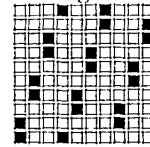


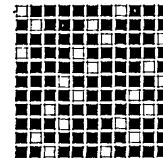
may at present require, but as there has been so much said in our *Textile Journals* lately about "cloth building" and "cloth structure," and so much correspondence has been entered upon, and as the subject has been so heartily taken up in our various schools, the readers of this *Journal* will have little difficulty in adopting any one of them to his own immediate use. We shall not give the well known 13-end corkscrew, because it is, we think, nearly played out, though it is still a good and serviceable pattern, but its great fault lies in its feeling hard and papery if much material is put in, whilst it has also a tendency to shine or wear brilliant where friction has been applied—principally down the front of the coat, where it is buttoned, and also under the sleeves where the arms rest upon the table or the desk. One of the first considerations in designing for materials of this kind is to have a pattern and cloth which will be strong enough to bear the strain to which it will be subjected, and also sufficiently pliable not to wear brilliant or "shiny." Figure 1 is simply a twill upon 10 ends, ar-

Fig. 1.



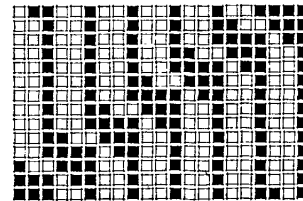
ranged in ordinary satin, with the warp floating on the face for 8 picks, then going to the back for two picks: this arrangement gives what some people call a "corkscrew," while others designate it a "rolling twill." It is a very fine rib, running at an angle of about 60 degrees across the cloth. The fineness of the rib might be varied considerably by altering the size of the warp, and the angle at which the twill runs will depend upon the thickness of the weft and the quantity of picks. A very good cloth can be made as follows:—100 ends per inch of 2-36's worsted, and 88 picks per inch of 16's worsted weft. This would give about 20 oz. per yard, finished 56 inches by 36 inches, and woven about 64 inches in the reed. Figure 2 is another similar pattern, but

FIG. 2.



upon 11 ends. In this the warp floats on the face for 7 picks, then goes to the back for 1 pick, and again floats on the face for 2 and on the back for 1. By this arrangement, the ribs have a complete separation from each other, and appear very bold and conspicuous while the large float gives the cloth a loose and open texture, and at the same time maintains a good weight. The binding of the pattern gives the back of the cloth a very peculiar appearance, something like the 13-shaft "corkscrew" back previously spoken of. Anyone interested in this branch of designing would do well to study this and similar patterns, as the order of inter-weaving and the particular satin order of arrangement, in some cases, give altogether unlooked for results, some of which are extremely valuable in the making of new patterns. A good cloth for figure 2 would be 112 ends per inch of 2-36's worsted, and 80 picks per inch of 18's worsted weft, being about 20 oz. finished. Another style of this kind is shown in figure 3. This pattern has a back-

FIG. 3.



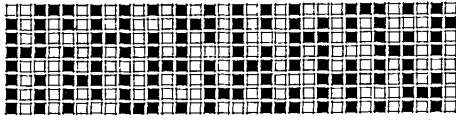
ing warp put upon it to give it extra weight, and also to give the pattern more definition. If the pattern be carefully examined, we shall see that the face pattern is made by transposing, or reversing, every pair of threads, the pattern being of 14 ends with a long warp float. The back is a 14-end twill, being allowed to float at the back over 13 picks, and to bind on the 14th, and is

WORSTEDS AND WOOLENS, ETC.

IN making designs, patterns, and cloths for worsted coatings, trouserings, suitings, etc.; also for woollens, and other cloths which are made to fit close to the wearer, the chief objects must be that they shall be firm in handle, sufficiently pliable not to feel hard and file-like, and also bright and attractive looking. Cloths for gentlemen's wear require these conditions to be carried out much more perfectly than the light fabrics used for ladies' dresses, inasmuch as the cloths for the latter purpose are generally made so as to drape in folds, while those for gentlemen have to bear the strain of physical exertion in all its aspects. Having a desired pattern to make, it is often necessary to try it on several different cloths before one can be found which will suit it perfectly. Some cloths, in which the pattern looks well, are too heavy, some too light; whilst in others that are the proper weight the pattern is either too loose, or too fast, giving the file-like appearance spoken of. We shall endeavor to give a few of the most important patterns in use at the present time and also the build of cloth which will yield suitable results, though of course, the weight of the materials may be different from what the reader

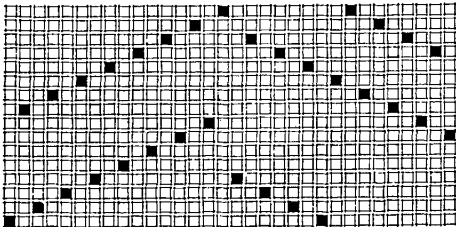
complete upon 7 ends, as the threads advance in twos across the design, which allows it to be complete at the same time as the face, the face being 2 ends to the back 1. This would make a good cloth if made as follows:—140 ends per inch of 2-40's worsted, and 90 picks per inch of 2-30's worsted, giving a cloth 23 oz. per yard finished, the face and back warp being the same. Another similar pattern is shown in figure 4, where the twill is re-

FIG. 4.



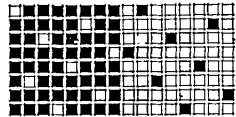
versed at intervals. The pattern is shown as having 16 ends in each direction, but this might be varied at will. 16 ends in this sett would give a very small stripe, therefore we would suggest that it be repeated twice or three times, or the stripes might be arranged so that one is considerably larger than the other. In this pattern, a backing warp is put upon it so as to make the cloth a very heavy one. As will be readily seen, an 8-end satin on the face, and bound on the back with the same pattern, will allow a large amount of material to be put in. Figure 5 is the

FIG. 5.



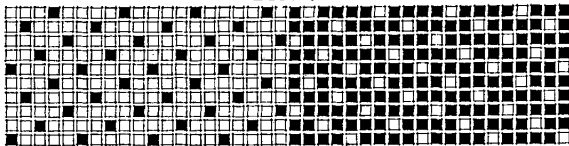
draft for it, on 16 healds, 8 for face and 8 for back, figure 6 be-

FIG. 6.



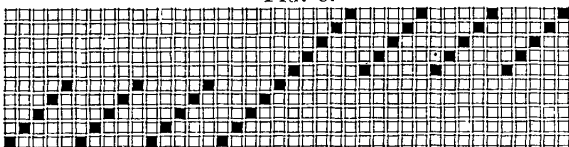
ing the pegging plan for the same. A good build of heavy cloth would be:—180 ends per inch 2-36's, and 80 picks of 2-30's, giving 28 oz. finished. In each of the foregoing patterns, novel and pretty effects can be got by reversing the twills, and also by the introduction of color, especially twist yarns. Another form of pattern is shown in figure 7, where the pattern is an ordinary sat-

FIG. 7.



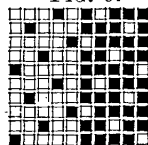
in stripe, composed of warp and weft stripes alternately. The effect of this is to throw up the stripe, formed with warp, while the stripe formed with weft is equally depressed, giving a very pretty appearance; the effect is also heightened by employing thick warp and crowding it together, while the weft might be of any reasonable thickness without materially altering the effect. This class of pattern might be advantageously employed for the making of light serges for ladies' wear. Figure 8 is the draft

FIG. 8.



and figure 9 is the pegging plan for the above, and for a 16 oz.

FIG. 9.



cloth a good build would be:—70 ends per inch of 2-32's worsted,

and 72 picks of 18's worsted weft. This class of pattern might be very successfully imitated by employing right and left twist yarns for the respective stripes, and running the satin all in one direction.

In the making of fancy woolen cloths, we do not trust so much to pattern as to color. We generally find that woolens, in whatever weight of cloth, use the ordinary twill, 2 weft and 2 warp, and vary the weight by altering the thickness of the warp and weft, and by predominating one material over the other. Many of the fancy woolen hair-lines get their peculiar and smart appearance by adopting what is known as the double plain cloth, which is two plain cloths one over the other, interwoven in such a manner that each weft thread intersects each cloth in the same degree, care being taken to arrange the colors in such a manner that one color of weft passes over only those threads of warp which are of the same color. Another method of ornamenting woolen cloths is to introduce mohair or other bright yarns, the bright yarn being allowed to float largely on the face of the pattern, while the dull woolen yarn is being interwoven into the body of the fabric, and shows up the bright material very prominently. In all fancy woolens, twist yarns enter very largely into the composition of the fabric, being generally much thicker than the body of the cloth, and in some cases, made up of three or four different colors twisted together. As the twist cannot be always in the same position in relation to the twill, sometimes one color is on the face, and sometimes another, which gives it a variegated appearance. Another form is to employ what is known as knop or "snowflake" yarn, which is ordinary colored thread with different colored flocks twisted into it; this gives the fabric a very rich appearance, when good and harmonious colors are used, as the knops can never repeat themselves with the regularity of either stripes or twills, making an ordinary plain cloth appear as though it were a very large pattern. We shall not trouble the reader with any example of the above as they are so simple and easy of adoption, but we should like to point out that the main thing to look to in this class is the arrangement of color, which is the acme of all good designing. Another class of fancy woolens which are now claiming a great deal of attention are what are known as tennis cloths. These again depend principally upon the coloring of them, they are generally made in stripe form, though equally good in checks, if the checking be done judiciously. Of course as will be readily understood, this class of cloths should be so colored that they will give the appearance of lightness and coolness, hence the use of so much light blue which we see in them. The coloring, in all cases, should be used sparingly and not so as to destroy the appearance of cool comfort, which pure white so readily gives; in fact, it should be carefully bourn in mind that these cloths are to be worn in summer, while the sun shines, and that dark sombre colors would look very much out of place on the tennis ground. These cloths are made 8 to 10 oz. per yard finished, being about 32 inches wide. A good heavy cloth might be made as follows:—60 ends per inch, 24 skeins woolen warp, and 56 picks per inch, 25 skeins woolen weft, giving a cloth about 9½ oz. per yard. Another good cloth would be 70 ends per inch of 40 skeins warp, and 72 picks of 36 skeins weft, giving 8 oz. per yard. This would be very much finer and lighter than the first. For colorings we should recommend the following:—White and light indigo, white and dark indigo, white and pale pink, white and light blue and pale pink in the same combinations, pale brown and medium brown, each combined with white, etc. In all the combinations, let the white predominate very largely. In checking patterns of this kind, use less color for the stripe, otherwise there would be too much massing in them, which would spoil the purity of the combination. These are generally woven with an ordinary twill—2 warp and 2 weft, but they might with effect be arranged in stripes after the manner of the herring-bone. If this be done well, the slight raising that the cloth undergoes will tone down the effect, while the coloring will be shown with greater advantage; care being taken that it is not too prominent. This method will allow a stronger color being used if it is placed in the centre of the stripe, as the break in the pattern will prevent any violent contrast due to the juxtaposition of two strong colors.

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