

## TERRY PILE FABRICS. Their Quality, Production, and Cost.

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(Continued from May issue.)

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### Four-pick Terry.

The section for 4-pick terry (see Fig. 4) shows a terry thread *a* interweaving so as to form a perfect loop when changing from upper to lower side of the cloth. The interlacing for the first 3 picks is exactly as that for a 3-pick terry, or up, down, up, and then beat-up, but the thread is dropped down for the fourth pick, preliminary to the forming of the next loop on the lower side of the fabric. *b* and *c* show two ground threads, shown shaded in diagram and dot type in weave portion. Arrows indicate the beat-up of the reed.

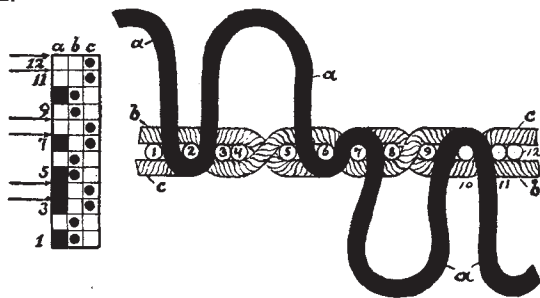


Fig. 4

Fig. 5 shows how an imperfect change can be the result of a poor weave, the terry changing from above to below. The terry thread is lifted for the first pick, dropped for the second, remains up for picks three, four and five, after which it is down for four picks, raised over one pick and in turn down for two picks. This pile thread is not interlaced with the first, second and third picks of the unit of the terry weave, but simply passes down between picks 5 and 6. The latter picks have not the same hold upon the thread, and the loop is apt to come up short, the succeeding loop being long, as shown in black at *a*<sup>1</sup>. The dotted lines *a*<sup>2</sup> indicate how a perfect change can be made and a more definite and clear edge given to the figure, and at the same time make possible, single loop or row figuring.

### Five and Six-pick Terry.

Sections and portions of weaves for 5 and 6 pick terries are given in Figs. 6 and 7 respectively. Beating-up takes place after the third, fourth and fifth picks, in the case of the 5-pick (see Fig. 6) and after the third, fourth, fifth and sixth picks, in the 6-pick (see Fig. 7) as indicated by the arrows in the two weave portions. Fig. 6 shows terry on both sides of the fabric, whereas Fig. 7 shows it on the face only.

### Two-pick Terry.

The 2-pick section, and corresponding weave (Fig. 8) are interesting, being the subject of a patent by Messrs. T. Dawson and T. Taylor, of Bolton. The patent has been abandoned, but it is an instructive and a creditable attempt to form terry without loose or non-beat-up picks. The reed is fixed as in ordinary weaving, and each pick is beaten up in succession to its final position in the cloth. Terry warp-threads 2 and 3 are drafted between ground warp-threads 1 and

4; and terry threads 6 and 7 are drafted between ground threads 5 and 8. Ground threads 1 and 4 are shown under the first pick and over the second pick, while ground threads 5 and 8 are shown over the first

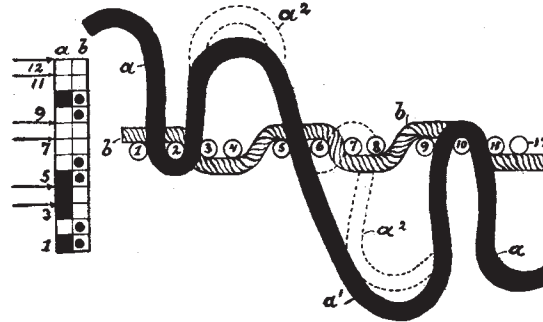


Fig. 5

pick and under the second pick. A suitable length of the terry warp was positively delivered from terry warp beams by means of a ratchet-gear, and it was thought that the ground threads would side-nip the crossed terry threads at the point where they cross each other, and the filling would bring them forward and form a loop. Terry threads 6 and 7 would be side-nipped by the 5th and 8th ground threads and brought forward to loop by the second pick, while the terry threads 2 and 3 would be side-nipped by ground threads 1 and 4, and brought forward to loop on the beat-up of the third pick. In practical work, it was found that the loops were not fully and clearly formed; the terry threads intermingled among the ground threads. On one side, terry ends appeared to be missing, and this side had not a fair share of the pile. The fabric presented a hard feel, considering the quality of stock and texture used. Repeat of weave 8 by 4. Below the weave the arrangement for drawing pile and ground warp-threads in sections by itself is shown in using two kinds of type, *cross* type for the ground and *diamond* type for the pile warp-threads. In the section of the fabric preference is given to showing up the interlacing of the pile warp-threads ahead of the ground warp.

Fig. 9 is a collection of 3, 4, 5 and 6-pick terry pile weaves, the construction of which we will now explain in detail.

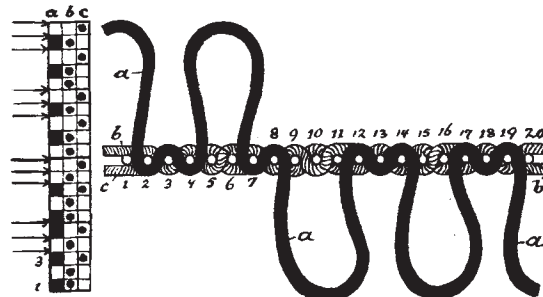


Fig. 6

### Three-pick Terry.

*a* is a 3-pick weave, having terry on each side of the cloth.

Bv re-arranging the lifting of the ground warp-threads (see *dot* type) weave *b* is obtained.

It will be an interesting subject to consider whether there is any advantage (no matter how slight) which may be gained by adopting one weave in preference to the other. Considering that at each side near the selvage there is an inward straining of the taut warp-threads, the question resolves itself into this: Do the taut ground threads interfere with, or hinder, the free

movement of the terry threads during the shedding and beating-up? If the cloth fell could be kept exact

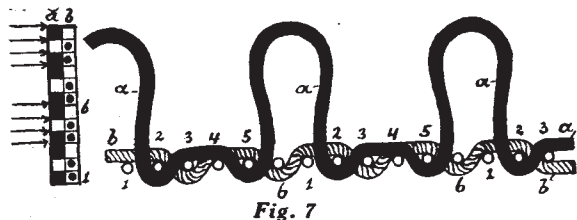


Fig. 7

to the reed width, neither weave would have an advantage. Under ordinary conditions, in or about the middle of the cloth, either weave will form loops equally perfect, but owing to the bearing inward of the warp-threads at the right-hand side the arrangement shown in *b* is preferable.

Arrows on the left-hand side of weaves *a* and *b* indicate the beat-up of the reed.

**Four, Five and Six-pick Terries.**

Terry fabrics are also made having 4, 5, or 6-picks to one loop and there is no reason why more than 6 picks per loop could not be inserted if desired. By using more than 3 picks the undue suppleness of the cloth is avoided and a firmer foundation and more attractive appearance given to the ground portions. It is also possible to securely bind the pile by giving it an increased intersection, and to make a perfect first and last loop, when changing from one side of the cloth to the other, which gives a clear, definite edge to the figure. As the number of loops formed per inch are in ratio to the picks, it follows that more warp is required to give the same depth of pile in a 3-pick terry compared with a 4-pick terry, that is, in a 4-pick weave the same depth of terry could be obtained without using as great a length of warp. The loops, however, would not be as close together and would not give as solid a pile.

For example, a 3-pick terry having 48 picks per inch, would have 16 loops per inch, whereas a 4-pick terry with 48 picks per inch would have 12 loops per inch.

Weaves *c*, *d* and *e* are 4-pick terries; weaves *f*, *g*, *h* and *i* are 5-pick terries, and weave *k* is a 6-pick terry weave.

All, except weave *i*, have the first three picks interweaving exactly as in the 3-pick terry, and there is also a beat-up in every case after the third pick. The ground warp lifts three up, one down, or the reverse,

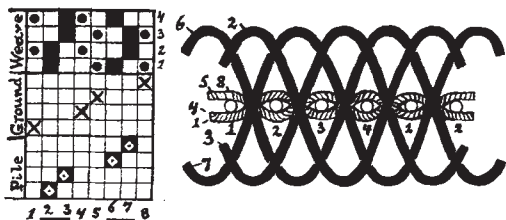


Fig. 8

one up, three down. It also tends to the formation of a more perfect loop, if the ground warp changes after the fourth and before the first non-beat-up picks as in weave *c*; the ground warp being crossed gives in this instance more space for the terry threads.

*e* is an interesting weave, showing the order of lifting when absolutely necessary, *i. e.*, when it is desired to form a loop above and below alternately. On

this principle, single rows of loops may be formed, or one or more loops raised on a flat ground cloth.

The 5-pick weave is used in the best qualities of hand towels and bath sheets, and where a fine firm ground is required as in quilting and drapery fabrics. The beat-up is after the third, fourth, and fifth picks. In weave *f*, the terry ends are bound on the second pick only, which permits an increased number of picks to be introduced, or a lower count of yarn for the filling to be used; being bound on one pick, the loops are, by this weave, not very securely held.

Weave *g* shows the first terry end dropped to bind under the fourth pick instead of floating, as done in weave *f*, thus the terry on the upper side will be fast pile, whereas the pile on the under side will be loose pile.

In weave *h*, both terry ends are bound to give fast pile, the upper and lower terry ends being dropped and lifted on the fourth pick instead of continuing to float.

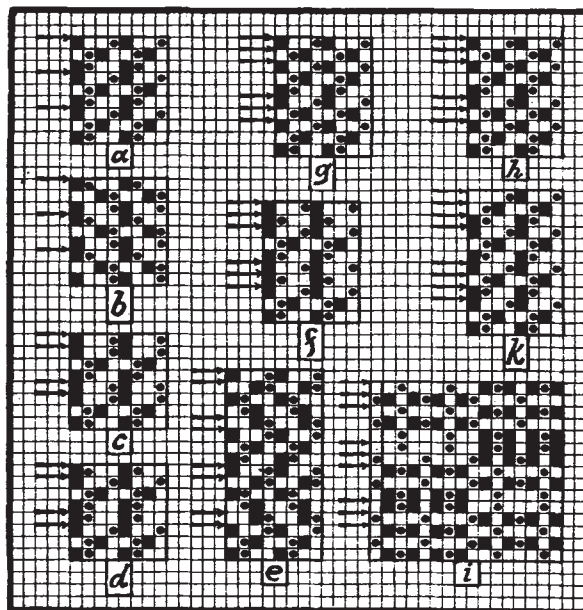


Fig. 9

Weave *i* is a 5-pick terry weave, used for counter-panes or bed-covers, and is of special interest, because it violates the principle that the ground warp must float over the first and second picks, and change before and after the third pick. The filling floats over three ends, and all such floats are bound under the same ground end, giving a corded appearance to the ground portions. The (unit) of this weave for its terry effect, comprises the four warp-threads and five picks at the lower left-hand corner of weave *i*, and for its ground the same number of warp-threads and picks taken at the lower right-hand corner of said weave; the continuation of the weave shows how a change of loop is made.

A 6-pick terry pile weave is given in diagram *k*, the same consisting of the 3-pick effect repeated twice over, with beating-up after the third, fourth, fifth and sixth picks, hence there is only one loop for six picks. It permits of a firm and substantial cloth being made, and is used for high-class towels, bath sheets, dressing gowns, and for all-over or striped terry dress and trimming fabrics.

(To be continued.)