



Posselt's Textile Journal

A Monthly Journal of the Textile Industries



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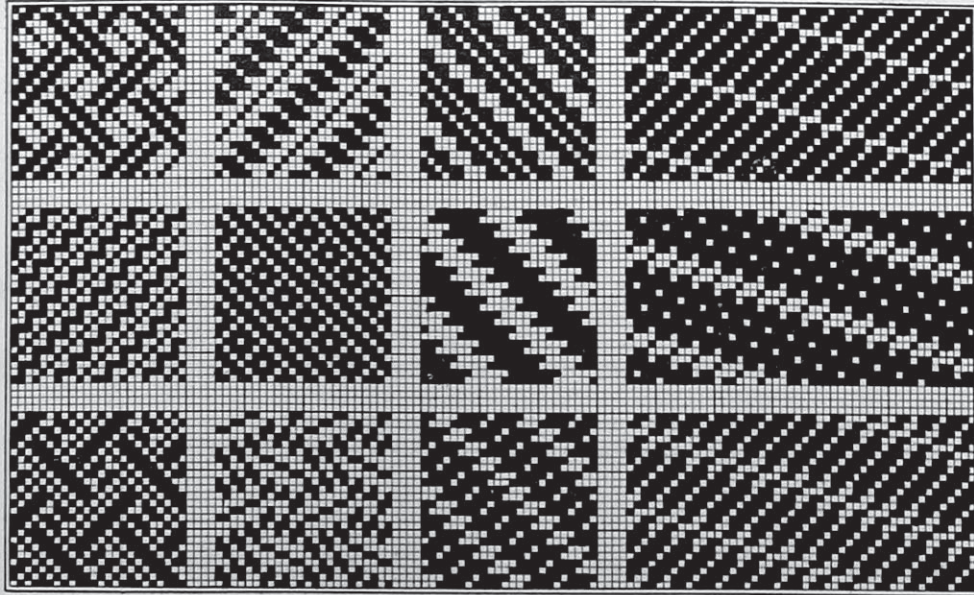
Entered as second-class matter February 10, 1908, at the post office at Philadelphia, Pa., under the Act of Congress of March 3, 1879.

E. A. Posselt, Publisher, 2028 Berks St., Philadelphia, Pa.

European Agents: Sampson Low, Marston & Co., Ltd., 100 Southwark Street, London, S. E.
SUBSCRIPTION: \$2 PER YEAR.—Canada: \$2.50 per year, Foreign Countries: \$3 per year.

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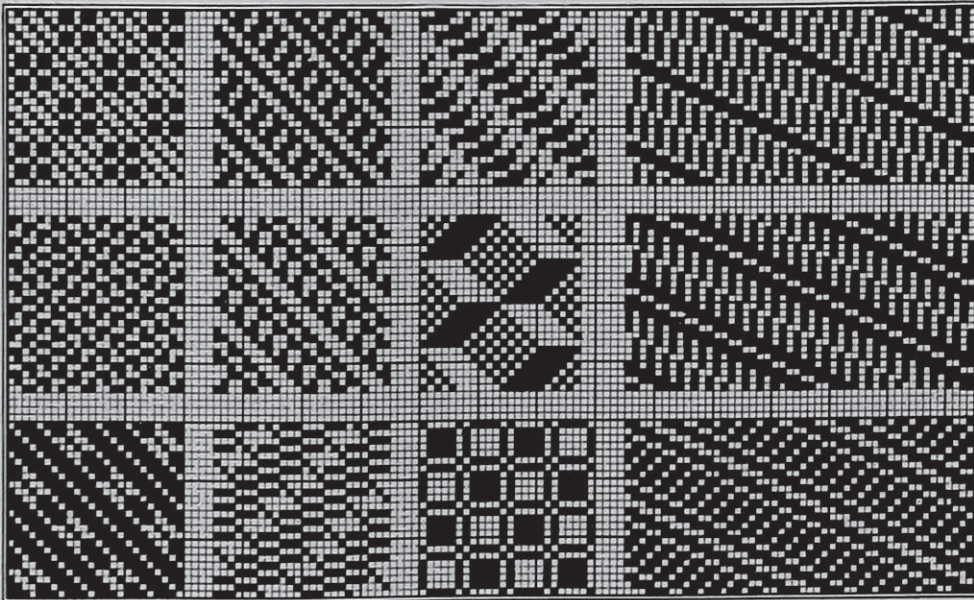
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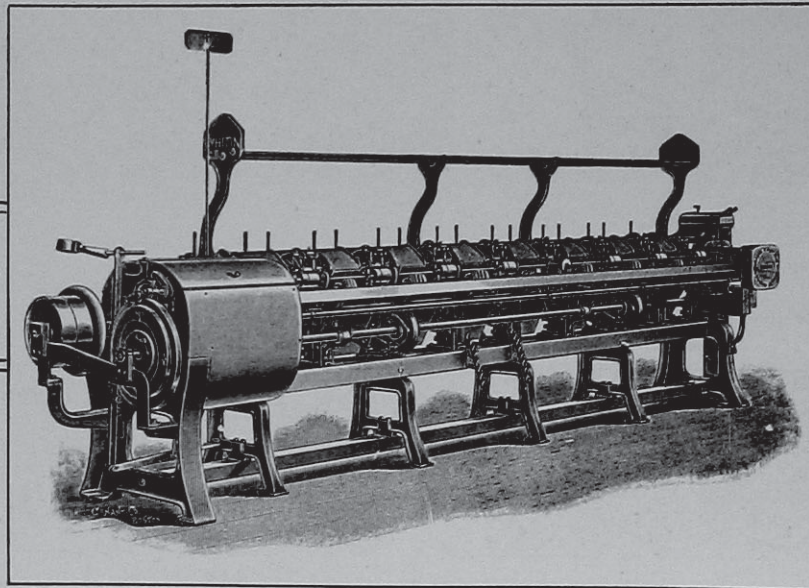
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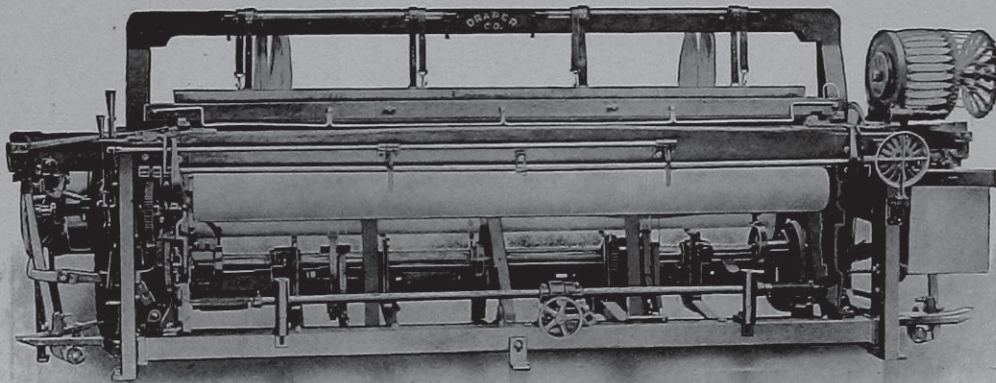
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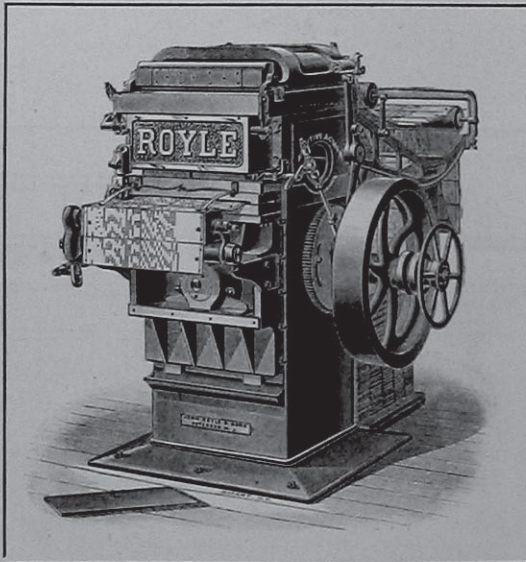
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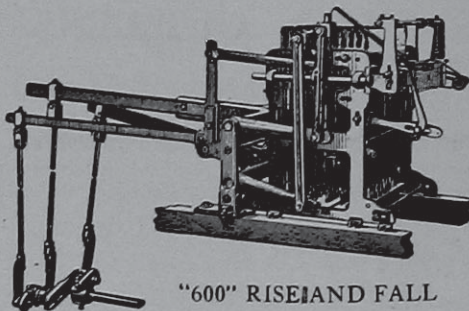
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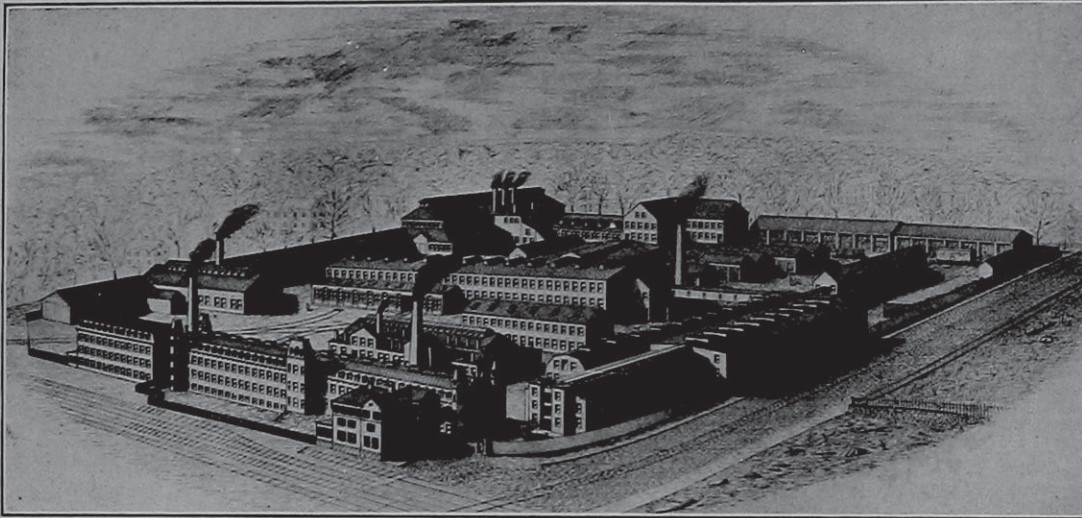
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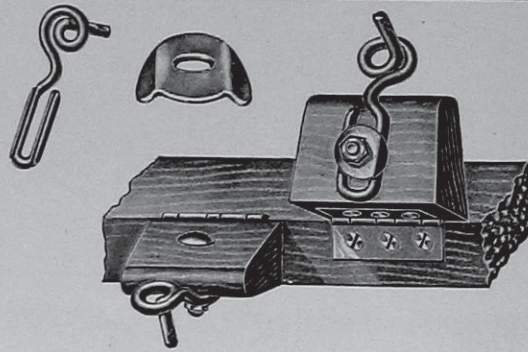
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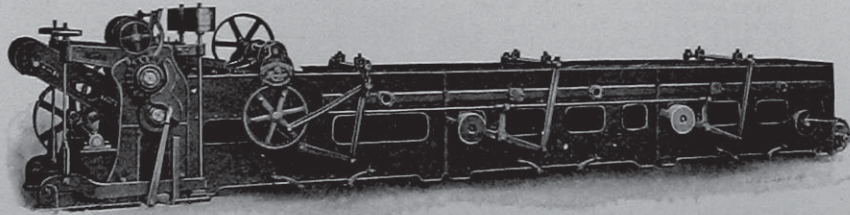
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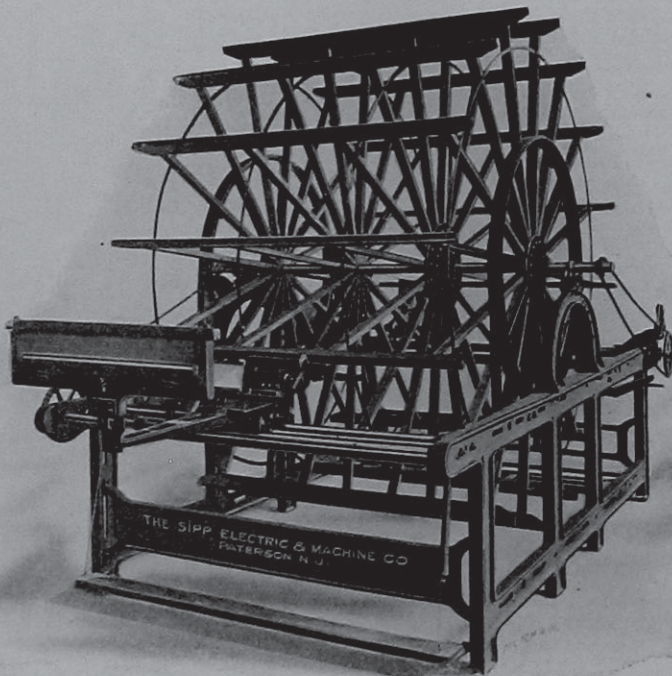
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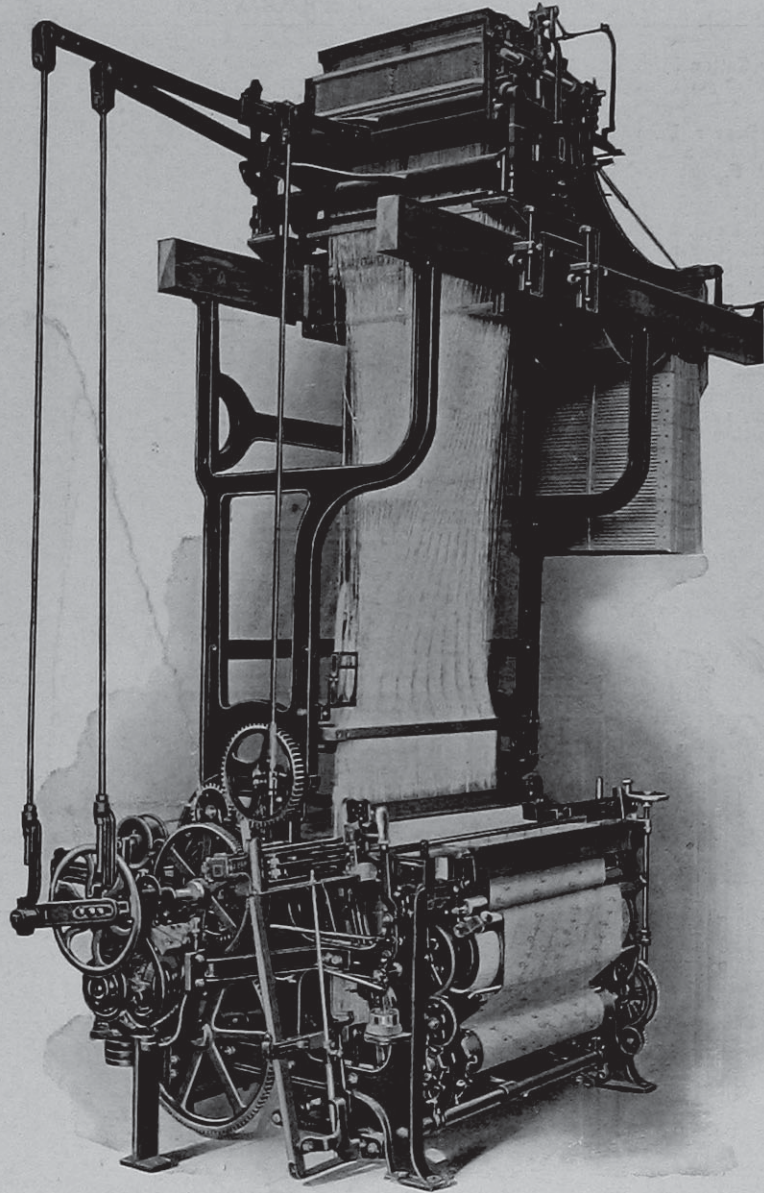
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(Continued from page 30.)

(3) Entering Threads.

In connection with ribbons, we sometimes notice that the edge warp thread, after floating for a certain number of picks outside of the fabric structure, then interlaces similar to the filling into the body structure of the fabric, in turn producing a fancy edge (loops) to the fabric. Either side, or both sides of the ribbon may thus be ornamented. These warp threads are called entering threads, for the reason that they are entered into the fabric structure by means of the filling pulling them into the shed, and thus interlacing them with the fabric structure.

These entering threads are used for the formation of raised figures; for the embossing of warp figures; to produce multi-colored effects, and finally to substitute a cheaper yarn in certain places of the ribbon for a more expensive yarn.

One of the main requirements for a perfect entering of said warp threads in the fabric structure is that they are let off from their bobbin under a very loose tension, whereas the filling must come from its bobbin under sufficient tension to pull the entering thread (after engaging with it) for a certain distance, across the fabric.

Provided the entering thread rests on the right hand side of the fabric (see Fig. 113, showing fabric sketch of a loop edge ribbon) draw said thread outside of the body warp threads, as the next warp thread towards the right.

The filling is first entered for portion *a* to *b* of the fabric in its regular way, (plain weaving throughout the width of the fabric) the entering warp thread *x* not interlacing with the filling. At point *c*, the filling entering from the left into the shed, then interlaces with plain, up to the point *d*, *i. e.*, the point to which the entering thread *x* is drawn into the fabric structure; from *d* to edge *e* only such of the warp threads are raised as are to rest above the entering thread *x*.

The latter, according to its twist, is either raised at the first pick, and lowered at the second, or vice versa.

After being caught by the filling, on account of its slack tension, it (entering thread *x*) is readily drawn in, *i. e.*, entered into the fabric structure (from *e* to *d*).

The second pick, as entering the shed from the right, after having itself interlooped with the entering thread pulls the latter into the fabric (from *e* to *d*), the portion *e* to *d* of the shed, for this purpose corresponding with that of the previous pick, whereas from *d* to *c*, regular plain weaving of the warp threads takes place.

The next pick enters the fabric structure from left to right, interlacing plain, *i. e.*, the warp threads from *c* to *d* have changed position, also those from *d* to *e* (the latter with reference to pick 1 and 2, which entered in the same shed).

Figure 114 shows the weave plan for fabric sketch Fig. 113. Above this weave plan, we have diagrammatically shown the catching, *i. e.*, looping of the

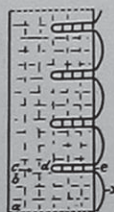


Fig.113

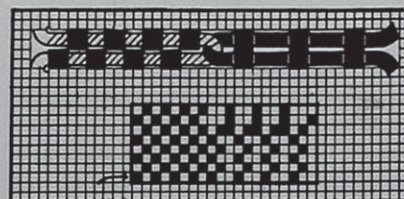


Fig.114

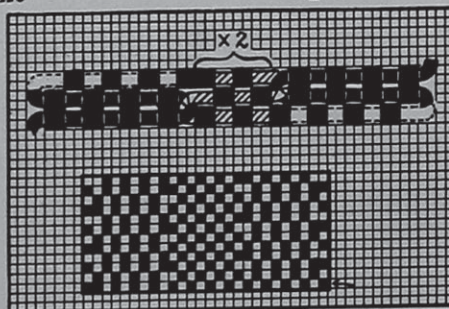


Fig.115



Fig.116

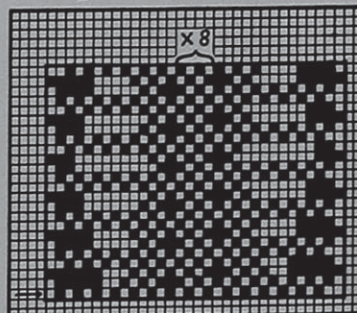


Fig.117



Fig.118

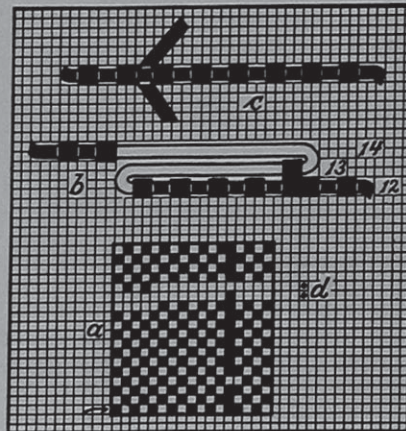


Fig.119

entering warp thread with the filling. To simplify matters, we have shown the entering thread in black, and the filling in outline—shaded; the warp being shown in black.

Provided it is desired that the entering thread is to form a larger loop, the same is then made to travel around a wire, passed through the reed, and which will hold the entering thread somewhat away from the edge of the fabric, in order to produce the more prominent loop desired. In this case the wire must be alternately raised for two entering picks and in turn lowered for the next two entering picks.

Provided the entering thread rests at the left hand side of the fabric structure, enter correspondingly to Fig. 114, having the shuttle enter for the first pick from the right and for the next from the left.

In connection with Fig. 115, we have shown the working of an entering thread placed on either side of the fabric structure. These entering threads are drawn between the 2 x 4 warp rib, as used for the interlacing of the edges of the fabric, to the center portion of the structure as is interlacing with the plain, *i. e.*, taffeta weave.

Above the weave is given a plan, showing the interlacing of right and left hand situated entering threads, in connection with two entering picks. The filling is shown in outlines (shaded) the entering threads and the warp threads being shown in black.

Fig. 116 shows us a fabric sketch in which an entering thread placed on either side forms a geometrical figure.

Fig. 117 shows us the weave-plan for the fabric, face up in the loom.

In connection with fabric sketch Fig. 118, one entering thread is used, the same resting *zig-zag* on the face of the fabric structure. Said entering thread is entered into the lower shed on such places where the same has to interlace with the fabric structure, *i. e.*, in places indicated by letters of reference *e* and *f*.

Fig. 119^a is the weave-plan for producing fabric sketch Fig. 118. The entering thread, shown at *e*, in Fig. 118, interlaces with the fabric at the fourth pick of the weave, by means of being pulled in the lower shed (see *g* in Fig. 118).

The filling is then entered, interlacing with taffeta, in the body warp threads up to and including pick 11, the entering thread being, on these picks, always raised.

At pick 12 (see *h* in Fig. 118), the filling is then made to interlace in taffeta up to the point to which the entering thread is to be pulled into the structure (see *f* in Fig. 118) and from there floats above the warp threads.

Pick 13 passes over all the body warp threads, but under the entering thread.

Pick 14 rests above the entering thread, the latter being caught by pick 13 and 14, and in turn entered so far until the filling again interlaces with the body warp threads (see point *f-h* in fabric sketch 118).

These three entering picks thus referred to are shown in diagram Fig. 119^b in detail. The portions of the filling shown in outline, draw themselves together.

On picks 13 and 14, the cloth take-up motion of the loom is automatically brought out of operation, in order to push these picks as close as possible in the shed, said two picks for this purpose being indicated by *d* at the right hand side of weave Fig. 119^a. Pushing the three picks as close as possible together, they naturally will only occupy the space of one pick on the face of the fabric, as is shown in Fig. 119^c, and which will at once explain the interlacing of these entering threads in the body structure of the fabric, as shown in fabric sketch Fig. 118.

The best way of drawing in these entering threads in the harness is to arrange them, so that the first and the third picks are entered in the direction in which the entering threads have to be threaded, the tension on the filling in this way taking better hold upon the entering thread.

(To be continued.)

THE MANUFACTURE OF DAMASK TABLE CLOTH.

(Continued from page 63.)

COMBINATION TIE-UP FOR BORDER.

Such an affair is also readily explained in connection with sketch Fig. 4, although it will not be advisable to use it in the present instance. Saving of needles is the object aimed at in connection with combination tie-ups, which however, in the present example would be of no advantage, the saving of about one hundred needles will not help us, we have to use a 600-Jacquard Machine anyway, no 500 Machines are built; besides a combination tie-up is always a mix up, only to be used when absolutely necessary.

Considering Border *A* to *B*, you will notice that parts *A* to *E* and *F* to *B* can be worked from the same needles, by means of a point tie-up. Portion *E* to *F* needs a straight tie-up, hence part *A* to *F* is the only portion of the sketch we have to make point paper design for, and which would reduce the number of needles desired somewhat more than 100, since *F-B* is somewhat above one-third of *A-B* and which equals 316.

IMPORTANCE OF EQUAL REPEATS OF BORDER AND CENTRE DESIGN, if required to be worked from one Jacquard Machine.

In fabrics calling for Centre and Border to be woven on one Machine, the designs for either must be of equal length, in order to call for the same number of Jacquard cards, since otherwise an endless amount of waste in the latter would be the result. This feature is best explained by a practical example.

Our sketch Fig. 5 illustrates a design of a damask table cover, being the reproduction of an actual woven fabric reduced to one-third its actual size in the woven cloth.

The following details as to texture and size of designs as was met with in the actual woven cloth, will clearly explain that this table cover cannot be woven on one Machine, *i. e.*, two Machines (one for Border and one for Centre) are necessary.

Texture: 64 warp threads and 80 picks per inch; thus

Point paper: 8 by 10

Border: $6\frac{5}{16}$ " wide and 8" long
Centre: $6\frac{1}{2}$ " wide and $8\frac{1}{8}$ " long
 (see letters of references *A-A* in border, equal to line

Border: 64 ends per inch \times $6\frac{5}{16}$ " (width of design in cloth) = 404 needles of the Jacquard Machine required.



FIG. 4

A-A at the right hand side of sketch, for length of border (one repeat) design; and letters of references

80 picks per inch \times 8" (length of one repeat) = 640 picks, or Jacquard cards required. This is a suit-



FIG. 5

B-B in Centre pattern equal to line *B-B* at the right hand side of sketch for length (one repeat) of design for Centre).

Repeat of ground weave to be used: 32 by 32.

able number for us since 640 is evenly divisible by 32 ($640 \div 32 = 20$).

Centre: 64 ends per inch \times $6\frac{1}{2}$ " (width of one repeat in cloth) = 416 needles of the Jacquard Ma-

chine required, and which is also a suitable number, since 416 is evenly divisible by 32 ($416 \div 32 = 13$).

80 picks per inch $\times 8\frac{1}{8}$ " (length of one repeat) = 705 picks. This number is objectionable for the ground weave to be used, since the latter does not repeat evenly in it ($705 \div 32 = 22$ plus 1 end over), however 704 is a suitable number of picks to use and practically the same as 705, consequently used by us

404 needles for Border
8 needles for the Margin, and
4 needles for the Selvage,

416 needles, total for Border, Margin and Selvage.

If, however, the design must be arranged for one Machine, either the Border design must be modified



FIG. 6

for the number of picks for repeat of design for length of centre.

Always remember, that in an all over design, (*i. e.*, a design repeating warp and filling ways over and over) the repeat of the ground weave must be evenly divisible with reference to its repeat warp-ways, into the warp threads and the needles of the Machine to be used; and with reference to its repeat filling ways, said ground weave must repeat evenly into the number of picks or Jacquard cards to be used for one repeat of the design. This must be carefully kept in mind, since if otherwise, the best design made, is useless for practical work.

Examining the difference between length of designs for Border and Centre of fabric, we find:

Border calls for 8" = 640 picks.

Centre calls for $8\frac{1}{8}$ " = 704 "

This will clearly show that Centre and Border pattern will never repeat in such a manner as to be of a practical value to be worked from one machine, hence two Jacquard Machines must be used, *viz*:

One 400-Machine, practically containing 52 rows @ 8 needles = 416 needles for working the Centre and

Another 400-Machine (52 rows @ 8 needles = 416 needles) for working Border, Margin and Selvage, thus:

as to its repeat lengthways to suit the repeat of the Centre pattern, or vice versa, the Centre pattern remodeled as to its repeat lengthways to correspond to the length of the design of the Border. This procedure is clearly explained by means of sketch Fig 6, where we changed the Border design so as to correspond in length with the Centre design, in this manner producing a sketch possible to be worked out on point paper by one Jacquard Machine thus:

Texture: 64 by 80

Point paper: 8 by 10

Border: $6\frac{7}{8}$ " wide and $8\frac{1}{8}$ " long

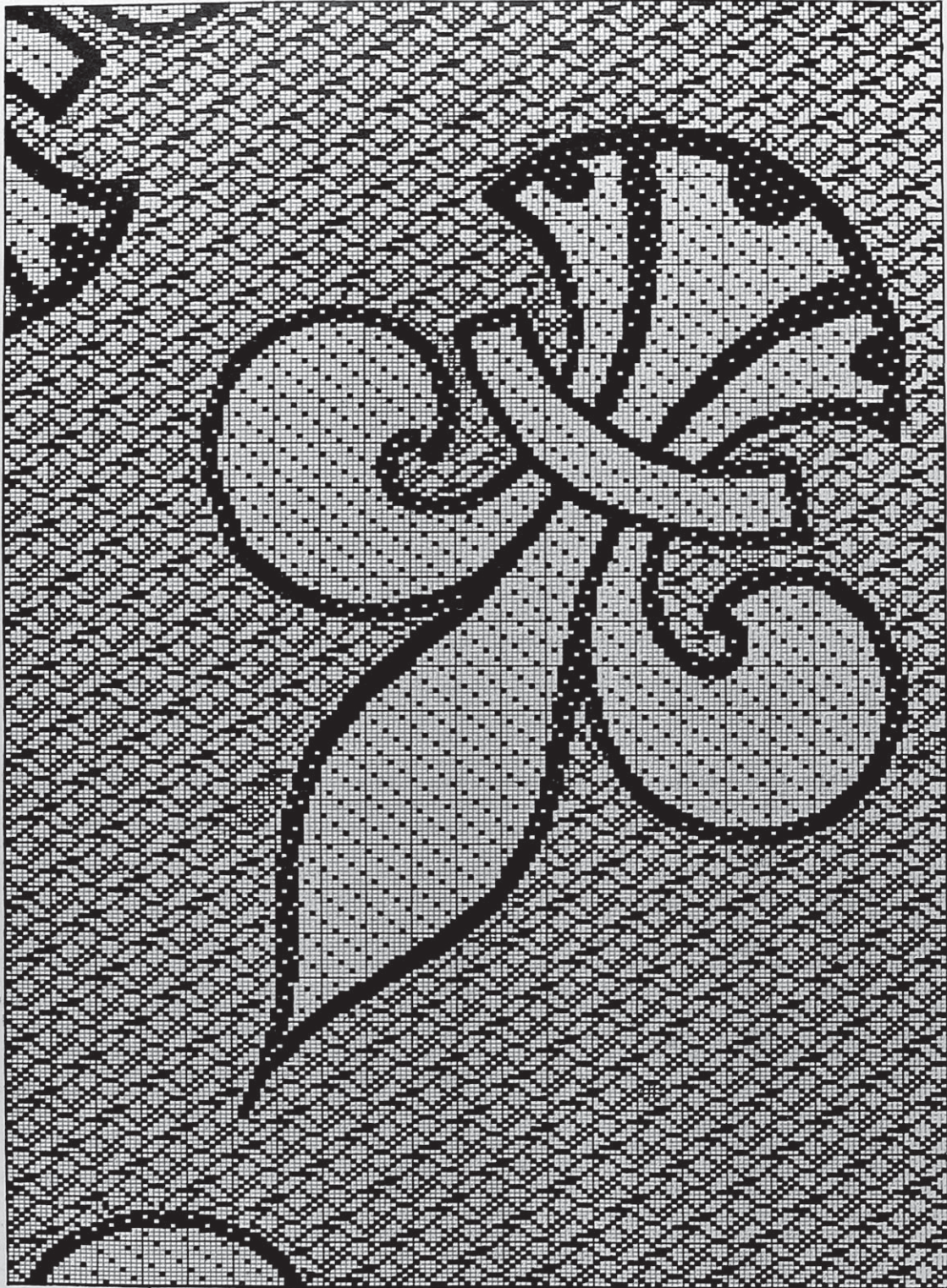
Centre: $6\frac{1}{2}$ " wide and $8\frac{1}{8}$ " long.

(see letters of references A-A in border being equal to line A-A at the right hand side of sketch for length (one repeat) of border design; and letters of references B-B in centre pattern being equal to line B-B at the right hand side of sketch for length (one repeat) of design for centre).

Repeat of ground weave to be used: 32 by 32.

Border: $64 \times 6\frac{7}{8} = 412$ needles. (For designs of this kind there is no need to trouble with the ground weave repeating widthways, since the design is only an all over repeating affair lengthways).

$80 \times 8\frac{1}{8} = 705$ picks, use 704 picks for reason given with Fig. 5;



IG. 7

Centre: is the same as for Fig. 5, respectively
 $64 \times 6\frac{1}{2} = 416$ needles, and
 $80 \times 8\frac{1}{8} - 1 = 704$ picks, thus we have to use

416	needles for Centre
412	" " Border
8	" " Margin
4	" " Selvage

840 needles required, being the 70 rows, 12 rows deep of a 800-Jacquard Machine.

Fig. 7 is part of the actual working design as executed on point paper, it being 168 warp threads and 290 picks, taken from the left hand upper corner of the centre pattern shown in sketch Fig. 6.

(To be continued.)

DESIGNING AND FABRIC STRUCTURE FOR HARNESS WORK.

Imitation Gauze Weaves.

Fabrics produced with these weaves are also known as Mock-Leno, Open-Work effects, or Canvas Cloth, the weaves producing in the fabric structure perforations similar to real gauze fabrics, by unequal distribution of warp and filling; *i. e.*, warp and filling are made to run together in groups, in place of being distributed evenly throughout the texture of the fabric. The open effect is produced in the loom by placing those threads which have to run together, in one dent, leaving one, two or more dents empty between each group of warp threads thus threaded into one dent. In the same way in connection with the filling, the open work effect of the filling will be heightened when having the picks which are to run together, beat up more closely between the series of groups, *i. e.*, take the fabric out of the way by means of the take up, previous to starting with a new group of picks.

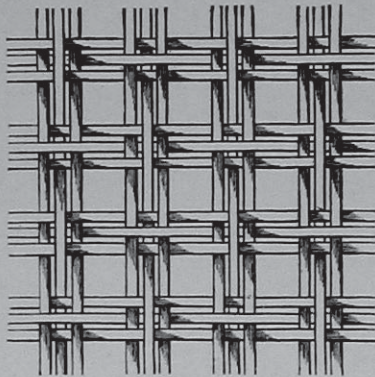


FIG. 2

As will be readily understood, these open work effects are more or less only temporary, *i. e.*, they are destroyed in the washing of these fabrics. In order to preserve this open work effect as distinct and as long as possible to the fabric, the latter are heavily sized so as to keep the groups of threads together and preserve the open appearance of the fabrics. From 3 to 7 threads, according to the weave used, may be made to form a group; the most often used arrangement is 3 or 4 threads.

The simplest imitation gauze weave is shown in

Fig. 1, the same repeating on 6 warp threads and 6 picks, with 3 threads to the group, as indicated by means of heavy lines on the bottom with reference to the warp, and on the right hand side of the weave with reference to the filling.

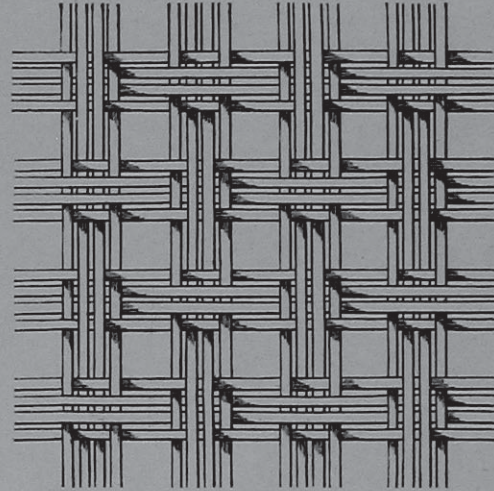


FIG. 4

The grouping of warp and filling threads in the fabric is produced by having said ends interlace for a portion of the weave alike; the separating of the groups is effected by the first and last thread of each group working opposite from each other.

Let us consider the matter with reference to weave Fig. 1, when in connection with the warp threads it will be seen that the first and third thread of the weave works alike, warp thread 3 interlacing loosely 3 up 3 down, not hindering warp threads 1 and 3 to run together, a feature readily explained when we consider that 2 warp threads working side by side and alike in the loom will have a tendency to twist with each other, except they are separated by means of a dent. This is the reason why such warp threads, in common weaving, provided they refer to different colored threads, must be separated by a reed. The same as is the case with reference to the warp, is also the case with reference to the filling, *i. e.*, picks 1 and 3 interlace the same and naturally will go in easy together, pick 2 not hindering the grouping of the two picks.

Explanations given to grouping of warp threads 1, 2 and 3, or picks 1, 2 and 3, refer also to the other group, *i. e.*, warp threads 4, 5 and 6, and picks 4, 5 and 6.

Fig. 2 is a fabric sketch of the imitation gauze weave given in Fig. 1, and will readily illustrate the formation of these fabrics, as well as explanations given thus far.

Fig. 3 shows us the 8-harness imitation gauze weave, with 4 threads to a group, both warp and filling ways. Examining the weave we will readily see that it actually is nothing else but an enlargement of weave Fig. 1, *i. e.*, using 2 threads in warp and filling for floating (alike).

Fig. 4 is the fabric sketch for weave Fig. 3, and will explain the latter, without any further comment.

Fig. 5 shows us a 10-harness imitation gauze weave, using 5 ends and 5 picks for each group of threads. Examining this weave, we find that from each group, the first, third and fifth thread interlaces alike (*i. e.*, one thread of the plain weave) and which naturally will have a tendency to run these three threads together, the second and fourth thread of each group not interfering with it, *i. e.*, being in each effect of the weave either floating on top or bottom of the fabric.

Fig. 6 shows us a 6-harness imitation gauze weave, reeded 6 ends in a dent, leaving one or two dents empty between each group of threads, the weave repeating on 6 warp threads and 6 picks.

Fig. 7 shows us an imitation gauze weave repeating on 10 warp threads and 10 picks, with 5 threads of each system to a group, as indicated by means of heavy lines on the edge of the weave, both for warp and filling.

Besides these plain imitation gauze weaves, in many instances we find combined with it regular weaving, the combination of both, imitation gauze effect and regular weaving, being arranged either in the shape of stripes or checks. The first will be readily understood, since in this instance after arranging a certain number of warp threads to produce imitation gauze effect, a certain number of warp threads are then arranged to do regular weaving. For the latter we may use the same yarn; again we may use a different yarn than we used for the imitation gauze weave;

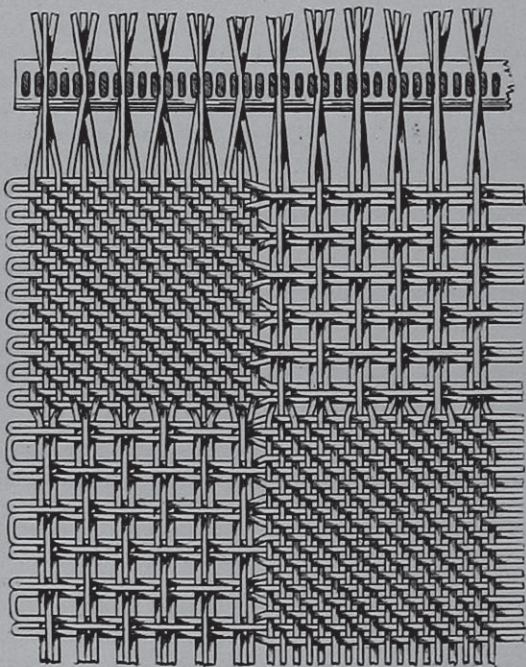


FIG. 9

again we may use color combinations, *i. e.*, colored stripes. The most often used weave for the regular woven portion of the stripe is the plain weave, although warp effect twills for 3 or 4 harnesses or the 5 leaf satin, may find use to produce special effects.

The construction of such fabrics will explain themselves, since it is nothing more than a combination of two different fabric structures.

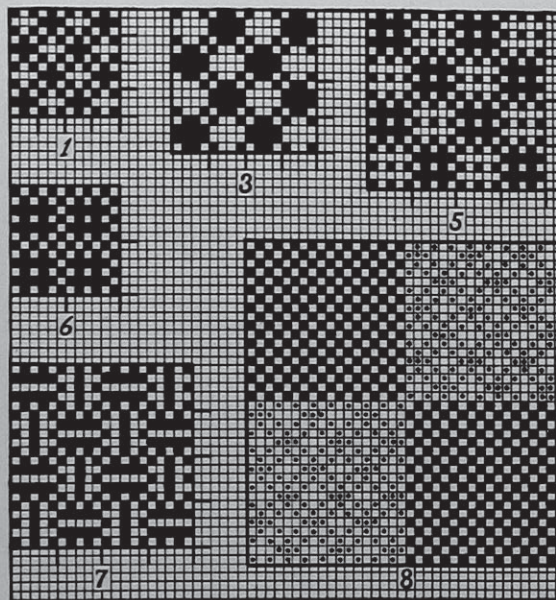


Fig. 8 explains the combination of imitation gauze weaving in connection with regular weaving, to form checks. The plain weave is used for the regular weaving.

Fig. 9 is the fabric structure with reference to weave Fig. 8, and will explain the latter, without any further comment, clearly showing the change of imitation gauze weaving to regular weaving wherever the weave changes. In connection with fabric sketch Fig. 9 the reed is also shown, the 3 threads of a group being placed in one dent, leaving 2 dents empty between each group. The motive for changing regular weaving to gauze weaving in connection with weave Fig. 8 and fabric structure Fig. 9 is the *plain setting*, with 18 warp threads and 18 picks to each effect, resulting in a complete combination weave repeating on 36 warp threads and 36 picks, and which can be woven by means of a fancy drawing in draft on either 8 or 12 harnesses.

In place of the plain setting for a motive, other settings may be used; again instead of using only 18 threads for either effect, any number of threads may be used which is a multiple of 3.

Consul F. Van Dyne, of Kingston, reports as follows concerning the cotton thread trade of Jamaica: The cotton thread used in Jamaica comes from England. The agency for the distribution of the thread in the West Indies is in Barbados. A proper effort on the part of American manufacturers should secure this market. The prices paid for cotton thread here, and the prices at which it is retailed, are as follows: 400-yard spools, 79 cents per dozen wholesale, 8 cents each retail; 150-yard spools, 32 cents per dozen wholesale, 3½ cents each retail; 100-yard spools, 22 cents per dozen wholesale, 2½ cents each retail.