WEFT PILE FABRICS.

The construction of these fabrics is in reality very simple, since no pile is formed in the loom, the cloth being woven as an ordinary piece, as shown in Diagram 28. After leaving the loom, all the picks which flush, for example, are cut with a knife, as shown in Diagram 27, in which there are four pile picks to one ground pick, and since the pile picks only bound once in every 8, 10, or 12 ends, as the case may be, a large number of picks per inch are required to hold the pile firmly. A firmer binding is shown in Diagram 28, in which the pile weft interlaces for three threads with the warp. A corduroy type of effect is shown in Diagram 29, and the reason is very apparent, if the bindings of the pile picks be examined, it will at once be seen that they all bind in line upon the piece; thus, when cut, they all project from one portion of the piece, forming a distinct rib.

The difficulties in analysing such cloths sink into oblivion when it is remembered that these cloths are woven like ordinary pieces. There is one point, however, which must not be overlooked, and that is, that in designs similar to Nos. 27, 28, and 29, if the pile picks are to occupy or much space in the cloth as represented on paper. For example, in Diagram 27 the four pile picks are altogether in one piece, and may be regarded as such in the cloth. In determining the number of pile picks between each ground pick, then, this fact must be remembered.

A recent innovation in the manufacture of these goods provides for the cutting, as required, in the loom, thus enabling the weavers passing between the reeds in the going part. Quite elaborate figures may be woven thus, but under any circumstances the fabrics should be examined at intervals, since the pile is formed by the healds or harness giving the requisite float to the pile pick, the knives simply being worked to cut the flush.

Another type of weft pile is formed in the finishing process. A plan similar to Diagram 30 is employed, a broad weft is inserted, while at 6 a narrow weft is inserted. This system of figuring is often employed with a flat or satin ground, as shown in Diagram 33, in which a broad weft is inserted, while at 6 a satin ground, 8 the short loop, and 9 the long loop or cat pile.

In analysing any figures similar to those given the fabric must be ascertained by one of the systems already given, but, in sketching on design paper, the proportion of the picks (not pile and weft) must be carefully ascertained, and the design paper selected accordingly.

WARP PILE.

The structure and analysis of warp pile goods is somewhat more complex than the above. In Diagram 21, for example, there is evidently some arrangement of loops, while in Diagram 23 there is evidently still more complication. These loops are usually produced by means of a wire inserted in a shed space provided for them, for it is evident that only the pile threads must pass over the wire. Thus, in designing for these fabrics, the point paper must be classed into ground and pile threads, and picks, and wires. Design 31 is the point-paper plan for Diagram 21, the solid type represents the ordinary picks and the crosses the wires, while a are pile threads and b ground threads. With these particulars ordinary piles may readily be analysed, this being usually effected by examining the back of the fabric with a piece-glass; but the more intricately figured fabrics call for further explanation.

The simplest method of figuring these goods is by means of cut and uncut or looped pile, as illustrated in Figure 7 and Diagram 21, in the latter d being the looped and c the cut. The advantages of figuring in this manner are, firstly, that only one pile warp beam is required, each end taking up alike, while the figure produced is very distinct, as illustrated in Figure 7, which exaggerates very little the variation between the looped c and the cut d. Another effective method of figuring is that illustrated in Figure 8 and Diagram 22, in which case the pile warp is composed of two colours, say red and tan, arranged end and end. Under these conditions either red or tan figures may be formed by bringing every other end over the wires as required, but should only one pile warp beam be used, every thread must be over the wires the same number of times. Should these conditions not be requisite, however, four distinct effects may be produced, viz., red pile, cut and uncut, tan pile, cut and uncut.

A system of figuring with pile by means of different heights of wires, as shown in Diagram 23, in which a broad weft is inserted, while at 6 a narrow weft is inserted. This system of figuring is often employed with a flat or satin ground, as shown in Figure 9, in which a is the satin ground, 8 the short loop, and 9 the long loop or cat pile.
to this proportion. Should only ordinary design paper be at hand, the figure may be sketched out upon this and may be put on to the cutting design sheet, missing picks for the wires as required. By this means, however, the figure will be considerably distorted. A type of figured pile likely to be mistaken for the above is known as "tapestry carpets," in which the figure is printed upon the warp in a considerably elongated form to allow for the take-up in weaving.

Another type, of much greater beauty, is the Axminster carpet, in which the pile is put in from bobbins in the front of the loom, the bobbins being arranged in the colours required to give the pattern, in many cases a large number of colours being employed with most telling effect.

NEW DESIGNS.

COTTON DRESS FABRICS.

There is a never-failing succession of novelties in cotton fabrics to tempt buyers: satin stripes in pale blue, pink, mauve, yellow, and light green—one of these colours alone, or two or three; and in some instances all together in great request for evening dresses. The satin is a warp face, totally concealing the weft, in close-set reeds, giving all the possible brightness of colour beauty in these stripes. A great favourite for the same purpose is the brocatelle, in orange and green; red merily appears in combination with green, navy blue, and black—the fashionable heliotrope is known commonly as cherry pie; nominally it is a pale blue passing into white; one variey shows itself as a dark purple.

The colour scale for the spring season may be taken in orange, Nile green, olive, corn, gray, yellow, pink, and cream. These are well shown in velvets; in fact, a delicate and refined taste seems to be in every season, and cotton fancy goods are fast becoming perfection in make, colours, and ornamentation.

Design A, which we submit, is on 4 shafts, 36 ends each, to the round, forming a check in distinct squares, with one shuttle: warp, 24's twist, 50 ends per inch; weft, 24's with 60 picks per inch; one black, white, without twist in a heald, forming one color, white, black and white, wound on the bobbins for the shuttle, without twist. Larger squares, two or three inches in size, can be obtained, to obtain these the draft and round would have to be increased.

When finished the width to be 30 inches.

Design B is another novelty for cotton dress goods, 35 ends, 35 to the round, 50 ends per inch of 30's twist for warp, 24's with 60 picks per inch of 30's twist. Warp all one in a heald, one heald per dent, orange and deep blue slightly twisted, 250, forming one inch wide, the same, but without any twist: one shuttle. The following varieties will give capital effects: