brought forward. We have something more practical than that in view, and, as we believe, something more hopeful. It is obvious that if the various societies and persons could work amicably and helpfully together, there would be a compound-multiplication prospect of substantial and permanent benefit for all of them. The unit, as all experience has gone to prove, can rarely have a chance of success in a business which depends so entirely upon far-away demand, and lives upon orders in driblets; but united effort would make use of each other's connections for the common good. The readiest and the most effectual means of bringing all the officers of the industrial corps into agreement, shoulder to shoulder, is by providing them with a newspaper or journal of their own. The printing press now-a-days provides the speaking trumpet of any cause, no matter of what dimensions. But nothing short of a regular issue, at short intervals, can accomplish much good in the case of societies and single-handed enterprises which have a benevolent as well as a commercial side, and nothing but a recognised representative can secure for them proper acknowledgment and support. We have under

consideration the extension of this Journal, so that it should act with and on behalf of these industries, as it would naturally do if any of them secured an established commercial position. But, as is hardly necessary to state, it would not be possible to add to the scope and responsibilities of the Journal without increased support, and we wait to see what encouragement would be offered if a new departure like this were to be attempted.



Practical Instructions in Linen Weaving.

IV.

(SPECIALLY WRITTEN FOR THIS JOURNAL, AND ALL RIGHTS RESERVED.)

Analysis of Samples.



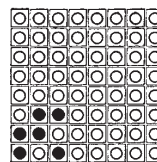
PROFIT and pleasure can be derived from the analysis of textile samples; the necessary practical skill for the construction of fabrics can thus be obtained without the ability to devise new weaves or colour combinations. The power to analyse gives confidence, and enables manufacturers to reproduce without waste of time or material. It is no doubt a tedious process, but practice and study will in a short time overcome the difficulties, so that many apparent intricacies of weave can be decided by a single inspection of a sample. This is really important, and cannot in any way be considered copying, when orders demand the same construction as the samples sent; in any case, it is merely an adjunct or initial step towards forming original ideas as a practical designer. A knowledge of drawing, though very desirable, is not always necessary in the production of patterns where small weave and colour arrangements are the main or only productions of a manufacturer. Ornamentation by the use of foliage or geometrical formations will require a training of the eye and hand, for the cloth should not only be pleasing to the eye, but properly constructed with a view to comfort and economy at a reasonable cost. Patterns are not in all cases the result of calculation and design; the accidental may turn up and become acceptable in the market as a favourite.

In dissecting cloths, it is necessary to have sufficient to show a repeat of both colour and weave pattern. After taking out a number of warp and weft threads to leave a fringe, we may decide to commence with the warp thread or weft pick. If the weft, then the marks are put on the squares of the design paper counting from right to left, warp threads up are dotted across; the colour and nature of each thread being noted, this process is continued, marking warp threads over the weft and leaving blanks for warp threads under the weft, until the number of picks taken out gives a repeat or a similar weft pick to that we commenced from. The warp repeat is found by the first weft pick bringing us to a similar warp thread as that taken on the right hand for a guide. If warp threads are taken and marked on the design paper vertically, beginning from the bottom and going upwards, the dots in the squares will be the reverse of the weft pick; the warp threads above the weft are blank, and those under the weft dotted. The difference between the two systems is merely a matter of convenience; the weft picks are nearly in all patterns less numerous than the warp pattern, so that the analysis would not be so tedious.

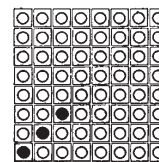
Drills.

The three-leaf twill. This weave is generally known as a drill. If woven warp face up, 3 threads and 3 weft picks give a repeat. The analysis of the weft and warp surfaces are shown in Figs. 1 and 2. The

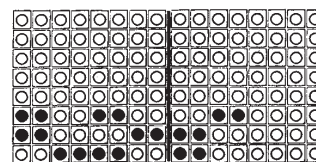
No. 1.



No. 2.



No. 3.



warp face No. 1 gives the best result for coloured stripes ; a neat pattern would be as follows for a fancy drill :—30 dents per inch, 3 in a dent, 56 lea warp, 40 picks per inch of 50 lea tow weft, one shuttle same as the ground in the warp either white or cream ; 15 white, 2 mid blue, 4 white, 2 mid blue, 2 red, 2 white, 2 red, repeat from the first 15 white. Another pattern :—60 cream, 6 light sky-blue, 3 white, 6 light sky, 60 cream, 12 chocolate, 3 white, 12 chocolate, repeat from the first, 48 cream, weft all cream, 56 lea tow, 48 picks per inch, 25 dents per inch, 3 in a dent, 56 lea line for warp. These patterns are much fancied for South American markets. In the construction of fabrics the rule is, whichever of the two materials forms the face surface, more threads per inch are required than of the other ; if a weft face more picks, if a warp face more threads per inch than weft ; and as these threads per inch increase, the counts or diameters must be in proportion, except in the case of some speciality.

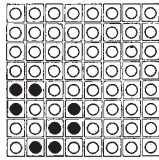
Fig. 3 gives a double twill plain ; distinct colours can by this means be produced on either side of a fabric. For heavy goods, a back of loose cotton twist—say soft rovings—may be used that can be well carded when finished, the face linen warp and weft ; a catcher thread would be required at the selvage, as it will be seen by the plan that two picks go into one shed at a time.

Patterns suitable for any reed, counts of warp and tow wefts, 12 white, 6 cinnamon brown, 3 white, 6 brown, 12 white, 3 brown (2 white, 1 brown repeated 8 times), 3 brown, and repeat from first 12 white, tow weft all white. Another pattern, using dark brown tow weft :—24 dark brown, 24 cream, 3 red, repeat from the 24 dark brown ; a variation of this pattern is 24 dark brown, 3 white, 6 red, 6 white, repeat from the 24 dark brown, weft dark brown tow.

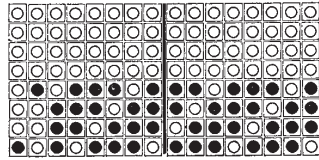
With dark blue tow weft, the following pattern :—36 dark blue, 6 red, 6 sky blue, 6 cream, 6 white, repeat from the 36 dark blue. All these patterns are favourites for out-door exercise ; but the colours must be fast.

New patterns for marquee or field tent fabrics :—24 white, 24 mid brown, 24 white, 24 sky blue, 24 white, 24 coraline, 24 white, 24 navy blue, the repeat from the first 24 white ; weft all white tow.

No. 4.



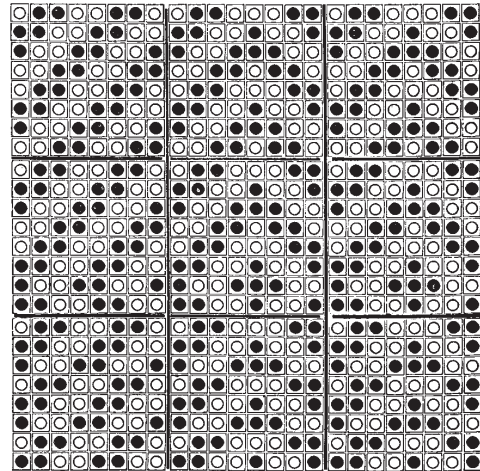
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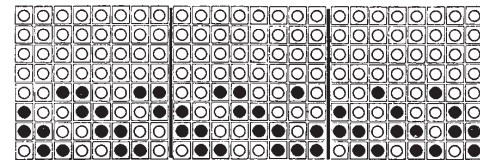
Four-leaf twill—One of the most common, but useful, of all other twills used in textile fabrics. The analysis is shown in Fig. 4, and simply consists of 4 threads of warp with 4 picks of weft. In all regular twills it is only necessary, in dissecting such samples, to take out two or three weft picks to find out how the twill advances ; once the base is obtained, the various movements of the diagonal line are easily followed out to the repeat. Extensive ranges of patterns can be produced by combinations of this twill. Fig. 5 is the weave plan of a fancy drill on 4 shafts, 16 to the round ; meaning that in the analysis there are 4 warp threads and 16 weft picks, 14 of these giving a warp face and the last 2 a weft throw-up or break, which might correspond with 2 silk or fancy threads in the warp pattern. Very complicated figures are formed on a four-leaf twill by drafting and the varied positions of the weft picks. We give a small design in Fig. 6, and here the question to decide is the same as in a large design requiring a great number of heald shafts ; we must know the draft ; this is shown below the design in its regular progression, beginning with the first vertical row, and marking each row with a dot until the 24 rows or threads are completed ; 4 shafts only are required, because there are only 4 threads, though placed in different positions in the design. The weave plan follows the draft, with this distinction, that the vertical rows with their marks or intersections are placed in the weave plan across ; in fact, these transverse rows from the vertical indicate the heald shafts ; the figure may be extended to any size by warp and weft threads. This cloth is very much in favour for fancy linings, woven all grey, bleached, and dyed in all the fashionable shades. The gathering together of a variety of samples in different styles, and closely examining into their construction, colours, and every detail, cannot fail to be of great importance, not only to students, but also those who are actively engaged in the production of textile fabrics. Taking Fig. 4, the ordinary four-leaf twill, equal in warp and weft, 36 dents per inch, 2 in a dent of 60 lea linen for warp ; 72 picks per inch of 60 lea weft. Two patterns which are here given will be found worth reproducing either as shirtings or dress goods :—4 white, 4 light fawn, 2 white, 4 light fawn, 4 white, 6 claret brown, 4 white, 2 light straw, 2 royal blue, 2 white, 2 royal blue, 2 light straw, 4 white, 4 claret brown, weft checking the same, repeat from the first 4 of white. The second pattern, same reed, counts, &c. :—4 indigo blue, 2 white, 2 bright red, 2 white, 4 indigo blue, 2 white, 2 bright red, 2 white, 4 indigo blue, 4 white, 2 fawn, 2 white, 2 fawn, 4 white (2 fawn, 2 white for 12 times), 4 white, 2 fawn, 2 white, 2 fawn, 4 white, weft pattern the same as the warp, the repeat to commence from the first 4 of indigo blue.

Fig. 7 is a small design with draft and weave for a peculiar make of fabric in linen yarns for trouserings and other purposes. The stripes are shaded off in drabs and blues, the widest portion of the stripes being mostly of the drab shading ; there is an equal quantity of yarn on each shaft, as will be seen by the draft dots. This is a great consideration in weaving, as it avoids undue friction or overcrowding, and in all designs should be the principal point for consideration, if at all possible. As a guide for the construction of a good quality of cloth from this design, the following particulars will be found acceptable :—22 dents per inch, 3 in a dent, 40 lea line warp, 64 picks per inch, same counts tow weft and warp ; pattern—12 light stone, 12 light red drab, 12 mid red drab, 24 light new drab, 6 light blue, 6 deep navy blue, 24 light new drab, 12 mid red drab, 12 light red drab, 12 light stone, 12 light blue, 12 mid blue, 12 dark navy blue, 12 mid blue, 12 light blue, repeat the pattern from 12 light stone, weft all light new drab. In making trial patterns a great saving of time in tying up, drawing, &c., will be obtained, if at all convenient, by having 8 or 12 shafts in the loom, the warp divided into as many coloured sections as possible, say 4 or 5 in the width ; by this means any number of four-shaft twill patterns may be produced—see Figs. 8 and 9 ; then we also have the power of developing 3 shafts, 4 or 6 shafts, and 12 shaft twills, diagonals, &c., on a 12 shaft set of healds, and with 8 shafts in the loom we can have plain weaves, 4 shaft and 8 shaft weaves, and easily produce an enormous variety in a few yards of warp, and may, in any one or more of the sections, vary the draft from straight over to broken or angular. A few threads of warp broken out or pieced up by others will save warping and give colour combinations ; in fact, it is not possible to conceive the number of changes that would result, and it is perhaps in some one of the number that the accidental may become successful. In the next communication the method of combining weaves for new effects will be shown.

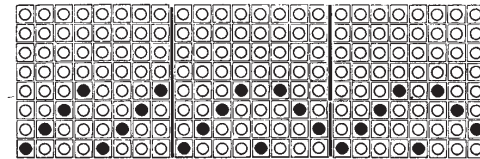
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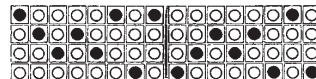
WEAVE PLAN, No. 6.



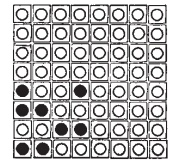
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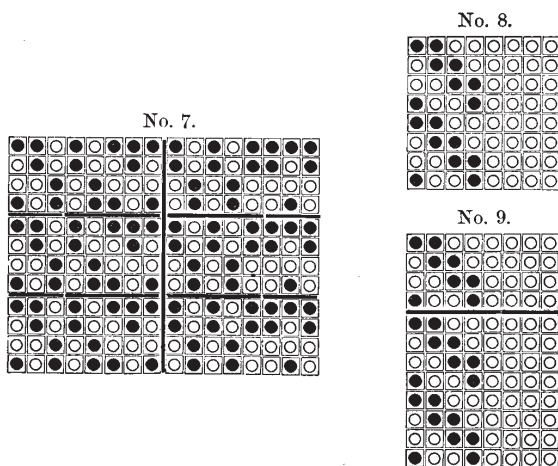


DRAFT, No. 7.



WEAVE, No. 7.





The Making-up Trades.
Shirt and Collar Factories.

THE amount of business being done in the shirt and collar trades is not increasing as the season advances to the extent that had been generally expected, or indeed in the degree that might reasonably enough have been looked for from the way the trade opened up in its commencement. As a rule, the opening orders afford a fair index to the amount of trade anticipated in the succeeding months; but, this year, the early promise of the spring business has by no means been fulfilled. Orders are coming in very slowly from all the centres of wholesale trade; indeed, the dulness is so general that it is difficult to account for it. The dragging Manchester demand is attributed to the extensive cotton strike in Lancashire; though the Manchester wholesale trade is too wide in its embrace to feel so much any falling off in the demand from so limited an area as that affected by the strike. Then, too, the London trade is far from being in the active condition usual in the beginning of March, and that of Glasgow is almost as dull as any other. Whatever be the cause, a strong feeling of misgiving and uncertainty prevails, and buyers everywhere seem indisposed to purchase anything that they can possibly do without. The demand from the South of Ireland is also unusually flat. I hear even of orders placed some time ago having been countermanded, and the falling away in trade in this direction is generally attributed to fear of the Home Rule Bill passing, and to the opinion, almost universal in the mercantile and trading classes, North and South, of the disastrous effect upon business that would be certain to follow it.

The demand for white shirts is quiet, though some fair special orders have been received for the medium and better qualities of longcloth shirts with linen fittings, and for dress shirts with plain linen fronts. A few dress shirts with pique fronts are still selling, but fine linen fronts of superior quality have been gradually displacing them, and pique seems about to be discarded altogether. The trade in all-linen white shirts seems to be altogether a thing of the past; the production now is virtually nil. An attempt was made some time ago to introduce fine linen diapers for bodies of shirts, but it was neither begun with much enterprise nor properly persevered with, and it has never attained any dimensions of importance. The trade in French print shirts is increasing, and a fair amount of business is passing in the first-class work Manchester print shirts.

In coloured cotton shirts, the spurt that was given to the trade by the talk of higher prices consequent on the strike in Lancashire has died away, and very few orders are at present being placed, either for present or future delivery. That, however, may be in consequence of the substantial buying that undoubtedly took place two months ago, and may also partly result from the fact that the expected advance in cotton piece goods has not to any great extent taken place. Heavy cotton goods can still be bought at prices only fractionally dearer than those of December. The shirt trade is very seriously affected by the dulness that has overtaken that important branch of it which is engaged in producing goods for the Australasian market, from which quarter no substantial improvement is yet reported.

In the lighter end of the trade, orders for collars and cuffs are coming in very slowly, but a steady trade is being done in "dickies," or fronts

with collars attached, and these are being largely produced in both all-linen and union, and some in all-cotton. Prices are no higher for the manufactured goods, notwithstanding the smart increase in cost of material, whether linen or union; and it is regrettable to hear again of prices being cut to an extent that is little short of suicidal. I hear of all-linen fronts being sold at a price that would be a low one for union fronts of the same size and quality. If other manufacturers were simply to stand aside and allow the makers of these cheap all-linen fronts to have all the trade that is going for them, the latter would soon grow weary of a traffic so utterly unremunerative. Whatever the remedy for it may be, or whether there be any remedy at all, the existence of "cutting" on the scale complained of is generally an evidence of a very dull condition of trade.

The Apron and Pinafore Factories.

Business in the apron and pinafore trades is in a somewhat irregular condition; in some lines a very steady business is passing, while in others, usually in a very active state in the beginning of March, very great dulness prevails. A very good business is still being done in ladies' shirts and blouses; these goods might fairly enough be referred to either in the preceding report or in this one, as the trade has been tempting enough to induce both the pinafore makers and the shirt and collar manufacturers to enter upon it. This season they are being freely bought, and in an even wider range of material and design than last year, though prints in hair-cord designs are still being produced more largely than any others. So much depends upon the cut and style of the garments, and the way they are finished and turned out, that there is not here the same keen cutting of prices that prevails in some other branches, and the trade, it is satisfactory to report, is both a large one and fairly profitable. The fancy pinafore trade is far from being so good as might reasonably have been hoped for, and, except where special lines have taken hold on public favour, the turnover is not up to that of last season at the corresponding period. Some special designs, however, chiefly in fancy costume muslin materials, that have been recently brought out by some of the local factories, are taking well in the London market, and I hear of fair Canadian business for some of them. There has been some revival of demand for aprons and pinafores made from Swiss checks; but none of the local manufacturers now do at all largely in these, and, being unprepared for inquiry, the resultant business has been small. It is thought that this branch of the trade, which was a very extensive one a few years ago, and only killed by the introduction of very poor qualities, may revive again during this coming summer. Lawns, made up in a great variety of designs, are still taking well, and the trade in them promises to be permanent.

The holland apron end of the trade is in an unaccountably dragging condition, when the period of the year is taken into account, and the facilities that cheap cloth has afforded the local makers. It is said, however, that stocks in the hands of the cross-channel warehousemen are small; and if the orders come regularly to hand, and in sufficient numbers to make the aggregate trade of the season tot up to the average, "hand-to-mouth" buying would be the most profitable shape business could assume for the manufacturers. It would certainly be preferable to being at their wit's end for a few months for workers, and equally put about to find employment to keep the same workers together when the rush of the demand has fallen away. Makers are still much favoured as regards the supply of material; in very few instances have they had yet to pay any advance in price of cloth, notwithstanding the great advance in the cost of production, especially in the case of union pales. The holland apron trade would seem to be in a state of transition; in last issue I referred to the fact that all-cotton holland goods had almost completely gone out of demand, union aprons having taken their place. I now hear that union hollands are having, in their turn, to give way again to some extent to all-linen goods, but to how great an extent I am not yet fully informed. Desirable as it might be from a linen-trade point of view, I fear that union hollands will not be to any substantial extent displaced by all-linen, unless the cost of the former were to be very considerably and permanently increased. Even then, some means would have to be devised to make the all-linen goods take the same brilliant finish that the unions do.

The Irish Woollen Trade.

The Winter Buying.

BUYING for the coming winter season is going on still in the wholesale trade, though the more important buyers have almost concluded their arrangements for opening parcels. So far as it has gone, the trade has been satisfactory to the Irish manufacturers. Of the total amount of orders placed for tweeds, there is no doubt whatever but that a larger proportion has gone to the Irish makers, and a smaller proportion to those of Scotland, than in any previous season. The Scotch tweeds come nearer to the Irish, and enter more keenly into competition with them than any other; and the present position of the Scotch woollen trade may furnish a warning to those unwise friends who are so frequently urging the Irish to adopt the shoddy manufacture. Irish tweeds, as regards quality and soundness, occupy in public estimation to-day the position occupied in those respects by Scotch tweeds fifteen to twenty years ago. The Scotch manufacturers have not maintained the sterling quality of their former productions, and the result may be seen in the fact that half the mills in the South of Scotland are