



NOTES ON WEAVING TECHNIQUES

FLORENCE E. HOUSE

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by

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NOTES ON WEAVING TECHNIQUES

ACKNOWLEDGEMENTS

These weaving notes, originally prepared by Florence E. House for her students, are based on authentic material taken from various sources, some modern and some very old. Unless otherwise specified, Florence House worked out most of the weaves in a course under Berta Frey, one of the best weavers, whose studio is at Woodstock, New York. The material with Berta Frey's permission has been simplified and restated with additions and organization into a working unit.

Florence House expressed thanks to Agnes Davis Kim, who reproduced and adapted the design plates, taking them from ancient and modern textiles; to Margaret P. Danckaert, who rearranged and prepared the cover design from the drawing made by Grace Black. The cover is a copy of a Mexican tufted bag from the collection of Mrs. Elsie MacDougall, loaned by Florence Webster of Woodstock, New York. Florence also thanked Helen J. Cady, Elizabeth H. Courtney, Virginia Cummings, Agnes D. Kim, who drew the diagrams and drafts, and Irene M. Ebeling and Helen T. Kline, who helped with the preparation of the manuscript.

I have reprinted the text of this book as it was presented in the

**Eighth Revision of August 1956. The Bibliography, Magazines, Bulle-
tins and Leaflets on Weaving, and the Sources of Supplies , I have re-
vised and have brought up to date.**

Elizabeth H. Salisbury

Ninth Revision

August 1964

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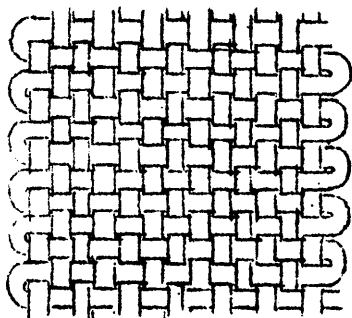
PLAIN WEAVING

Plain weaving can always be made interesting and attractive not only by adding pattern threads to make a design in the fabric, but by making interesting arrangements of warp and selecting unique and unusual threads for both warp and weft. Read Section I, "Flat Surface Plain Weave," in Miss Allen's book American and European Hand Weaving. She says, "Articles are made in plain weaves in which the interest is in contrast of texture of thread, fine against coarse, shiny against dull, woolly against smooth." She lists besides wool, cotton, silk, and linen, "fibres, reed, raffia, ~~chemille~~, celophane, rayon, boucle, straw, and spun glass." Hemp, pine needles, swamp grass, cornhusks and asbestos could be added, also many new nubby threads in the novelty class. There are many other new fibres used in beautiful costumes and draperies, such as celanese and milk fibre called aralac, lurex, nylon, orlan, dacron, fortisan, saran, or blend of these with the basic fibres. These are only a few. There are unlimited possibilities in the fibres that can be made in chemical laboratories. Very simple textured fabrics are best used with modern houses and furniture. Hand weavers can enjoy experimenting with many of these fibres.

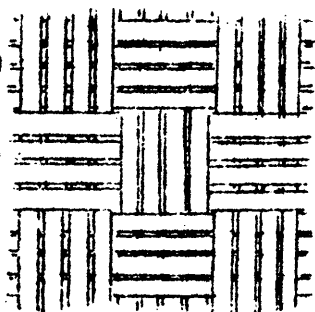
Many good arrangements of warp are possible. To leave spaces in the dents of the reed is one. Another is to put heavy warps at intervals in with the fine ones. Another, to make stripe effects in color, perhaps using the same colors in the weft to produce plaids. Reps, too, make interesting textures. Threads warped closely together with a weft as heavy or heavier than the warp makes a weft rep but a warp face fabric. Warp sleyed far apart so that the weft covers the warp makes a warp rep but a weft face fabric.

It is very important to plan the proportions and color carefully. A good way is to select and mount interesting and subtle arrangements of threads and colors. Simplicity and nice color give these textured fabrics style and quality.

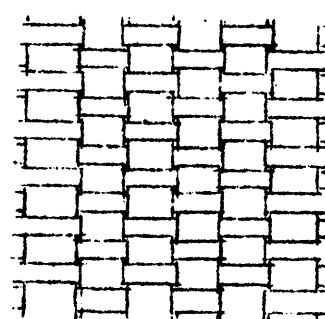
TABBY



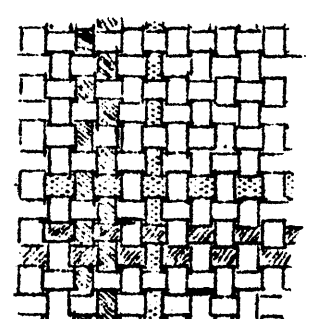
BASKET



WARP RIB



PLAID



Twills

With 4 harnesses there are 14 combinations:

- 1, 2, 3, 4
- 1-2, 2-3, 3-4, 1-4
- 1-3, 2-4
- 1-2-3, 1-2-4, 1-3-4, 2-3-4

Standard tie-up: 1-2; 2-3; 3-4; 1-4.

The twill is a texture weave.

Varying the tie-up and order of treading produces a so-called novelty or fancy weave.

Serge - over two, under two, etc.

Black spot visible - warp thread
White spot visible - weft thread

In handweaving, usually the opposite.

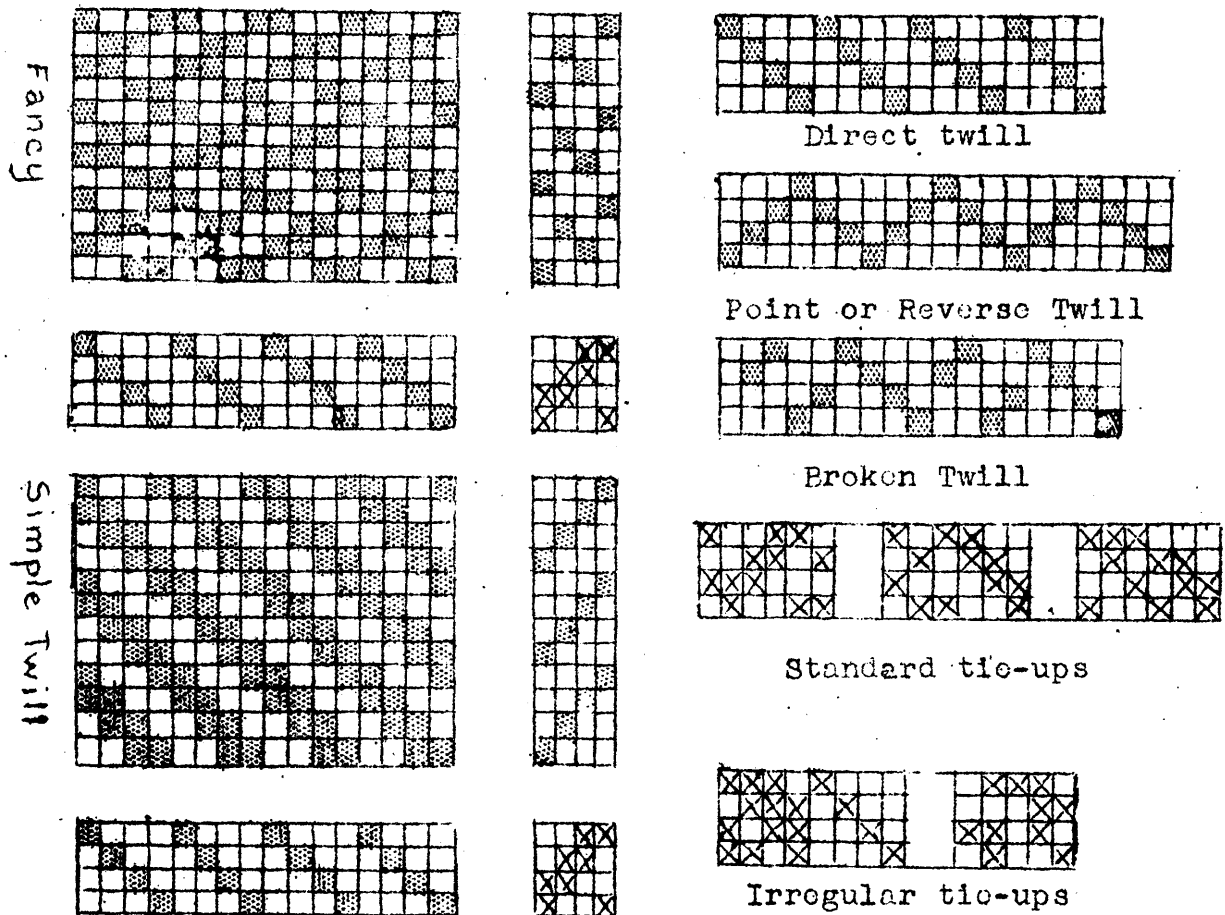


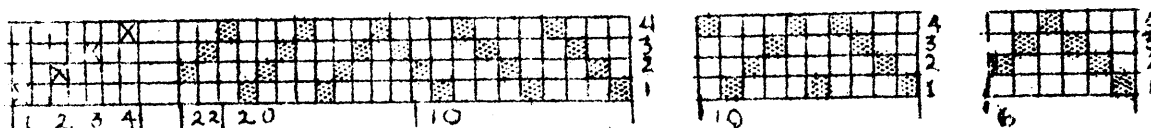
Diagram Analysis

Twill (continued)

Among modern weavers, Twills are considered fundamental. They are used mostly for men's and women's suitings, as they make a firm and durable fabric that is soft.

The smallest Twill is one that Mrs. Atwater calls the Jean's Twill or 1-2 Twill; threaded 1, 2, 3 and woven 1-2; 2-3; 1-3. This makes a stiff fabric.

A more important Twill is the 2-2 Twill, threaded 1, 2, 3, 4 and woven 1-2; 2-3; 3-4; 1-4. The best known Point Twills are the Diamond, Goose Eye, Herringbone, and Rosepath sometimes called Bird's Eye.



Tie-up

Goose-Eye

Rosepath

Diamond

References:

- Atwater, Mary M. : "A Few Twills", The Weaver, Vol. IV, No. 3, July 1939, pp. 7-14.
 "Again the Twill", The Weaver, Vol. IV, No. 4, Oct. - Nov. 1939, pp. 21-24
 "Dornik and Some Fancy Twills", The Weaver, Vol. V No. 1, Jan.-Feb. 1940, pp. 19-21
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 "Twills", Shuttle-Craft Guild Bull., Nov. 1944, Feb. 1945, Aug. 1945, Feb. 1946.
- Davison, M. P. : A Handweaver's Pattern Book, Chaps. I-IV
- Hooper, Luther: Weaving With Small Appliances, Book III - Table Loom Weaving, Chaps. X-XII
- Worst, E. F. : Foot Power Loom Weaving
 Danish and Norwegian Weaving, pp. 128-133;
 Swedish Weaving for three, four, six and eight harnesses, pp. 134-176.
- Skerl-Mattsson, Anna and Osvold, Ingrid: I Vavstolen, Treadling on a Twill - Tie-up for Treadling, p. 87.

Reference for the "Humanesque Figures" from Norway on Rosepath: This is bound weaving. See The Shuttle-Craft Guild Bulletin for March 1941, by Mrs. Mary M. Atwater.

SATIN

The three basic weaves are Plain weave, Twill, and Satin.

Satin is another fundamental weave. It is used in silk goods and called satin, in cotton goods, sateen, and in linen it is used for linen damask - in this both warp and filling are shown on the face of the cloth in order to bring out the figured patterns.

Twills move in a diagonal line either to the left or right and are texture weaves, while the object in satin is to make the interlacing of warp and weft ends as invisible as possible in order to make a smooth and shiny surface. It is a looser weave than a twill. The smallest satin is the five shaft or five harness satin.

Both twills and satins have many derivatives.

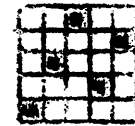


Right Handed
Twill



Left Handed
Twill

Dark spots
indicate warp



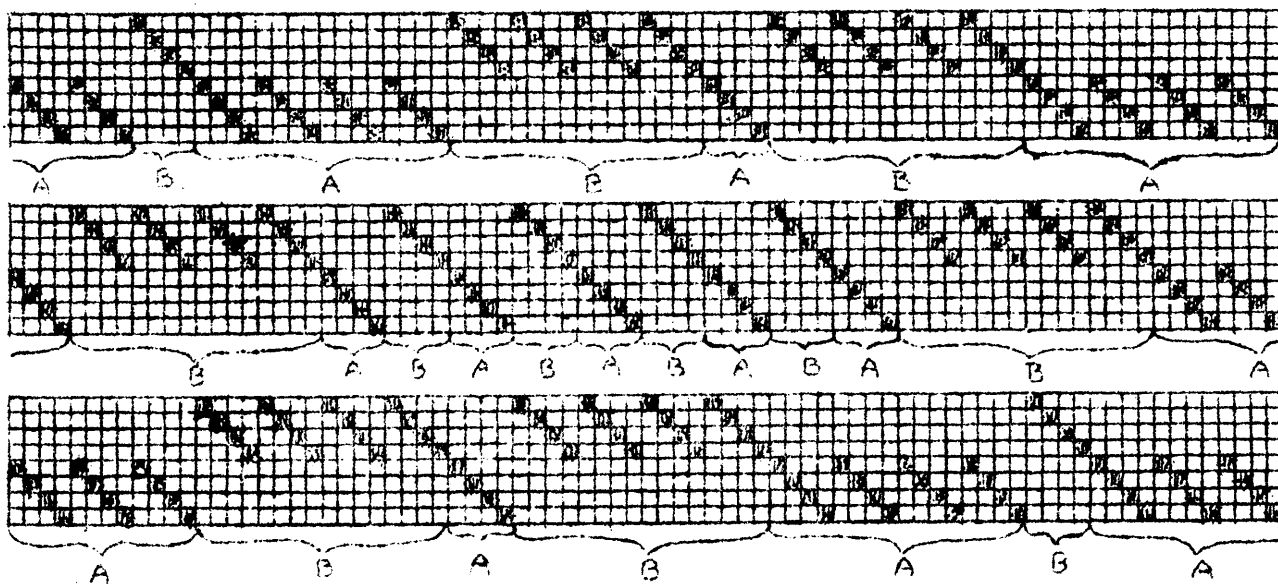
Five Shaft
Satin

Damask

Damask is a twill weave. It is named from the city of Damascus. It has to be woven on at least eight harnesses to make two blocks. Of course, the patterns are more elaborate when woven on more harnesses. Some weavers think eight harness damask should be called mock damask.

Miss Denny, in her valuable little book called Fabrics, says that Damask is "flatter than brocade and is reversible." She says, "The contrast of the warp and filling satin reveals the pattern. On the right side of linen damask, the background is in the warp face satin with the design in filling face satin. On the wrong side, the figures are reversed."

The earliest damasks were of silk. Double damask is firmer than single, and is more durable.



Treadling for threading on the little Structo 8-harness loom:

	(6 - 1-2-4
A	(8 - 2-3-4
Block	(5 - 1-2-3
	(7 - 1-3-4
	(2 - 5-6-8
B	(4 - 6-7-8
Block	(1 - 5-6-7
	(3 - 5-7-8

Weave as drawn in to square the pattern. Each block 4, 5, or more times according to grist of thread. For other damask variations use tie-up on p. 250 of the Atwater Shuttle-Craft Book, or pp. 156-159 of Edward F. Worst, Foot-Power Loom Weaving. Fig. 336 p. 159 is good

National Conference of Handweaving
Walden Woods, Hartland, Michigan

Miss Helen Louise Allen

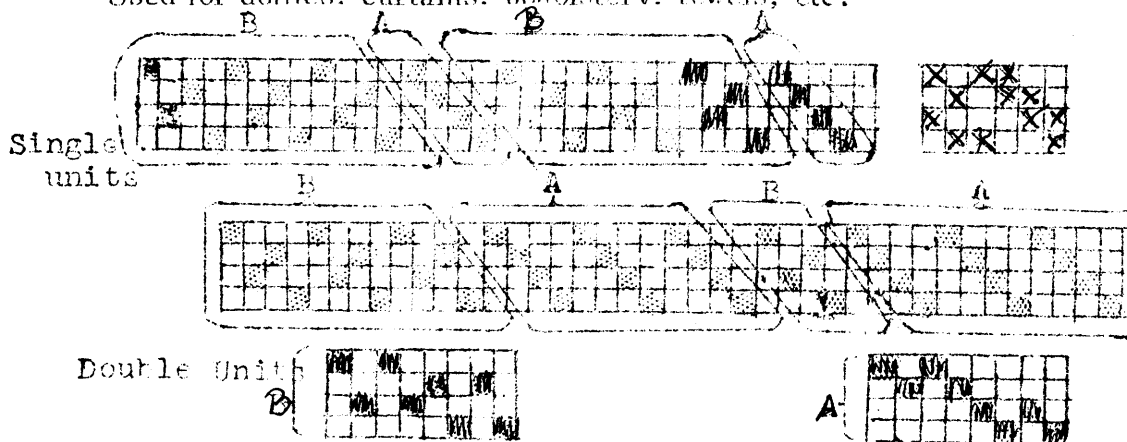
Ref. Atwater, Mary M.: The Shuttle-Craft Book of American Hand Weaving, Draft 188 and 189, p. 218; also pp. 2, 3-216, 149, 151, 251.

M's and O's

M's and O's - Two-Block

Characteristics

- Same on both sides. Form of twill. Twill adaptation.
- Fundamental weave - one shuttle used.
- Textured weave can be obtained on M's and O's by using a straight twill treading on a standard tie-up.
- Monk's Belt pattern can be used for M's and O's.
- You cannot get a plain weave on M's and O's - no tabby.
- Used for doilies, curtains, upholstery, towels, etc.



Standard tie-up for an 8" Structo

From X to Y	Center (Double Units)	From Y to X
1 - A)	1 - A)	3 - B)
3 - B)	1 - B)	3 - A)
1 - A)	1 - A)	1 - B)
3 - B) 72	3 - B) 72	3 - A) 72
3 - A)	1 - A)	3 - B)
1 - B)	1 - B)	1 - A)
3 - A)	1 - A)	3 - B)
3 - B)		1 - A)

Border	X to Y	Center	Y to X	Border
12	72	72	72	12
Twill				Twill

3 x 72 = 216

2 x 12 = 24

240 = number of ends for 8" Structo

Be sure to keep twill in same direction

Four treadlings for M's and O's

1. Treadle for pattern as drawn in.
2. 1-4 against 2-3, near-tabby
3. Straight twill
4. Canvas weave: 1-2; 3-4; 1-3; 2-4.

Note: Although there is no tabby across the width of the fabric, there is tabby in the adjacent block to pattern block used.

SUMMER AND WINTER

This weave is the only one that originated in the United States, as far as we know. It was developed in Pennsylvania and New York, but was not used in the Southern states.

Characteristics and Structure

Two-toned - one side predominantly light, the other dark.
 Reversible - pattern same on either side.
 Small overshoot - overlap 2.
 Blocks may be combined.

Draft

Summer and Winter, in common with Bronson, must have two foundation harnesses. Each additional harness carries the thread for each separate block.

Every other foundation thread must be on harnesses 1 or 2.

Each remaining harness carries the pattern threads of a single block of pattern.

It always takes 4 threads to make 1 unit of block.

Tabby 1-2 against remaining harnesses.

Try 1-2 tabby to see if it should follow 1-3 or 2-3 to make diagonal step-up pattern.

When writing a short or pattern draft, harnesses 1 and 2 are left out, since they are understood.

Treading for four harnessesSingle treading

A	(1-3	tabby	1-2	B	(1-4
Block	(2-3	tabby	3-4	Block	(2-4

Treading in pairs

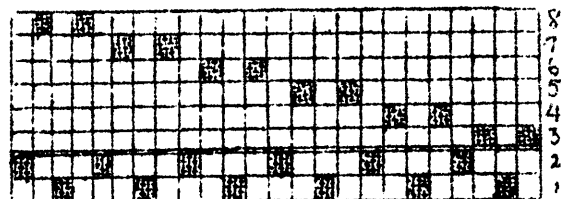
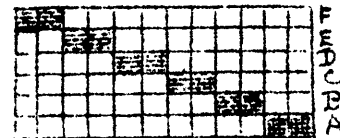
	(1-3	tabby		(1-4
A	(2-3	tabby	B	(2-4
Block	(2-3	tabby	Block	(2-4
	(1-3	tabby		(1-4

The two end shots in each block are split pairs, one-half at beginning, one-half at end.

Combined Treading

1-3-4	tabby	1-2
2-3-4	tabby	3-4

Pattern or short draft



For Four-harness Summer and Winter, see p. 218 of Atwater's, The Shuttle-Craft Book of American Hand-Weaving

LACE BRONSON

Structural Characteristics

Open lace-like effect. Weft on one side, warp on the other.
 Two thread construction - single warp and single weft.
 Threads alike are more attractive.
 One harness carries foundation warp thread.
 One harness carries warp thread that separates the spots.
 Each remaining harness carries warp threads for its respective block.
 Combine several spots to make a block.

No. 1 foundation thread

No. 4 dividing thread (divides spots)

Each remaining harness carries the heddles for a block.

In Lace Bronson we can have two less blocks than the number of harnesses.

On a 4 harness loom you have two blocks.

On a 6 harness loom you have 4 blocks, etc.

In Lace Bronson you can combine your blocks.

You must have at least two spots.

You may have blocks as large as you please.

Draft same as Spot Bronson insofar as you have the same number of threads.

A block on 2 harness

B block on 3 harness

No. 4 is dividing thread.

On 8 harness - 8 for dividing thread, foundation 1

Treading) (A block 2-1 - 2-1 - 4-1

4-harness) (B block 3-1 - 3-1 - 4-1

Tabby - 1 against 2-3-4

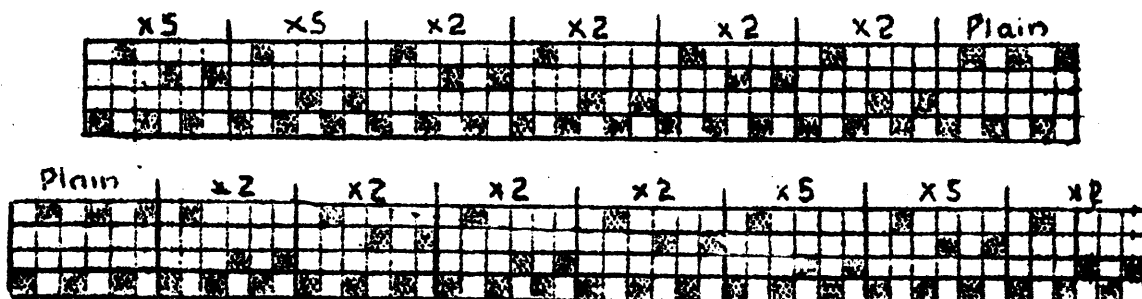
Monk's Belt is fine for Lace Bronson.

Also look up 2 block patterns in Atwater's book, p. 218.

There are always at least 2 spots to a block and 6 threads to a spot.

Lace Bronson better if woven loose. Improves with washing.

Draft of Lace Bronson



LACE BRONSON (continued)

Treadling - - Tabby 1 against 2-3-4

Falling shed

A { 2-1
2-3-4
2-1
2-3-4
1
2-3-4 end of spot

B { 3-1
2-3-4
3-1
2-3-4
1
2-3-4 end of spot

Combined

{ 1-2-3
2-3-4
1-2-3
1
2-3-4

Change A block to 3-4
B block to 2-4

Rising shed

A { 3-4
1
3-4
1
2-3-4
1 end of spot

B { 2-4
1
2-4
1
2-3-4
1 end of spot

Beat firmly on the first 4 shots of each block, and lightly on the last two. Also keep a loose tension.

Two Combined

{ 4
1
4
1
2-3-4
1 end of spot

For 8" Structo
Heddles

1 - 120
2 - 40
3 - 36
4 - 44

240

SPOT BRONSON

Also called Spot Weave, Speck Weave, Linen Weave, Mytaggall.

One side weft overshot, the other side warp overshot.

Spot Bronson is made up of small patterns.

There are no half-tones - only pattern and background.

Structural Characteristics

Single warp and two wefts.

One harness carries foundation thread. Each additional harness carries thread for spot or block of pattern.

Three harnesses carry a 2 spot pattern

Four harnesses carry a 3 spot pattern

Five harnesses carry a 4 spot pattern, etc.

Reserve one harness for foundation. It is usually 1 or 4

Each spot must be two threads or more of the harness

Good if these are 4 threads in spot

If spots are all the same size, 4 warp threads are a good number to have

Good - draft 4 threads, woven 4 threads

If using fine warp threads and fine reed there can be as many as 10 threads in the group.

A block 2 - 1

B block 3 - 1

C block 4 - 1

If you are going to combine spots you must have a dividing thread

Tabby 1 against 2-3-4

Draft of Spot Bronson

For plain weaving use

1

2-3-4

For pattern use

1 Only

Rising Shed
Treading

3-4	x2)	
2-4	1)	
3-4	x2)	A block
2-4	1)	
2-3	x2)	
2-4	1)	
2-3	x2)	B block
2-4	1)	

Repeat

COLONIAL OVERSHOT

Characteristics and Structure

A 3 thread construction - 1 warp and 2 wefts (a binder and a pattern thread); warp and tabby are same size and quality, while the pattern thread is usually heavier.

Pattern is 3 tone - dark, light, half-tone. The dark spots dominate the design, and are called floats, skips or overshots. The light spots are, of course, the tabby. The half-tones occur between a dark and a light, and are the same on both sides.

Always one warp thread is common to two adjoining blocks. The warp threads for each block of pattern are carried on two adjacent harnesses. Last thread of each pattern block becomes the first thread in the following group. If you ignore this, it makes a difference in size of block, as you see sometimes in Swedish fabrics. Never have a 1 next to 3, nor 2 next to 4. Tie-up is standard, but order of treadling may be varied. At a reverse point you either add or subtract a warp thread. It is safer to use an even number of pattern shots.

The Blocks

The most frequent type is the 4 block pattern. There can be 2 block patterns, e.g., Monk's Belt (ordinary threading or drafted on opposites), but the 2 block pattern has no half-tone and no common warp thread. There can also be 3 block patterns, e.g., Spot Bronson based on Honeysuckle, but the half-tone is often thrown out of balance. The rectangular blocks vary in size and shape, but all blocks in a vertical row are same width, and all blocks in a horizontal row are the same height, because the warp is constantly the same throughout a single piece of weaving, and the weft which goes all the way across the web is equally constant. The overshoot blocks on one side are, of course, tabby on the other side.

Rules

The blocks are named A, B, C, D, to prevent confusion with numbered harnesses.

The pattern blocks must overlap each other by one warp thread.

The pattern blocks progress in a diagonal direction, generally in an unbroken sequence, but they may be reversed at any point desired, e.g., A, B, C, B, C, D.

A pattern block is formed at the intersection of horizontal and vertical rows, but only at the intersection of identical rows where A crosses A, and B crosses B, etc., never where A crosses C, etc.

Colonial Overshot (cont'd.)

Variations on Colonial Overshot Weave

1. Bound weaving - strips or tapestry and flamepoint
2. Bound weaving - Italian
3. Honeycomb
4. Opposites
5. Picking up sections of pattern
6. Weaving for texture

1. Bound weaving - Flamepoint (Honeysuckle pattern)



Honeysuckle Draft

Flamepoint and tapestry or stripe

Woven with four shuttles - four colors.

Treadling never changes - always 1-2, 2-3, 3-4, 1-4.

Warp must be fine and sleyed far apart, because warp must be covered.

Linen warp (40/2) sleyed at 20 to 24 per inch, or Carpet warp, 4 ply, sleyed at 14 to 16 per inch, can be used.

Weaving Special is a good weft.

Perleen over linen warp sleyed at 15 to the inch is good.

Treadling - Flamepoint

- | | |
|---|---|
| <p>1. 1 - 2 Yellow)
)
 2 - 3 orange)
) 4 times
 3 - 4 red) or more
)
 1 - 4 brown)</p> | <p>3. 1 - 2 red)
)
 2 - 3 brown)
) 4 times
 3 - 4 yellow) or more
)
 1 - 4 orange)</p> |
| <p>2. 1 - 2 orange)
)
 2 - 3 red)
) 4 times
 3 - 4 brown) or more
)
 1 - 4 yellow)</p> | <p>4. 1 - 2 brown)
)
 2 - 3 yellow)
) 4 times
 3 - 4 orange) or more
)
 1 - 4 red)</p> |

Laying shuttles down in order of treadling makes a better selvedge.

Colonial Overshot - Continued2. Bound weaving - Italian (Honeysuckle Pattern)Treadling - read across for order

<u>Blue</u>	<u>Gray</u>	<u>Blue</u>	<u>Rose</u>	
3-4	2-3	3-4	1-4	3 times
2-3	1-2	2-3	3-4	2 times
1-2	1-4	1-2	3-2	2 times
1-4	3-4	1-4	1-2	1 time
3-4	3-2	3-4	1-4	
3-2	1-2	3-2	3-4	
1-2	3-2	1-2	1-4	- - - center of pattern. Reverse here.

~~Reverse sequence of color as well as order of treadling.~~

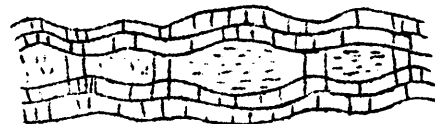
<u>Blue</u>	<u>Rose</u>	<u>Blue</u>	<u>Gray</u>	(Reverse treadling)
3-2	3-4	3-2	1-2	
3-4	1-4	3-4	3-2	
1-4	1-2	1-4	3-4	
1-2	2-3	1-2	1-4	2 times
2-3	3-4	2-3	1-2	2 times

Main interest is color. Three colors of weft are used.

Warp not completely covered.

Main color is woven as drawn in. There are two binders, neither a tabby.

It takes 4 weft shots to make 1 count in the weave.

3. Honeycomb (Honeysuckle Pattern)Treadling. Keep tension loose.

1-3 weave with heavy thread) tabby shots

2-4 weave with heavy thread)

3 weave with colored or white cotton (same grist as warp)

4 " " " " " " " " " "

Repeat last two shots 2 times more (6 shots all together)

Then two heavy tabby shots.

1 weave with colored or white cotton (same grist as warp)

2 " " " " " " " " " "

Repeat these two shots until 6 have been woven.

This treadling is for a falling shed. Use the opposite treadling for a rising shed: for 3, use 1-2-4; for 4, use 1-2-3; for 1, use 2-3-4; for 2, use 1-3-4.

Two of the pattern blocks have been used: 1-2 and 3-4. 1-4 combination is not so good; 2-3 could be used.

Honeysuckle, Solomon's Delight, Governor's Garden are fine patterns for Honeycomb.

Ref. Article on the Honeycomb, "Scandinavian Spetsvav", by Elmer W. Hickman, in the Weaver, Vol. III, No. 3, July 1938

Colonial Overshot - continued4. On Opposites

- a. May be drafted on opposites.
Example: Monk's Belt.
- b. Or woven on opposites.
Pattern thread one color.
Binder thread, opposite pair of harnesses, in the other color.
No tabby (binder takes place of tabby).

On Opposites may be woven on other Colonial Overshot threadings, e.g., Governor's Garden. However, the treading in that case will be as follows:

Treading:	1-2 opp. 3-4	Repeat 4 or more times.
	2-3 opp. 1-4	Woven in dark and light.
	3-4 opp. 1-2	
	1-4 opp. 2-3	

Treadle as follows (read across) :

	1-2 light	3-4 dark
	1-2 light	3-4 dark
	1-2 light	3-4 dark
	1-2 light	3-4 dark
	1-2 light	3-4 dark
	1-2 light	3-4 dark
Then -	2-3 light	1-4 dark (six times)
	3-4 light	1-2 dark (six times)
	1-4 light	2-3 dark (six times)

In other words:

1-2	six times with a binder of opposites
2-3	" " " " " " "
3-4	" " " " " " "
1-4	" " " " " " "

5. Picking up Sections of Pattern

Sometimes you can Weave Colonial Overshot by picking out certain portions of the pattern, leaving the rest in tabby.

6. Weaving for Texture

To get a texture effect, open a shed, weave in a pattern weft, repeating this a number of times, always of course with a tabby binder. This makes for texture rather than pattern interest. Using a single shuttle also gives texture.

CRACKLE

Swedish name for this weave is Jamlandsväv. Mrs. Atwater, who introduced it into this country, named it Crackle.

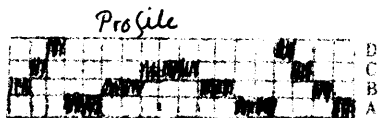
Characteristics and Structure

- A four-block pattern, but may be three-block.
- Groups of threads make a block.
- Always combine 2 blocks. They overlap each other.
- Crackle is a twill adaptation.
- Pattern blocks make a twill.
- Threading is a point twill, each block being written as a point twill on 3 harnesses.
- Blocks in Crackle are made up of a number of small overshots, over 3 and under 1, except sometimes where 2 blocks join.
- Accidentals are used to make blocks fit in more perfectly.
- Always under 1 and never over 4.
- Two-toned - background on one side is pattern on the other.
- The pattern seems to be columns of small overshots.
- Blocks keep individuality in warp, but when woven you get combinations of 2 blocks
- Like Colonial Overshot, it is adaptable to variations.
- See the Shuttle-Craft Guild Bulletin for January 1944 for a good Crackle draft.

Pattern Draft and Threading Draft - Crackle based on Honeysuckle

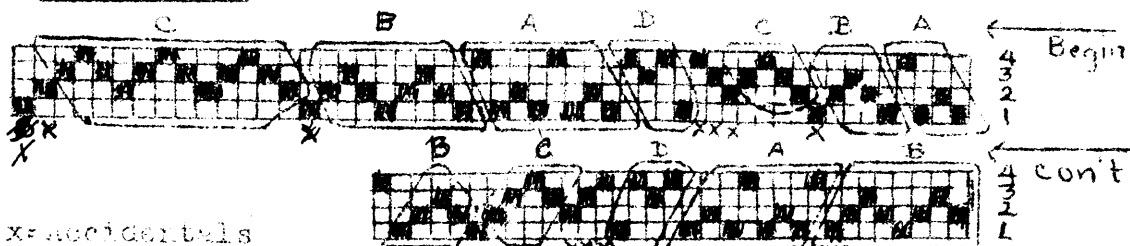
- Never 1 next to 3, or 2 next to 4. - *either odd, even or even, odd*
- Never 4 threads together on 2 harnesses, as 2-3, 2-3.
- Never have a 1-2 or 3-4 between A and B blocks. Must be between B and C.
- Never combine an A block with C; always with B or D.
- Each block has its own harness.
- It takes 4 threads to make a unit.

A on 1
B on 2
C on 3
D on 4



A - 4-1-2-1
B - 1-2-3-2
C - 2-3-4-3
D - 3-4-1-4

Threading Draft



x=accidentals

Treading - To weave square - use standard tie-up and treadle as drawn in.

1 - 2	2x	
2 - 3	2x	
3 - 4	2x	Tabby
1 - 4	2x	1 - 3
1 - 2	4x	2 - 4
2 - 3	4x	Reverse
3 - 4	6x	

MATTOR (Rug)Materials which can be used

Vittora strand

4 strands of knitting worsted for weft may be used

Carpet warp - cotton roving - rug wool

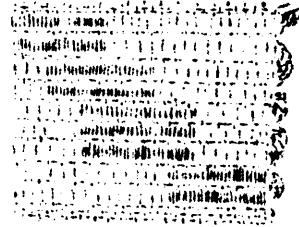
No. 5 perle cotton

No. 10 san silk

In diagram shown - 6 strands of red warp in
each heddle

6 strands of black warp in
each heddle

all twelve through dent in reed

Characteristics and Structure

Any Crackle design may be done in Mattor.

Warp is very fine and very close together.

Two weft threads - one very heavy and the other as fine or finer than the warp.
May be done on a two harness loom, which gives a two block pattern but not a
twill effect.

Always use at least two colors of warp.

If you are using a 14 dent reed you want 14 pairs of threads to a block, providing
the block is to be one inch square.

This is a warp face fabric, as the weft does not show. There is no tabby.

Treadingling

Weave 1 - 3 heavy 1st block

Opp. 2 - 4 fine

Weave 2 - 4 heavy 2nd block

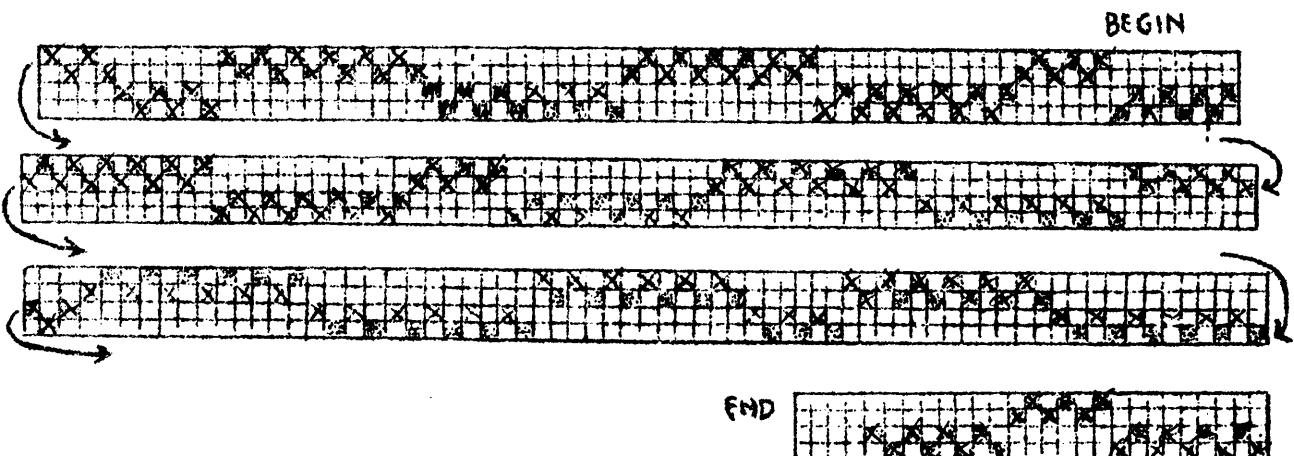
Opp. 1 - 3 fine

A block 1 dark 2 light

B block 2 dark 1 light

C block 3 dark 4 light

D block 4 dark 3 light



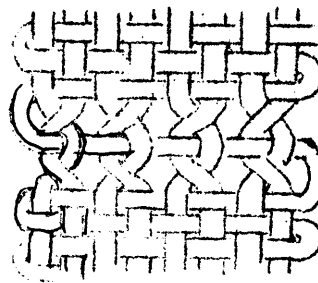
OPEN OR LACE WEAVES

Several types of lace work arranged more or less according to difficulty:

1. Plain Leno (sometimes called gauze and commercially known as Marquissette)

It is a good idea to make plain borders of leno before working with pattern.

For weft use thread the same grist as the warp.



Open 1-3 shed. If the first thread on the right is an up one and is out and beyond the second lower thread, use this shed. If not, then use the 2-4 shed from the right. (Left-handed people may follow the same directions from the left.)

Directions

1. Open 1-3 shed.
2. For a fine leno, with a pick-up stick pick up the first lower thread, twist it over the first upper thread, and go on one and one. For a more open leno, twist the first lower two threads over the first upper two and go on two and two. If the warp is very fine, three or more threads can be twisted in like manner.
3. Send shot of weft through this shed from right to left. Beat. Take out stick.
4. Change shed and send shuttle through from left to right. Beat.

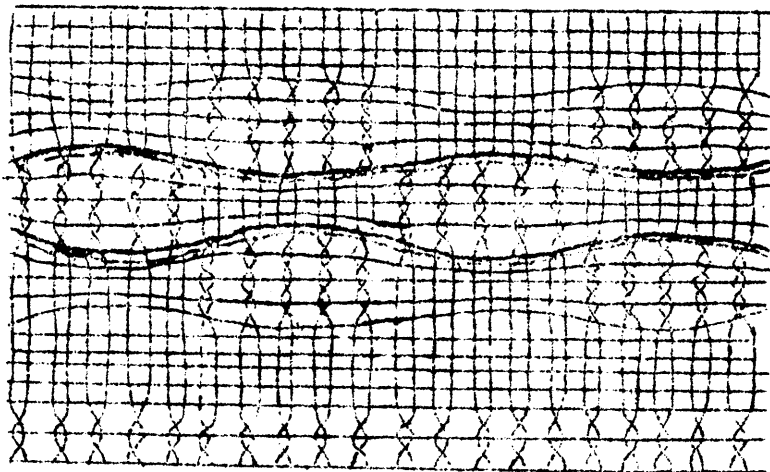
Several single borders may be made with tabby in between.

A number of leno rows one on top of another makes an interesting border. Rows of these with rows of laid-in figures in white is another way to use plain or simple leno. Good examples are the white fabrics from Coban in Guatemala used by the women as huipils (blouses). The Guatemalans sometimes use rows of brocaded patterns in color.

Open or Lace Weave - continued

II. Mexican Leno

In Mexico there are some interesting pieces of leno which I call Mexican leno. It is simpler than leno with pattern because you pass your shuttle through the pattern areas without using the Spanish open weave method. It weaves faster, but one must be careful to beat well so that the pattern will not look too loosely woven.



Directions for pattern of Mexican Leno

Starting at the right, make leno border same as plain leno, twisting the lower thread over the upper one.

1. Start at the right again. Open 1-3 shed and send a shot of tabby through all pattern spaces, keeping the background in leno.
2. Change to 2-4 shed and weave. Return in the same shed after catching in the right selvedge. Return again in this shed from left to right after catching in the left selvedge. This makes three threads in the same shed, giving a heavier effect.
3. Change to 1-3 shed and begin again.

In the next two rows or more, reverse tabby and leno; plain on leno, leno on plain. Three or four rows of pattern looks best.

III. Leno with Pattern

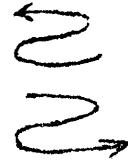
Start with leno border as above.

Weave several shots of tabby before starting pattern.

For the design, instead of the single tabby thread in the pattern, as in the Mexican leno, use Spanish open work method, only keeping the weft threads parallel and not pinching in the warp threads.

Open or Lace Weave - continuedSpanish Method for making pattern (there are three shots)

1. Open shed. From right send shot through.
2. Change shed. Pass shuttle from left to right.
3. Change shed again. Pass the shuttle through from right to left and beat. Return in the same way on 2-4 shed.



Put the leno in the background wherever pattern leaves off.

IV. Greek Leno

First thread on right must be up.

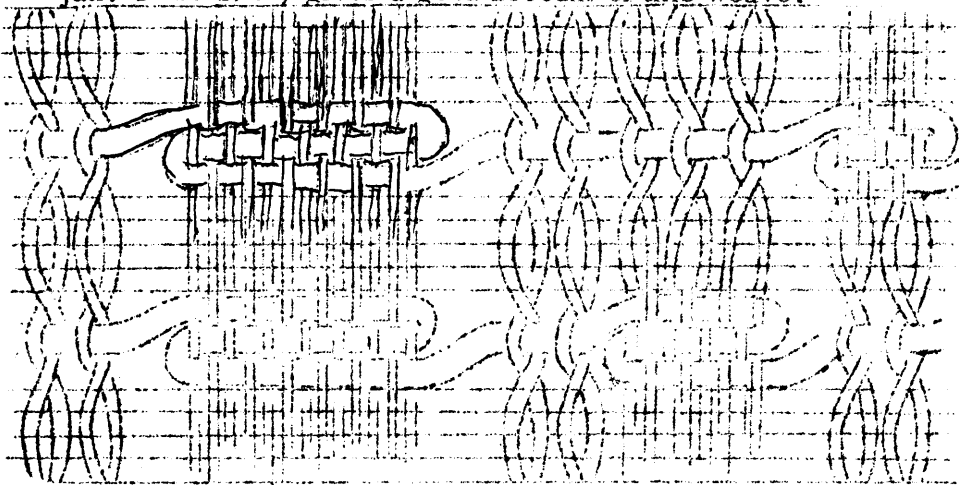
Twist warp threads 3 and 3 or more, depending on fineness of warp and fineness of reed (up 3 and down 3).

Pattern is 5 times instead of 3 as in Spanish open work.

Pattern thread is always heavier.

Pattern thread always starts at right and finishes at left.

The article by Berta Frey on "Greek Lace" in the Weaver, Vol. VII, No. 1, Jan. -Feb. 1942, gives a good account of this weave.



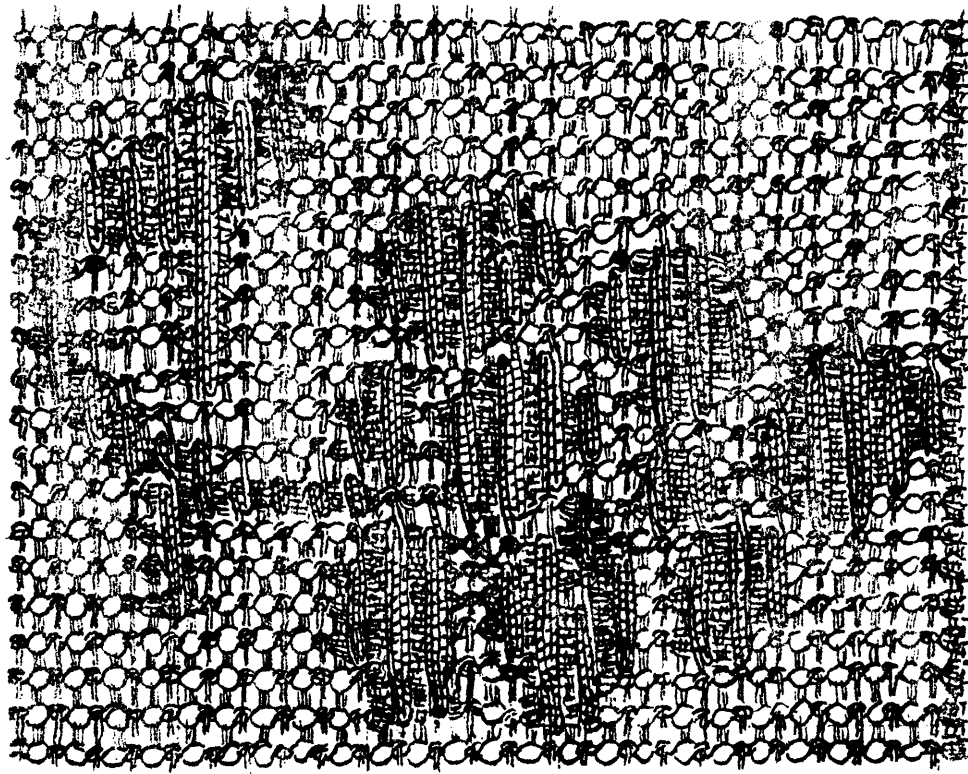
(This diagram shows 3 shots instead of 5.)

V. American Leno

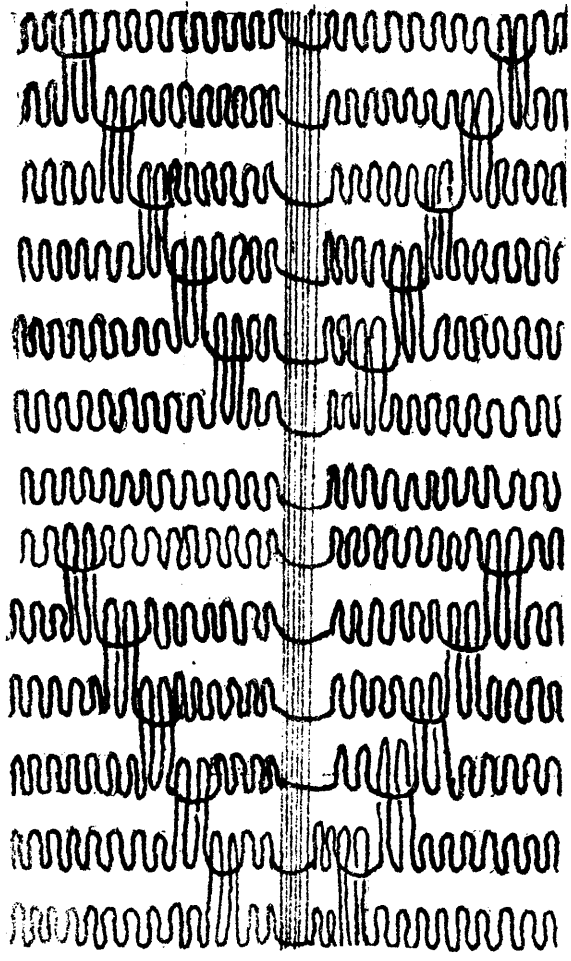
American Leno or lace has three rows of tabby to one of leno for background, plain weave for pattern, outlined with a heavy thread.

See Miss Allen's American and European Hand Weaving Revised, p. 18.

OPEN WEAVE DESIGNS

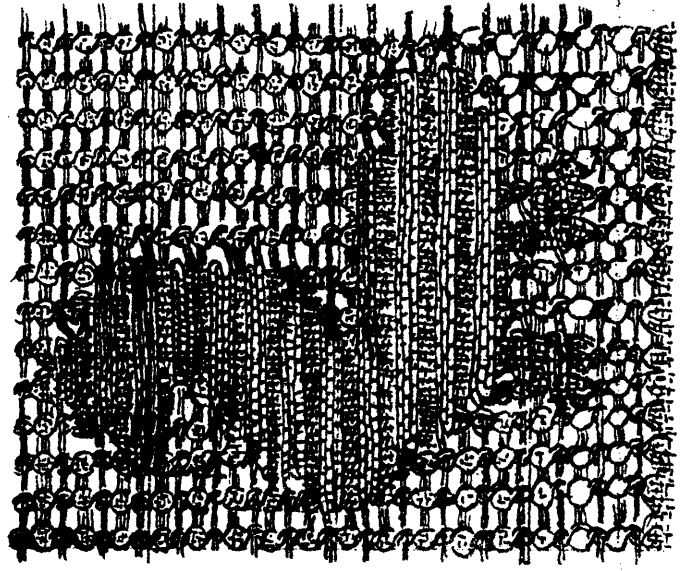


Grape design in Greek Leno - from a Greek textile



Dema-desh Design showing only the weft threads

From a textile
made in Asia
Minor - Probably
from Demir-Dash



Border design - in Greek Leno - from a Greek textile

Duck design - from a Greek Textile

Openwork or Lace Weaves (continued)VI. Tarascan or Mexican Lace WeaveLoom

This very delicate and lacy weave may be done on any two-harness loom or any loom with a tabby shed. It also may be done on a primitive loom with a heddle and stick back of it. A girdle-back loom could be made similar to the ones the Tarascan Indians use to make their lace weaves. Mrs. McDougal has a fine loom of this type in her collection which she obtained in Mexico. Although we call this Tarascan lace, the Egyptians used the same technique in the First Century.

Materials Needed

Warp and weft of the same grist - preferably of fine cotton.
Shuttle and pick-up stick. Pick-up stick may be flat pointed stick or a round one pointed.

Weaving - Border Rows without Pattern

Start at the right of the loom. The first top warp thread is at the right out and beyond the lower one. Take lower one and twist with upper one.

To start first row, cross your threads up three and down two and go on two and two. Second, third, fourth row, etc., the same.

Weaving - with Pattern

Again start at the right of loom with the first warp thread at the right out and beyond the lower one. Take the lower one and twist with the upper, or lower ones and twist with upper ones.

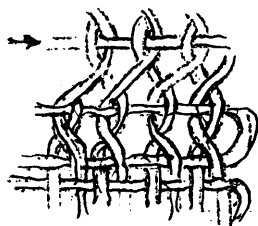
To start first row, cross your threads two and two and go on two and two. Start the second row one and one and then two and two. At the end you will have one and one left. This order must be carried out through the whole piece. First row, start two and two; second row, start one and one. That is, the first, third, fifth rows, etc., are the same; and the second, fourth, sixth rows, etc., are the same.

Singles - PatternDoubles - Background

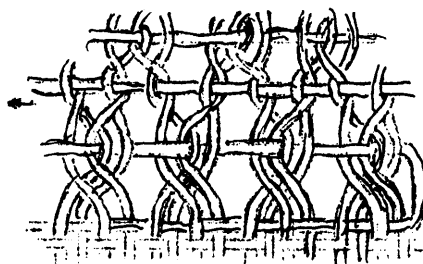
From doubles to singles up two and down one.) These two make 1

From singles to doubles up one and down two.) block of singles.

In block of singles, first thread on the top of the pick-up stick is a double one and the last thread under the pick-up stick is a double. Count as one. Patterns are diagonal.



Singles



Doubles



Borders

Danish Medallion

An easy way to do Danish Medallion is:

1. Weave border Tarascan, or "singles."
 2. Weave several shots of tabby.
 3. Lay in the pattern weft to make a first medallion. Insert a crochet hook in the lace below the tabby.
 4. Pull the pattern weft through the hole to make a loop.
 5. Pass the shuttle through this loop and draw up into a knot. Sometimes the loop lies flat instead of in a knot.
 6. Complete with "singles."
- This method was worked out by Mrs. Brooks.



The regular way to do Danish medallion is as follows:

1. Remove two warp threads at even spacings to form an interesting repetition.
2. Cut the warp threads so that there is about an inch above the last weft thread laid in. Lay these warp threads in the shed with the weft so as to prevent raveling.
3. Lay in from left to right a heavy weft thread.
4. Weave several shots of tabby with the regular fine weft.
5. With the heavy weft weave from the selvedge to the first cut warp and bring the shuttle out of the shed on top of the web.
6. Insert a crochet hook below the first heavy weft and bring a loop of heavy weft from the bottom to the top of the cloth.
7. Pass the shuttle through this loop and draw up tightly the knot thus formed.
8. The shuttle passes then to the next cut warp and the loop procedure is repeated.
9. Continue until the heavy weft thread reaches the left selvedge.
10. Change the shed and bring the heavy thread to the right selvedge where it will be picked up in the loops after the next reverse fine weft threads have been woven.

Brooks Bouquet

This is a technique worked out on a 2-harness loom by Mrs. Marguerite G. Brooks.* It is given in her instruction card No. 3, Series No. 2. Of course this may be done on a 4-harness loom.

Directions

1. Open shed 1-3 and put the shuttle through from right to left to the place where the first bouquet is to be.
2. Bring the weft out on top.
3. Keep this shed. Carry your shuttle over the top shed 3 threads to the right.
4. Enter and go from right to left; pick up 6 threads.
5. Bring weft out and pull in tightly to make a knot. Keep repeating this process to the last bouquet in the pattern.
6. Beat; change to 2-4 shed, beat; weave an odd number of tabbies (1, 3, 5) and make another group of bouquets on the 1-3 shed according to the pattern planned. Always weave bouquets on a 1-3 shed beginning from the right.

*Mrs. Brooks suggests other variations in this same technique. Write to her for instruction card. (Address given under "Supplies")

Open and Lace Weaves (continued)Spanish Borders - Open-Work

After weaving some tabby, put in a double row of heavier weft. Then begin the Spanish Open-Work for border.

1. Open 1-3 shed. Weave, we will say, 6 threads from right to left.
2. Change to 2-4 shed and weave 6 threads from left to right.
3. Change to 1-3 shed again and weave 6 threads right to left. Add 6 more and repeat to the end of left selvedge.
4. Return in the same way, weaving on top of first row.

Spanish - Parallel

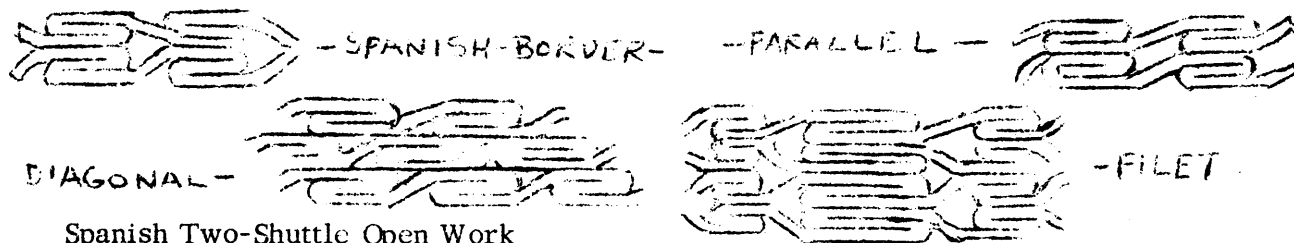
A variation of this is to weave 1 row of Spanish open-work, return with tabby and weave another row on top of this.

Spanish Filet Open-Work

Filet or, as Miss Allen calls it, Spanish background open-work, is done in the same manner as described in the borders, except that the pattern is a plain weave. Returning on top of the first row makes parallel rows of open work.

Spanish - Diagonal

Another variation in this weave is to make diagonal patterns.

Spanish Two-Shuttle Open Work

General rule for thread: Spanish thread equals 6 times weft thread.

1. Build tabby with two shuttles one each side of opening until height of first row of Spanish.
2. Interlock tabby threads with pattern threads and weave tabby to height of second or return Spanish row.
3. Make return Spanish row and interlock with tabby thread.
4. Weave second tabby equal to open space and carry Spanish third up.
5. Lay in cardboard strip width of open space to keep third row of Spanish in place. Continue as for lower row.
6. Remove cardboard after all Spanish is completed.

See: American and European Hand Weaving, Revised,
by Helen Louise Allen, pp. 16 and 17

Note: In doing open work it is better to beat it with a shuttle or sword and not with the beater.

Openword or Lace Weaves (continued)Peruvian Leno
with Colored PatternsThreading - Twill

4	4	4	4
3	3	3	3
2	2	2	2
1	1	1	1

Tabby or tabby selvedge




Use 1-3 and 2-4 for tabby weft. This is of same grist as warp.

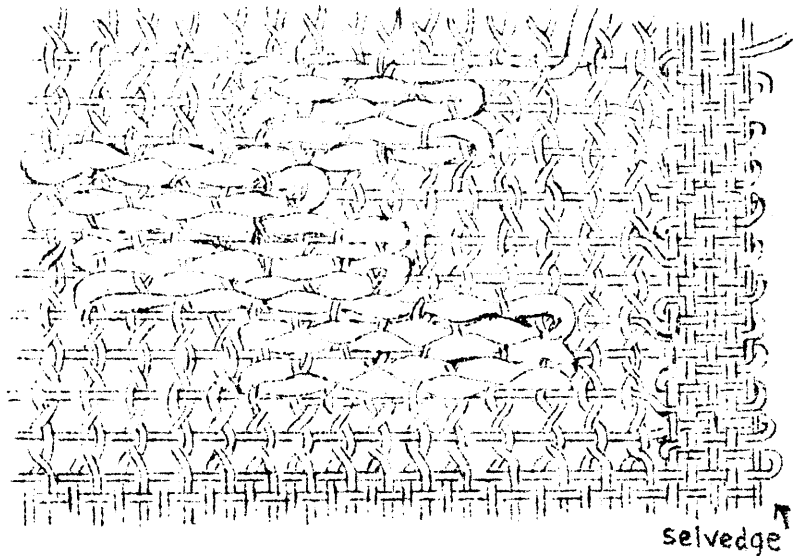
Colored Pattern

Use 1-2 and 3-4 shed for colored pattern weft. Six-strand cotton or something similar would be good for this weft.

If 1-2 and 3-4 are not twisted together on previous row use 1-4 and 2-3. You must not split the twists.

Weaving

1. Weave 3 shots of tabby for the right selvedge (like Spanish )
2. Then weave background in leno.*
3. End with 3 tabby shots for left selvedge. ()
4. Before returning on the leno, put in your first row of pattern. Lay in the pattern weft from right to left over desired number of spaces.
5. Change to 3-4 and make return shot with second pattern thread. Lay in the pattern from left to right. (Each row of pattern has two shots, one following the other).
6. For the return tabby, which now completes the leno, use the 2-4 shed and end with the right selvedge. ()
7. Then put in your next two rows of pattern, leno, and go on as before.



* For the leno background:

Start at the right of the loom.

First thread on the right must be an up one.

Always start with the top thread at the right out and beyond the lower one.

Twist up one, down one, and go on one and one.

Openwork or Lace Weaving - continuedPeruvian Leno with Colored Patterns - continuedRemarks

Whether you use 2, 4, or 6 shots of pattern depends on the size of the pattern and the warp threads.

Before putting in a leno or return thread be sure that the pattern threads are left in position to start the next row of the squares. This means a shot back to the place where the next part of the pattern begins.

Note that there is only one thread between each double shot of pattern.

References

Berta Frey, "A Modern Version of an Ancient Weave," The Weaver, Vol. V, No. 1, Jan.-Feb. 1940, pp. 9-11, illus.

Nellie Sargent Johnson, "A Peruvian Tapestry in Gauze," Handweaving News, Oct. 1939, illus.

Dema-desh

Mrs. Nellie Sargent Johnson has a leaflet on this, which she calls "Open Lace Weaves from the Island of Cos." Miss Helen Louise Allen speaks of this weave as coming from Asia Minor. My pieces come from the mainland of Greece.

You can always tell this weave by the little vertical threads lying at the back of the fabric. They are the threads from the many little bobbins which weave the design. They are left hanging and are picked up again when they are needed.

The design is diagonal and is made up of plain woven strips with open spaces between. These strips are tightened or pinched up so that the spaces may be more open.

Beat as in Spanish Open Work with a flat stick or sword or shuttle.

For illustration see "American and European Hand Weaving Revised," by Helen Louise Allen, p. 17.




Peruvian Lace

This is a lace mesh that is similar in a way to Dema-desh because of the little bobbins that carry the threads. The open spaces make the pattern. The plain woven parts join together and separate again, which is quite different from the diagonal design of Dema-desh.




Miss Viola Quigley has the best article I know on this weave in The Weaver, Vol. II, No. 4, October, 1937, pp. 18-23

Leno (Gause) with colored pattern

(Puma) (?) woven in rows on brown Cotton Gause - Peruvian Pre-Incaic late Chimu Culture (Metropolitan Museum of Art, N.Y.C.)

Colors: Tan  Red  Blue 

Right: FISH Borrowed from a design in the book, "Peruvian Art" by Charles Meade

PERUVIAN FISH Brown Cotton background brocade in Colors: Brown  Red  (white part) - Tan 

LAIID-IN WEAVING

Laid-in may be done on any loom with at least 2 harnesses.

The warp and the weft should be of the same grist; the design threads, a little heavier.

Directions for Laid-in Weaving

Open shed, put in tabby. In the same shed put in pattern thread wherever it is called for in the design.

Open next shed, put in tabby and design thread as above.

The design thread must always be on top of tabby and going in the same direction.

Do not beat too tight or the fabric will pile up wherever the design is.

Directions for Italian Laid-in

In Italian laid-in you leave both ends of your pattern thread out and throw the right end to the left and the left end to the right, through the same shed, putting an uneven number of tabby threads between each pair of pattern threads. It makes little loops on both sides of the design, which gives an interesting effect. Calabrian is a form of Italian laid-in but differs, because it is laid-in on a pattern shed instead of a plain one.

Directions for Calabrian Laid-in Weaving

Pattern threading: twill, Summer and Winter, or Rose Path (3 threads down and 1 thread up).

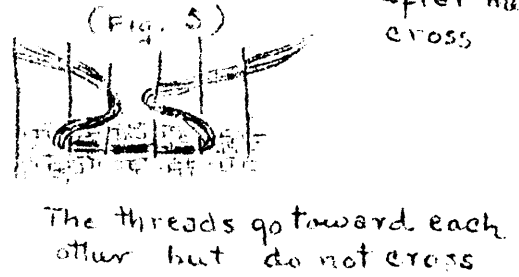
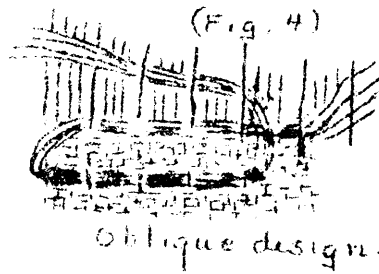
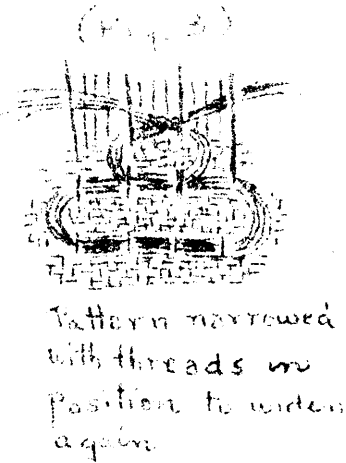
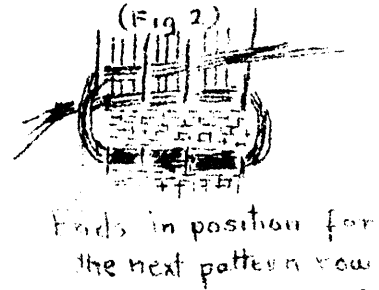
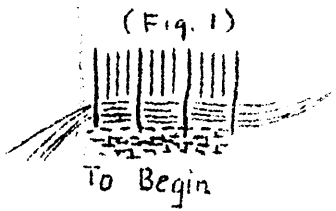
Tabby thread, the same grist as the warp threads.

Pattern threads are composed of four threads, each twice as heavy as the warp.

Steps in Weaving:

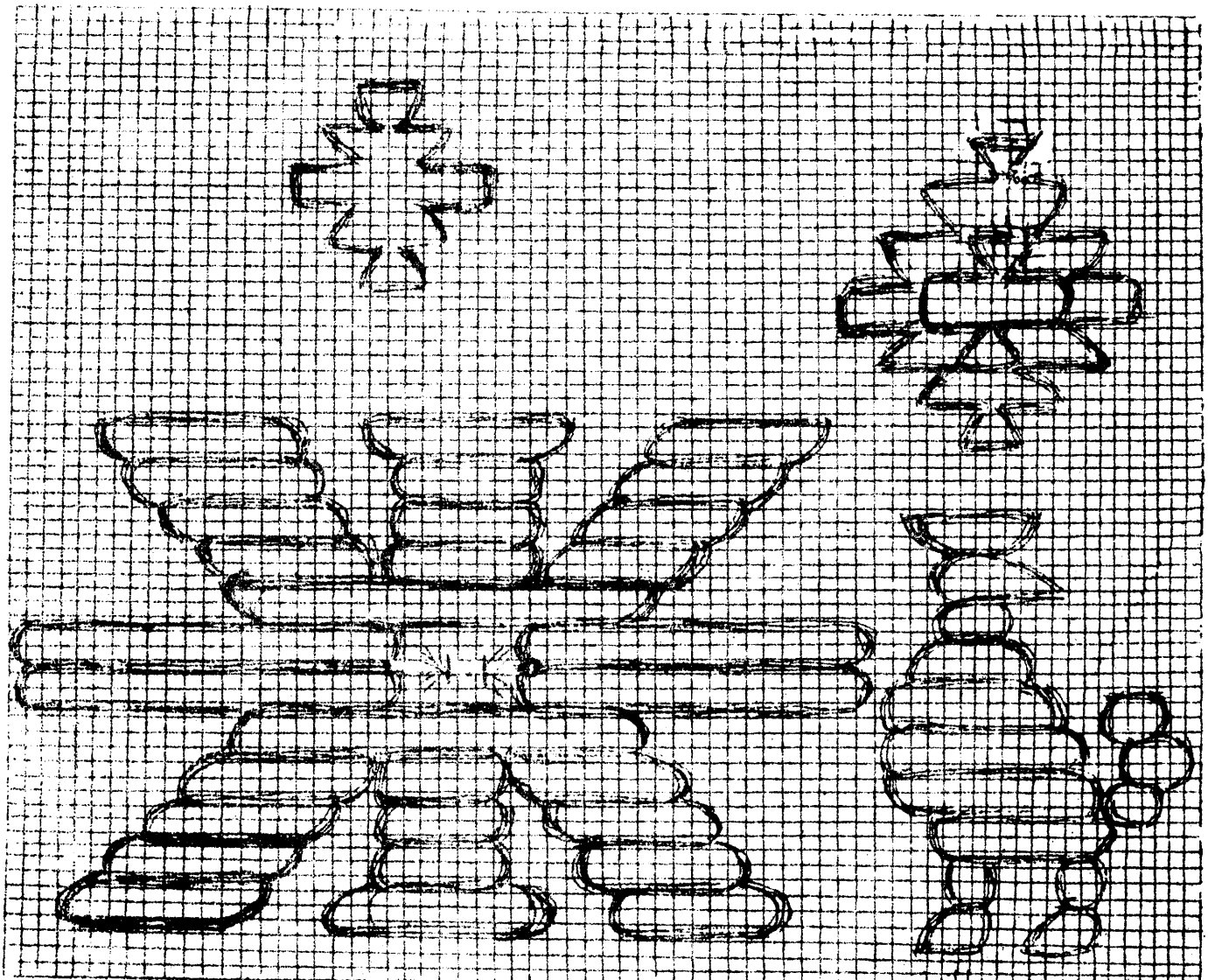
1. Open your pattern shed (3 down, 1 up). Pick up your pattern. Lay in the four long pattern threads (treat the four threads as one) leaving an equal amount of each end out.
2. Follow with 8 shots of tabby. (Beat well, to make the pattern stand up, and to square the design.)
3. Return to the pattern shed. Pick up the next pattern row; pass the two pattern ends, right to left and left to right through the same shed pulling the ends up firmly. (The pattern threads passing from one row of the design to another on top of the tabby, form the edges of the pattern.) Beat well; follow with 8 tabby threads and continue in this way.
4. It is important that the two ends be in the new position for the next row before the tabby is woven. See Diagrams of the different types of pattern. One thread may go far while the other goes only under a thread or so. In some patterns there is a variation of this technique: the pattern threads do not cross but go toward each other and then separate. (See diagram.)
5. Tufting is introduced in the centers of the border designs. As many as 50 threads may be passed through under two up threads in the same pattern shed. Afterwards the tufts are cut evenly to give a pompom effect.

Laid-in Weaving (continued)



Note: Pattern threads go under fewer threads on one side after the cross

This Calabrian weave was worked out by Mrs. Agnes Davis Kim from a modern coverlet brought from Calabria, where the old-time weaving has been revived. The coverlet was woven in three strips, and beautifully matched in design; the warp was of natural cotton; the weft of pale blue green; the pattern colors were gold, salmon pink, and yellow green. The designs were of ancient Albanian origin, many of the weavers having come from Albania many years before.



GREEK OR FRENCH LAID-IN

Loom threaded to a twill 4 4 4 4
 3 3 3 3
 Tabby weaving 1-3; 2-4 2 2 2 2
 1 1 1 1

1-2 pick up pattern

3-4 " " "

Tabby

Repeat as desired (4 a good number)

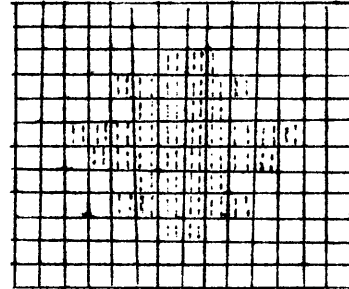
TO INCREASE

3-4 and pick up additionalals →

1-2 pick up pattern ←

3-4 " " " →

Tabby

TO DECREASE

1-2 and drop off desired number

1-2 pick up pattern

3-4 " " "

Threading may be done on a two shed loom, in which case the pattern is laid in on a neutral shed.

On a 4 harness loom thread 1 - 2 - 3 - 4

A separate bobbin or shuttle is needed for each section of color.

For pattern: Treadle 1-2 bringing 2 threads up and 2 threads down. 4 threads -2 up and 2 down - equals 1 square on pattern.

Lay in pattern thread 1-2. Change to 3-4 and lay in pattern.

Follow two pattern shots with one tabby shot.

Alternate Weaving

See article in The Weaver, Vol. III, No. 4. Oct. 1938, pp 15 and 16, "Something Different in Two-harness Weaving" by Emmy Sommer.

This may also be done on any 4 harness loom with a tabby.

Pattern may be drawn on cross-section paper.

Warp and binder same, filling heavier.

Let each square represent 2 threads - 1 up and 1 down.

Start with two rows of filling across with binder in between.

In two harness weaving there are two sheds 1 No. 1 and No. 2. They are used alternately - one for binder, the other for filling.

Always use shed No. 1 for binder and shed No. 2 for filling.

Work on wrong side.

Dukagang (Cloth paths)

Use a four-harness loom set up to Rosepath, Twill or Summer and Winter .

On Structo Loom use levers 2-3-4 for pattern (rising shed).

On foot loom (falling shed) use 1 for pattern .

Tabby 1-3 and 2-4 on Rosepath or Twill .

Tabby 1-2 and 3-4 on Summer and Winter .

Weave two tabby shots after each pattern shot .

This is a "laid-in" technique .

1. The design may be "laid-in" with plain background, or

2. The background as well as design may be "laid-in."

The work is done on the wrong side .

(A mirror may be used in order to see whether the work is being done right).

Work out the design on cross section paper .

One square - the three threads on the top shed .

The other thread is on the shed below .

The line between the squares on the cross section paper corresponds to the single warp thread on the shed below .

It is the space between these single threads which makes the "cloths paths."

Weaving

After making your design on cross section paper, wind your bobbins of colored wefts on your thumb and first finger about 20 times .

Tie these wherever needed in the design on the middle thread of the group of threes of the warp (see diagram). Note that the ends point down .

Tie these bobbins in from left to right . Weave pattern from left to right, follow with two tabbies, then weave pattern from right to left .

It takes about 4 pattern threads to square the design . However, this also depends on the threading . Looms warped far apart will need more shots to square the design .

Yarn

Tabby thread may be same as weft or a single thread of Bernat home-spun, Fabri or Shetland .

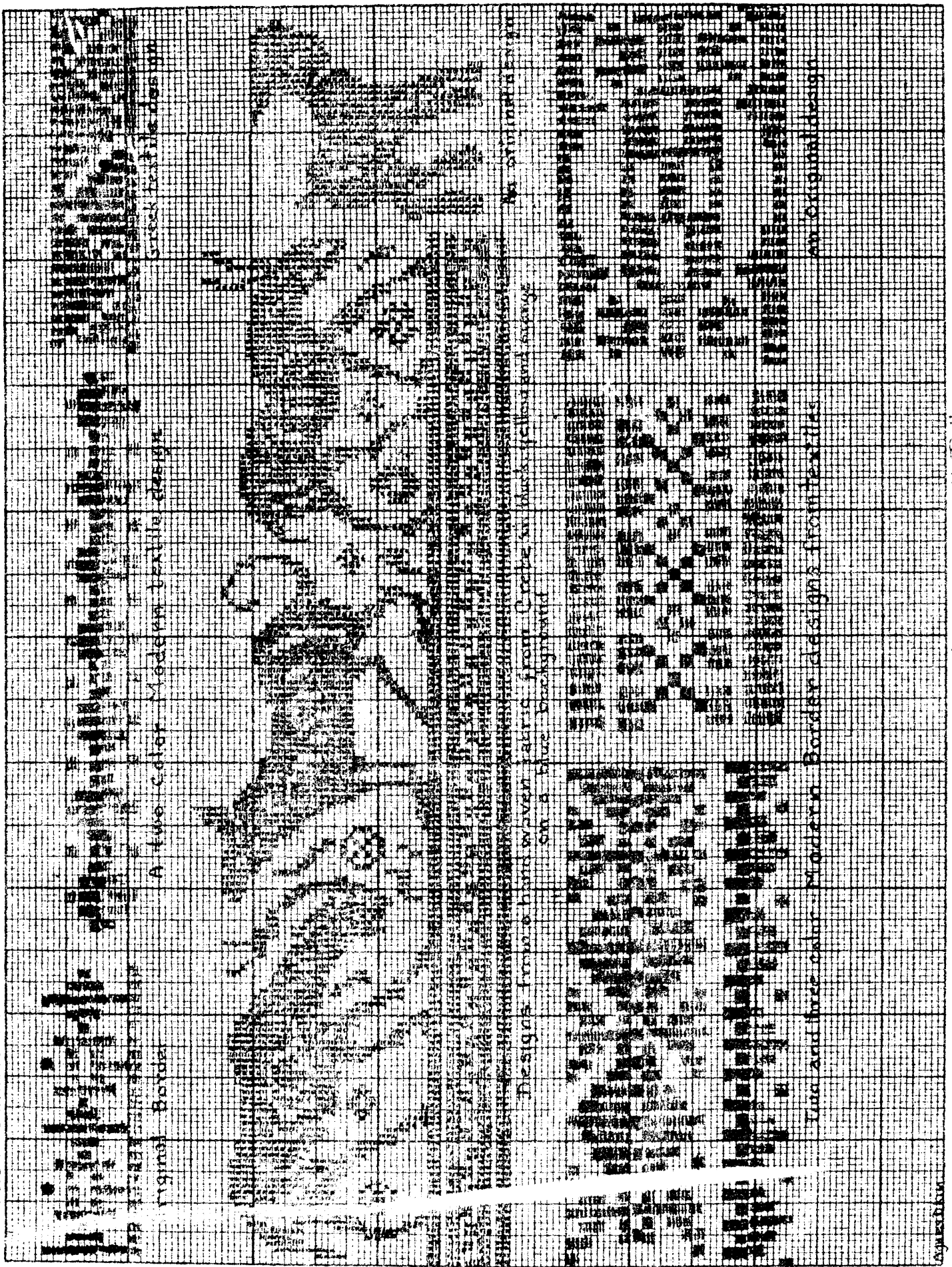
Double for pattern threads .

Six strand Vittoria yarn may also be used for pattern thread .

(These notes were mostly taken from Mr. Elmer Wallace Hickman's article "Dukagang" in *The Weaver*, Vol. III, No. I.)

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EUGENE DIEZGEN CO. NO. 346 E



A Two Color Modern Textile Design

Design from a Modern Fabric from Crete in dark red and navy on a blue background

An Original Design

Two and three color Modern Border designs from textiles

Dukagang - Cloth Paths

Copyrighted

BROCADES

A brocade is an added design thread on a foundation of plain or other weaves. It is somewhat similar to embroidery. Sometimes it is difficult to tell whether the fabric is woven or embroidered as in many ancient Peruvian fabrics.

Brocades are either done in small sections (Guatemalan) or from selvedge to selvedge (Peruvian).

The patterns are picked up either on a neutral shed or a pattern shed. When a pattern shed is used, you need four harnesses (Dukagang). These are weft brocades. However, brocades may be done with the pattern shed in the warp as in Mexican warp brocade and in other Latin-American weaves. These are called warp brocades.

1. Brocading on a neutral shed
Examples: Guatemalan
Peruvian
2. Brocading on a pattern shed
Example: Dukagang, which may be done on a twill, Rosepath, or Summer and Winter.
3. Brocading on a twill
Twill brocade is done on a direct twill threading, as in some Guatemalan fabrics.

Peruvian Brocade

This may be done on any two-harness loom or on a four-harness loom with a tabby.

Tabby weft same as warp. Pattern weft heavier (6-strand cotton).

Work out the pattern on squared paper. It must be in multiples of two.

Starting from the right with pick-up stick, pick up the first row of pattern threads all the way across. Pass shuttle with the pattern thread through.

Take out pick-up stick. Follow with tabby.

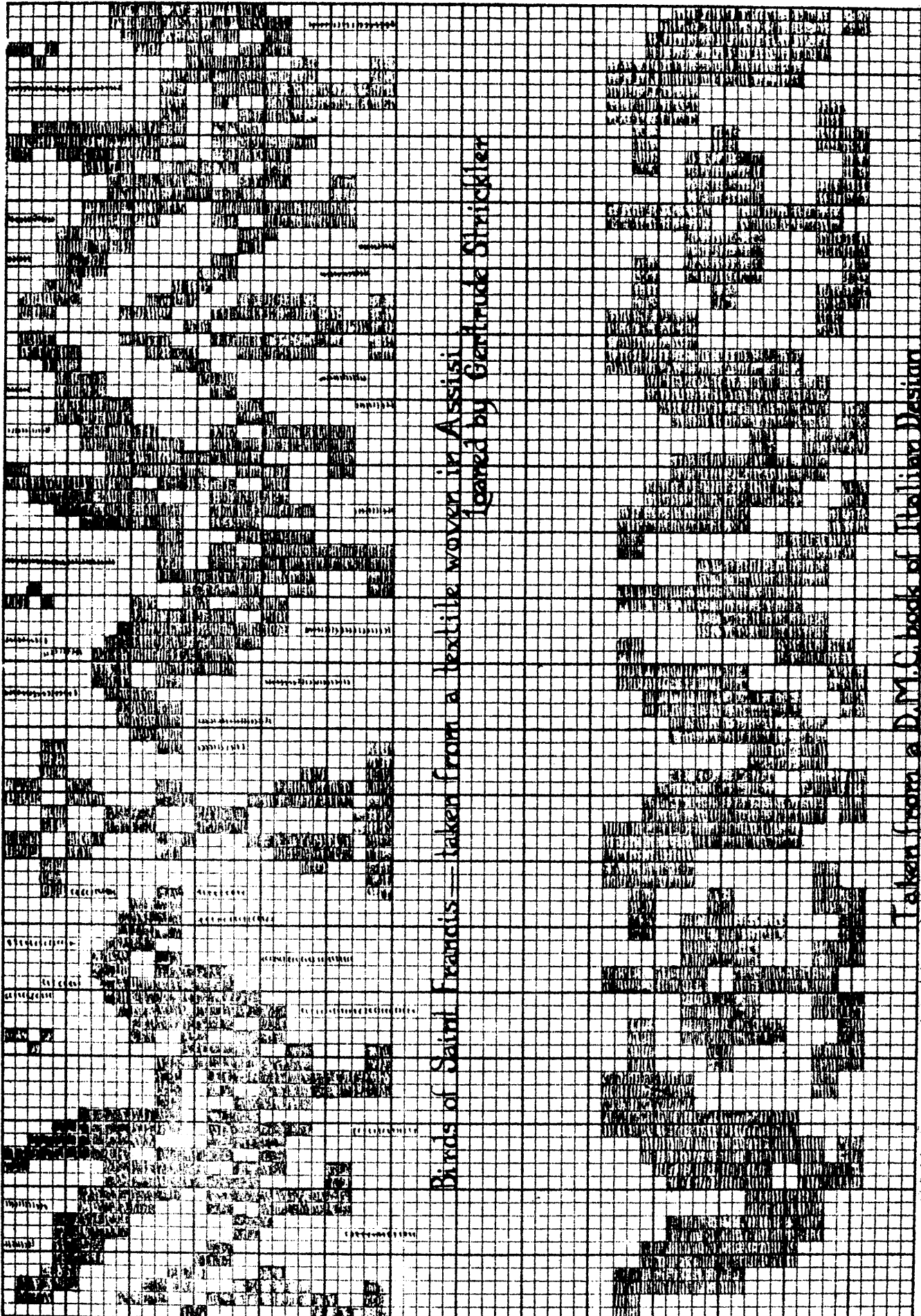
With pick-up stick pick up second row, again from the right, but send shuttle through from the left.

The two sides are reversible. Pattern is colored on one side, tabby on the other.

Be sure to double each row of pattern.

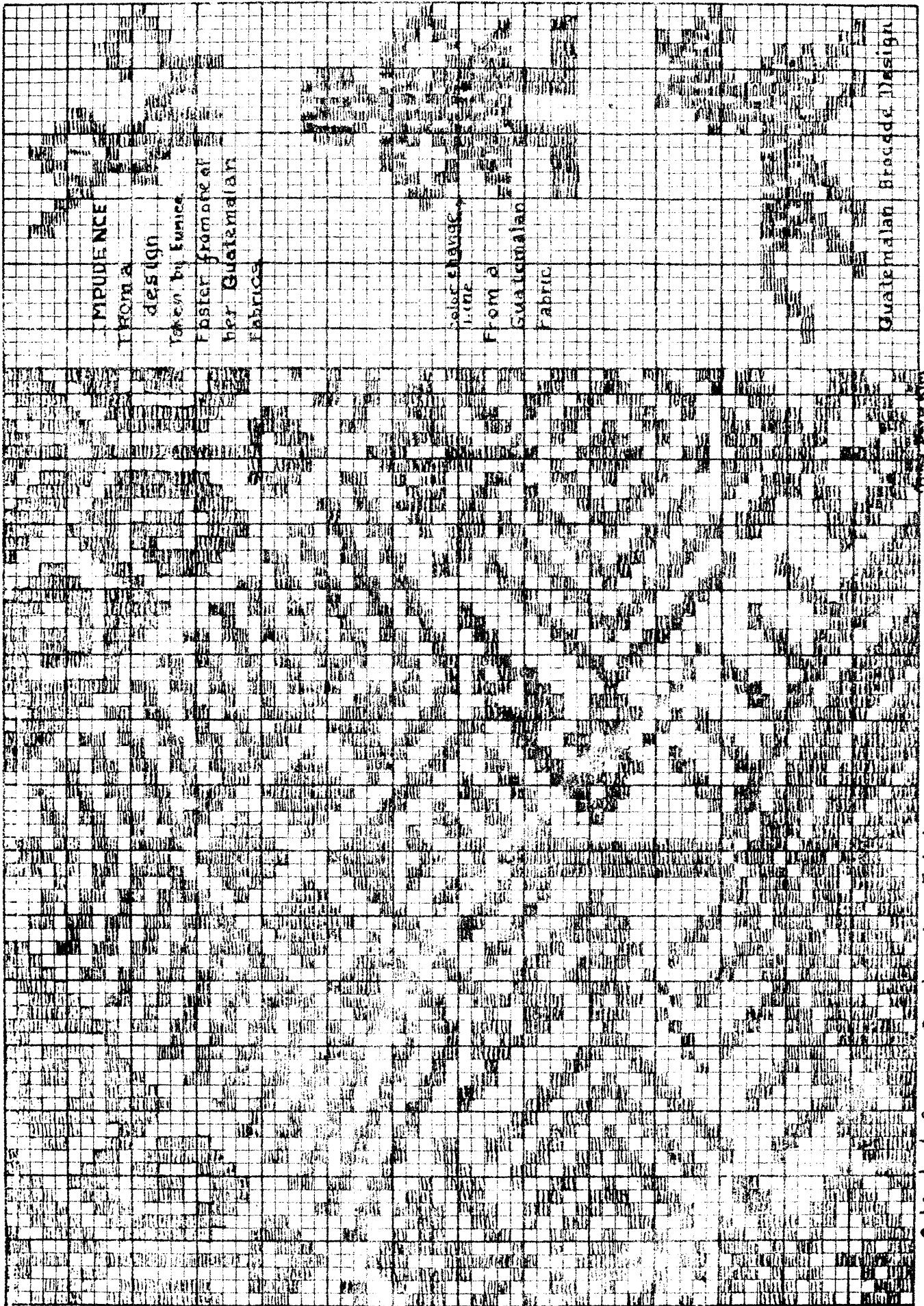
Pattern threads in Peruvian differ from any other types of brocading in that the pattern extends from selvedge to selvedge.

Peruvian brocading is sometimes woven with a plain background but is more often woven with a goose-eye or twill background.

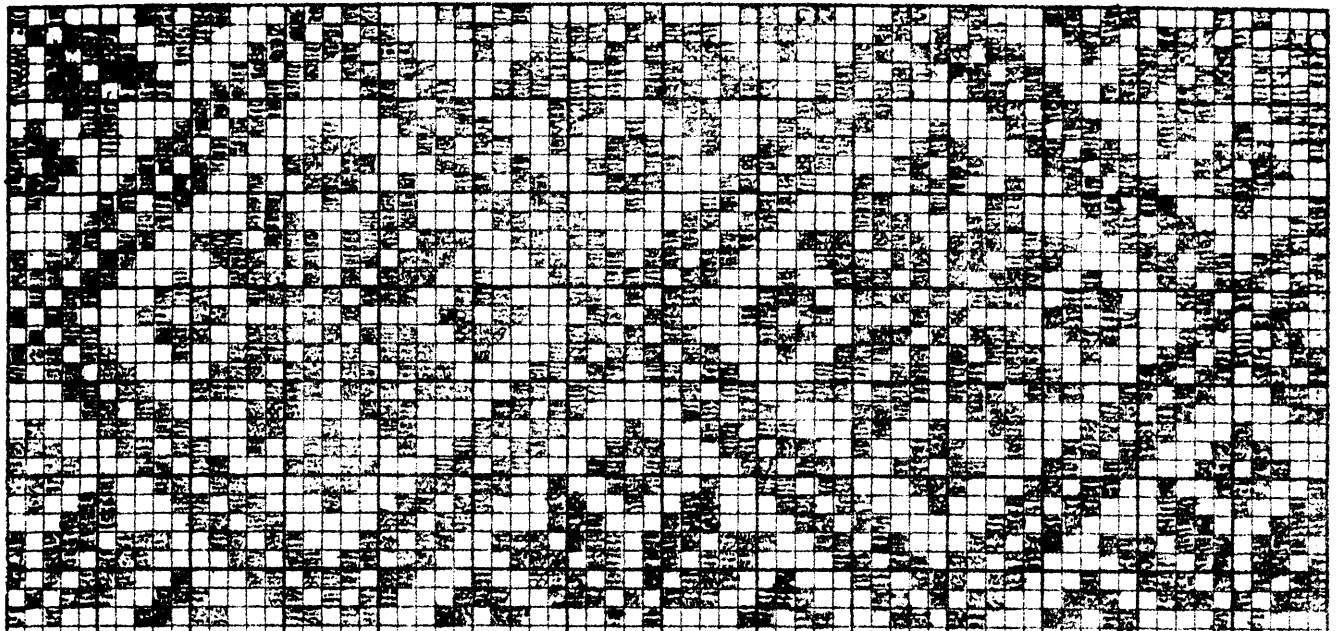


Birds of Saint Francis—taken from a textile woven in Assisi, Italy
 Igarred by Gertrude Schmickler

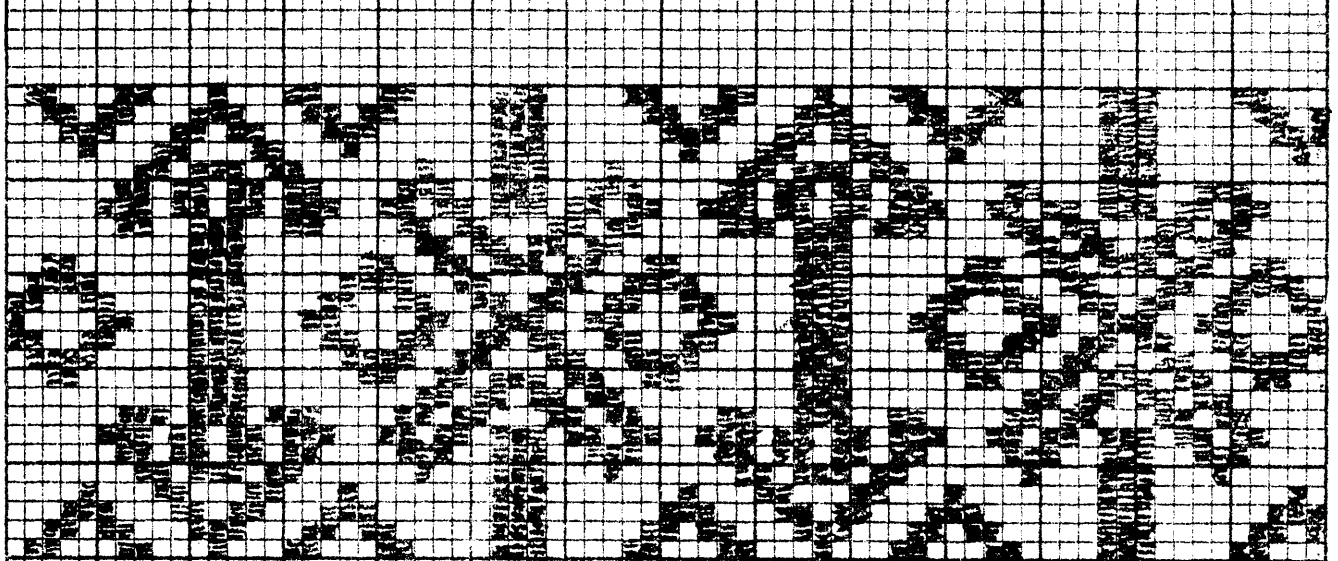
Taken from a D.M.C. book of Italian Design



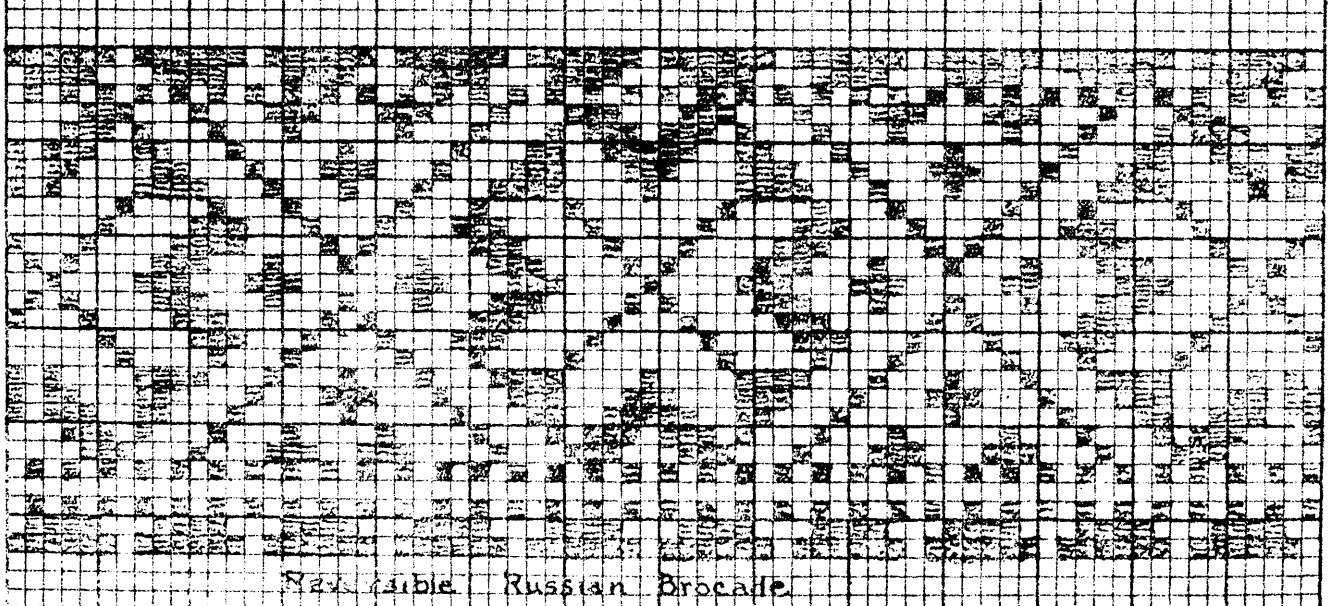
Adapted from a Guatemalan Fabric



Reversible Mexican Brocade



Greek Brocade



Reversible Russian Brocade

Warp Brocade - Mexican Belt

Setting up the Loom

The loom may be a 4 harness, 3 harness or a 2 harness loom. If a 4 harness, the fourth harness is not used and the pattern warp is threaded through the third harness. It would be better to use a two harness loom. The white background or tabby thread is threaded through harness 1 and 2 and the heavier pattern warp, preferably wool, is not threaded through any heddle but passes between two sets of white warp and is stretched out with a heavy weight at the back. All three, two white warps and the pattern warp, are sleyed through the same dent in the reed.

These directions are for the two harness loom with the pattern warp stretched out and weighted in the back (an old fashioned iron is good to use for a weight, or any other heavy object).

The wool threads are tied up on a string heddle back of the harnesses. Also back of the harnesses and back of the string heddles is a stick which passes over the wool warp and depresses all the wool warps which are not needed for the design. The selvedge border may be plain weaving with colored stripes in it. These may also be of carpet warp. A colored pattern border may be used if desired.

To get the weft rib effect the weft must be heavier than the warp, at least twice as heavy (a soft strand cotton would be good). If the warp threads are close together, the fabric will be warp faced.

Directions for Weaving

Tabby warp white cotton, pattern warp heavier wool or cotton wicking.

1. Make neutral shed by depressing levers 1 and 2.
2. Raise string heddle.
3. Insert beater, beat and turn on edge. Pick up pattern.
4. Push down stick behind the string heddle, and put beater under the warp in front of harnesses.
5. Slide pick-up stick back to the harnesses.
6. Make a shed with lever 1.
7. Send shuttle through this shed in front of the pick-up stick.
8. Change shed and beat.
9. Send shuttle through on lever 2.

Proceed as before for the next pattern row.

Note that two weft shots are used for every pattern row.

Warp Brocade - Mexican Belt (continued)

Keep pick-up stick in place at all times except when ready to pick up a new pattern row. Then substitute the beater. Turn beater on edge when picking up a new row of pattern. Then take the beater out and substitute the pick-up stick again.

At the end of a pattern take out pick-up stick and insert beater under the warp and push down at the same time you are pushing down the stick back of a string heddle.

Always pick up pattern on right.

National Conference of Hand Weaving, Walden Woods, Hartland Michigan.

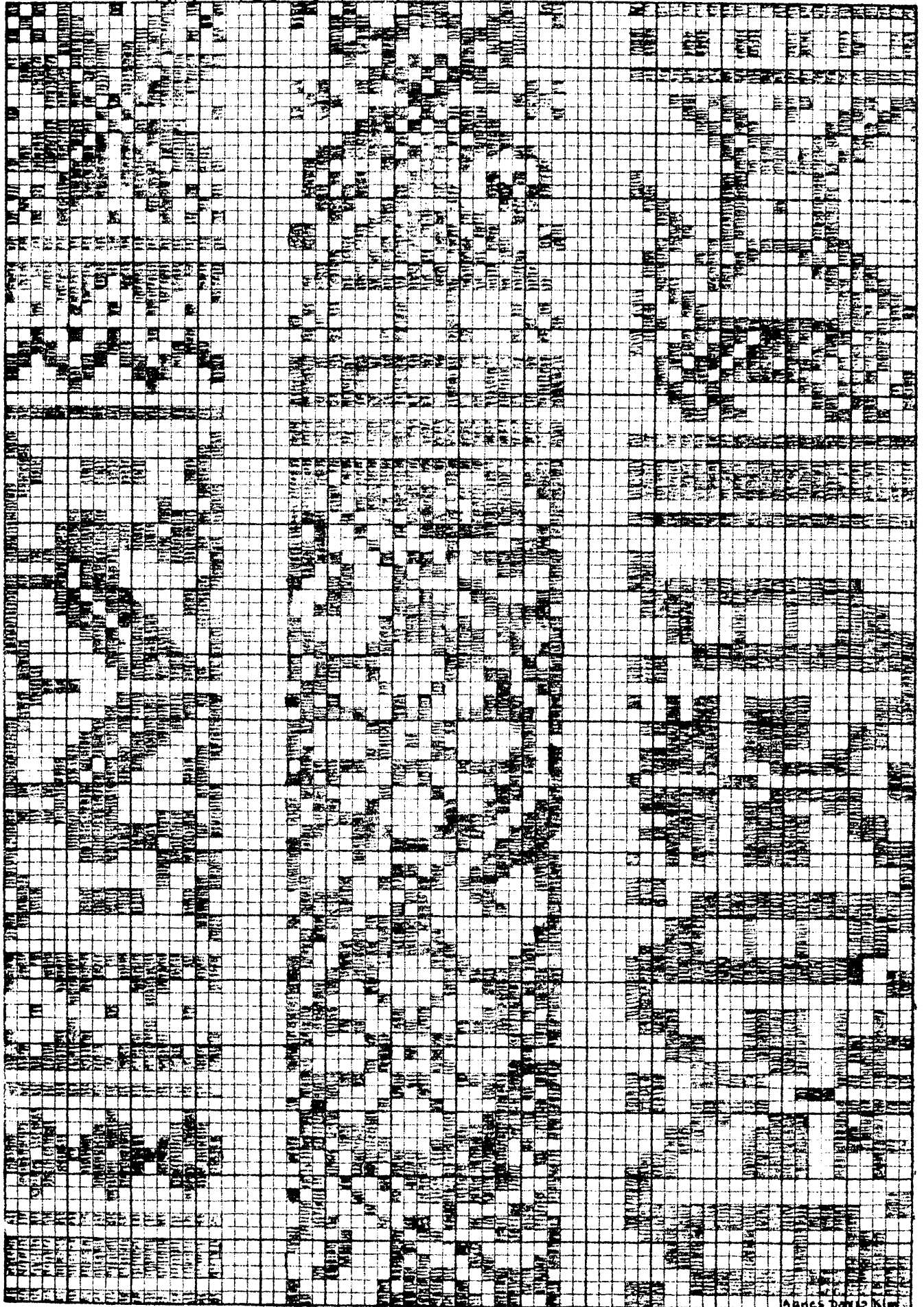
Miss Allen.

Ref. American and European Hand Weaving Revised by Helen Louise Allen, p 46.

The Shuttle Craft Bulletin, Nov. 1938

The Weaver, Vol. VI, No. 3, July-August, 1941

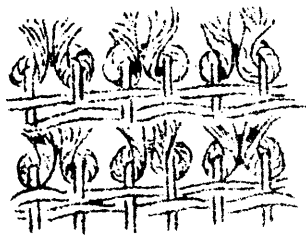
"A Primitive Weave" by Mrs. Atwater.



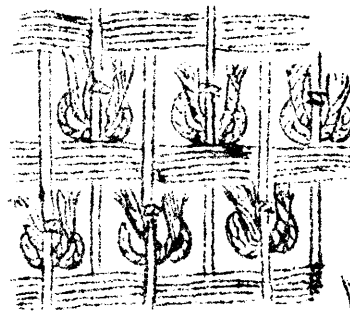
PILE FABRICS

I. Oriental Rugs and other pile fabrics with knots

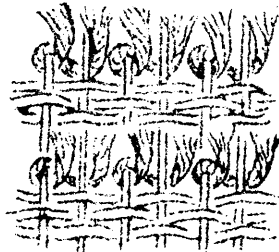
In the Oriental rug, two knots are generally used, the Ghiordes or Turkish, and the Sehna or Persian.



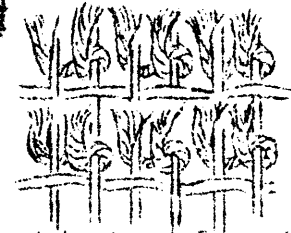
The Ghiordes or
Turkish Knot



Single-Warp or
Spanish Knot



The left-hand Sehna or Sinna Knot (Persian)



Right-hand Sehna knot

There are one or two or more tabby shots between each row of pattern. The pile is usually cut rather short and stands up.

But in the Scandinavian type of pile fabrics, called Rya altho the knot is the Ghiordes knot, the pile lies flat, because there are many tabby shots between each row of pattern knots.* These are done over a stick and cut. This makes the ends even. There is a regular knife and a bar with a groove in it to be had, which makes the cutting easier. Flossa and Hoelf-Flossa is another Scandinavian type. The pile stands up, and in Flossa it may cover the whole surface of the rug or fabric, but in Hoelf-Flossa only certain portions are covered. The pile of both of these is either cut or uncut.

The Spanish knot is done on a single warp thread and on alternate rows instead of on top of the other as in the Ghiordes knot. One large cord or three or more smaller cords in the same shed are woven between rows of knots.

II. Velvets and other pile fabrics without knots

Velvets are a warp pile and may be cut or uncut. The pile may cover the whole surface of the fabric or only portions of it. In the latter case it is voided. The voided spaces may be brocaded, twilled, satin or plain. Ciscle is the name used for velvets which are partly cut partly uncut.

Axminster carpets are a weft pile.

Brussels carpets are a warp pile and are uncut.

Wilton carpets are a warp pile and are cut.

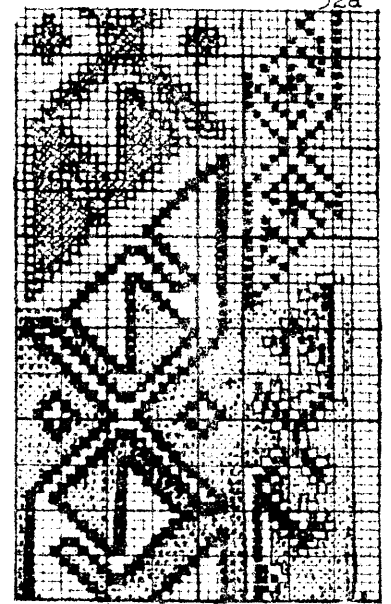
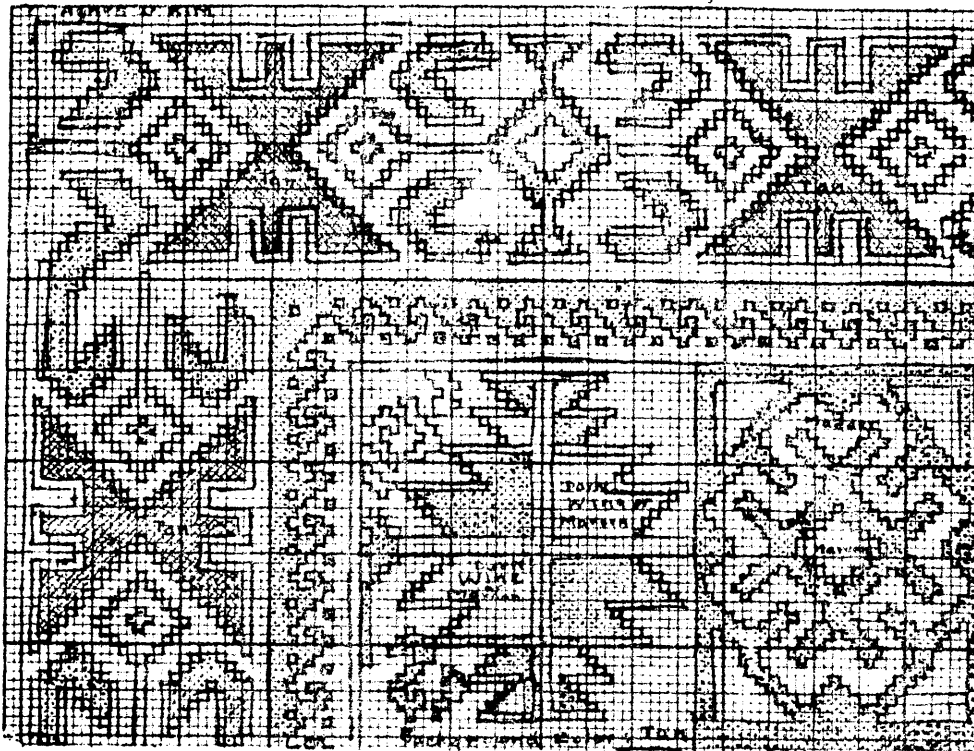
Terry cloth has uncut loops on both sides (Turkish towels).

These processes can be shown on a small frame or on a two-harness loom not too closely sleyed.

*The number of tabby threads between each row of knots depends on the length of the pile, which lies flat and conceals tabby.

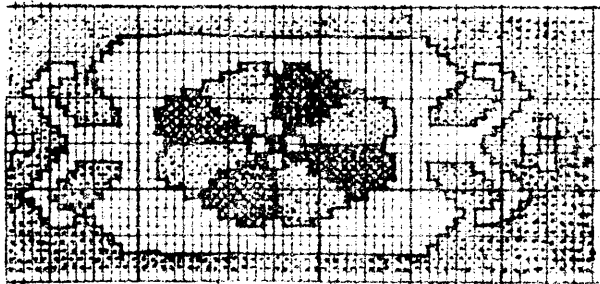
ORIENTAL PILE RUG MOTIFS :

1 and 2 from the collection of Ft. House, 3, 4, 5 and 6 from the collection of Mr. Beshire of Beshire Galleries, 71 East 57th St. New York, N.Y. 32a

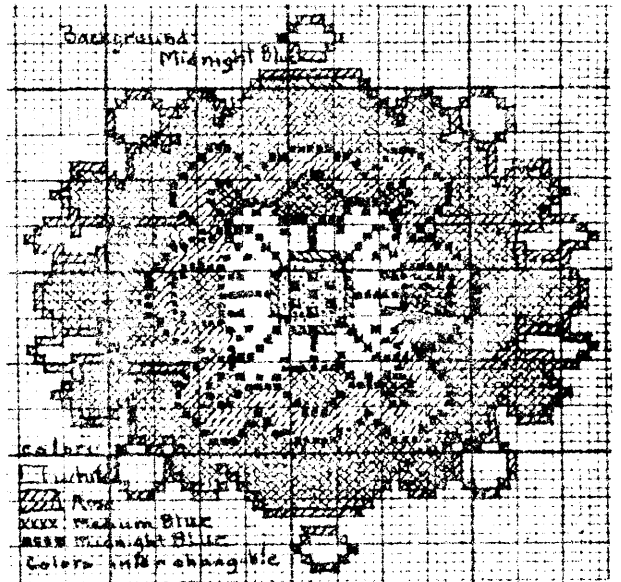


2. Kabistan (Kubistan)
 Colors: White or yellow
 Dark red
 Black or dark brown
 Bright madder red
 Medium blue

1. Beluchistan Rug Motif: The delicate border has wine or maroon centers in the square designs.
 Colors: Rose madder
 Brown
 Midnight blue
 Tan

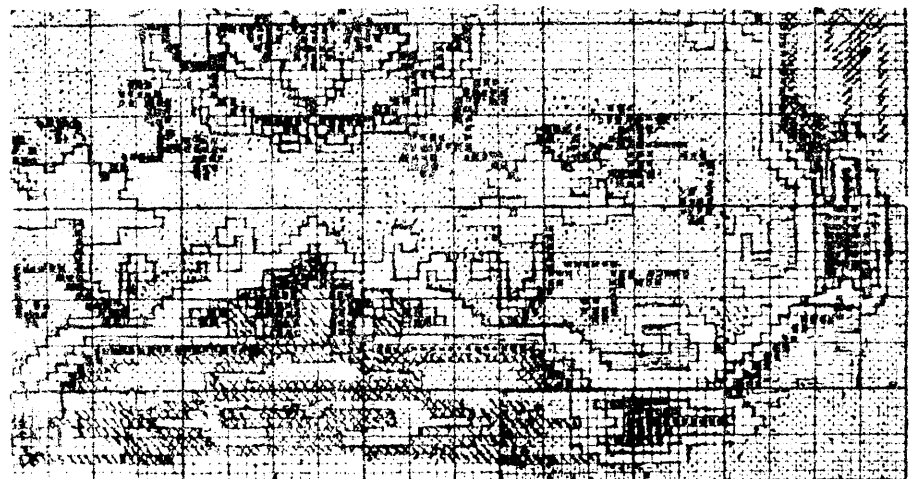
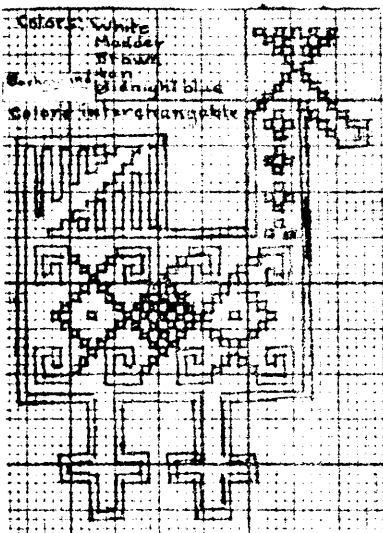


3. Turkoman Rug Motif.
 Colors: White or cream
 Dark green
 Dark red
 Madder or dark green
 Colors interchangeable



4. Persian Rug Motif

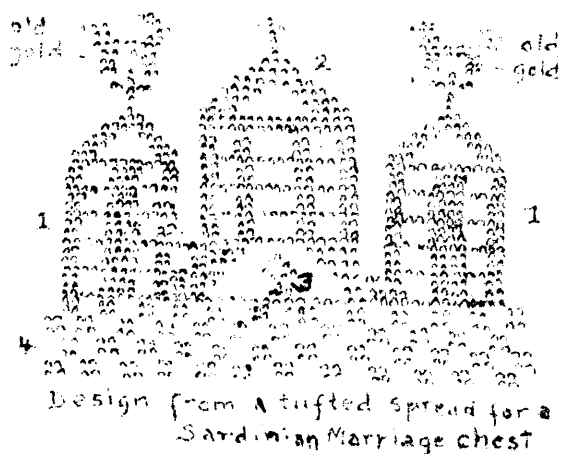
5. Below: Beluchistan Motif



6. Chinese Rug Motif Colors: White
 Medium blue
 Rose
 Yellow
 Dark blue
 Tan

Pile Fabrics (continued)

III Tufted or Looped Fabrics



Colors:

- 1 - (Blue - or Red - or Blue
 2 - (Old rose - or Green - or Red Violet
 3 - (Green - or Blue - or Green
 4 - (Orange - or red - or Yellow

Shed for tufting -- 1-4

Tufting may be done on other threadings, e.g., twill, Summer and Winter, or even a tabby shed.

When using a tabby set-up, it is better to use every other space.

For the above threading, open up 1-4 shed and put in pattern thread which is heavier.

Directions for Tufting or Looping

With a knitting needle, beginning at the right, pick up the pattern thread in loops over the needle, wherever desired. Then weave three tabby shots. Take out needle. Return from left and make the next row of loops or tufts over the needle and go on. It is very simple done in one color, but several colors may be used, as in Sardinian marriage chest cloths. Other types of tufted or looped fabrics are chest covers from Bulgaria, Scandinavian ones and the old American Colonial counterpanes. Very pleasing modern effects may be had by using tufts or knots in fabrics in odd and unusual ways, e.g., tufts may be twisted.

See pages 89-92 for bibliography on Pile Fabrics

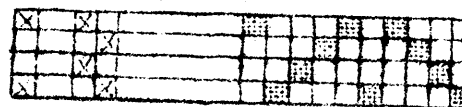


Picking up the loops with a knitting needle

A hook may be used to pull up the loop first



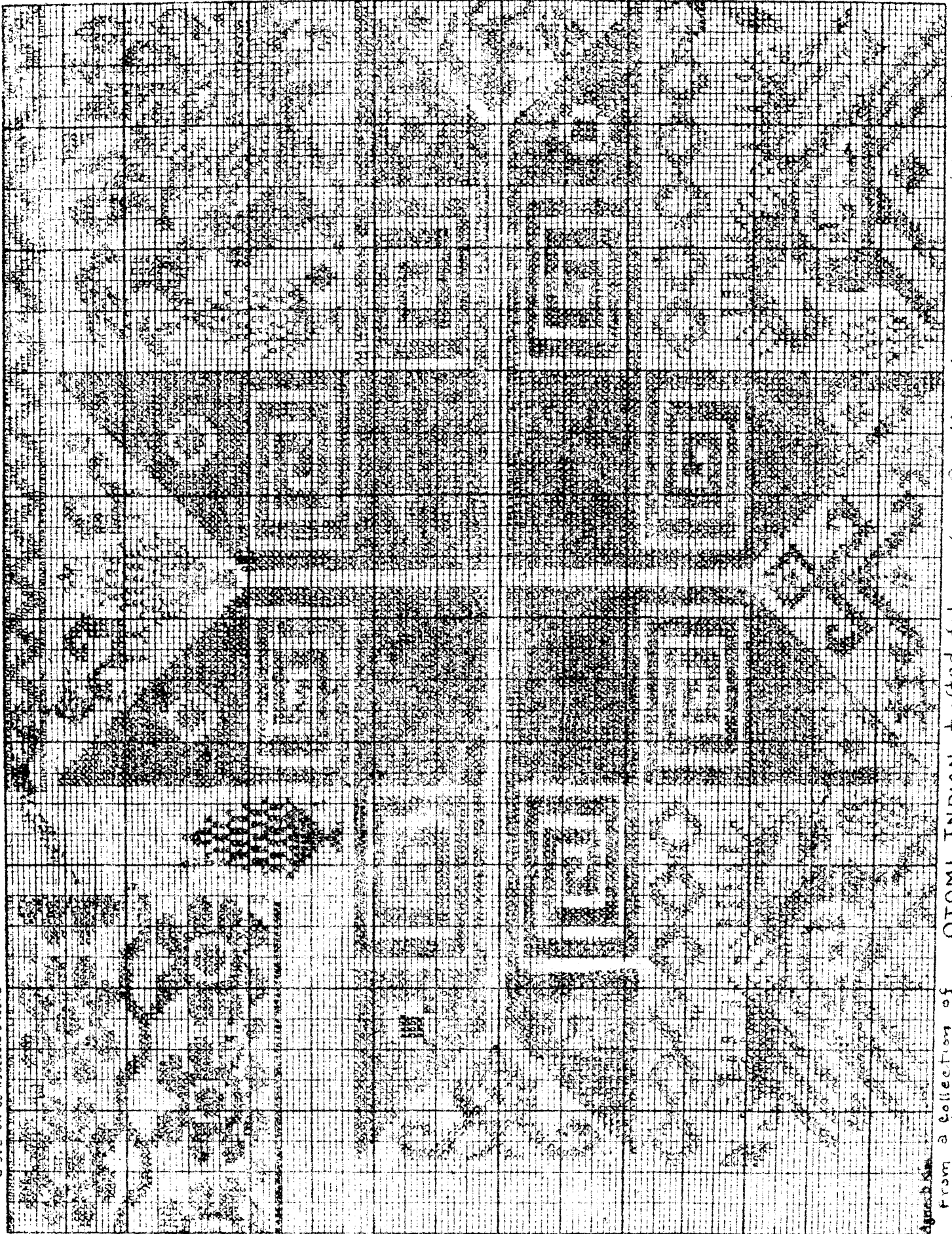
Draft for tufting



Shed for Tufting

U.S. GOVERNMENT PRINTING OFFICE

EUGENE DIEZGEN CO NO 346 B



From a collection of
Dorff Christensen

OTOMI INDIAN tufted fabric from Bahuatlan, Mexico

(loaned by Eunice Foster)

TAPESTRY

Tapestry weaving is a very old art. The ancient Egyptians used this technique and it has been carried on by many peoples, the world over, to the present day.

The weave itself is a simple one of over and under, but, unlike the usual type of plain weaving, the warp threads are sleyed far enough apart to allow the weft threads to be packed down over the warp and to cover it. The weaving is usually done on the wrong side.

Characteristics

Tapestry is a fabric in which the weft covers the warp. The effect is of a vertical rib or rep. The various colored weft threads do not go from selvedge to selvedge but only in those parts where the design occurs. There are several ways of weaving tapestry.

1. Slit tapestry
2. Stepped-up or diagonal
3. Dovetailing (several types)
4. Interlocked tapestry
(several types)

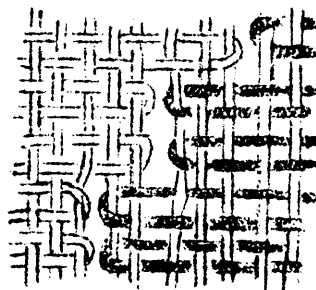


Fig. 1

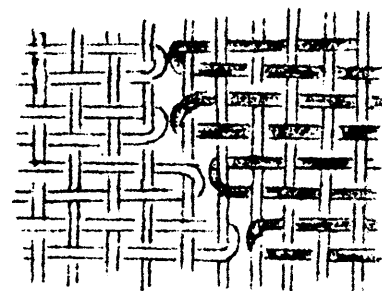


Fig. 2

Slit Tapestry

In slit tapestry the slits may be part of the design. It is not desirable to have too long slits. Good examples of this are some ancient Peruvian fabrics, the kelims of the Near East, and the exquisitely fine Chinese k'o ssu. See Fig. 1.

In some of the ancient Peruvian cloths we find both slits and interlocking in the same fabric, while brocading or needle knitting may form the border. The fine old medieval tapestries are the slit type.

In some types of tapestry the background is not woven in at all but left vacant showing the warp. Some Norwegian draperies and hangings are examples of these.

The Stepped-up or Diagonal

There seems to be no name for this type. In reality it is a form of slit tapestry. See fig. 2. Prof. Reichard in her interesting book called Navajo Shepherd and Weaver calls it diagonal. The slits are small and, unless held up to the light, are invisible because the design steps up usually one warp thread at a time, sometimes two.

Tapestry (continued)

Dovetailing

In this the two-colored weft threads meet, pass around the same warp thread, one above the other, and return. The Navajos used this method. See Fig. 3.

The little projecting threads are decorative in effect. Another method is similar, but the two colored threads dovetail by weaving over and under two warp threads, Fig. 4. Still another type is to have two or more wefts pass over the same warp thread between two groups of wefts on the opposite side, Fig. 5. The first is called comb-tooth; the latter saw-tooth, which is not as pleasing.

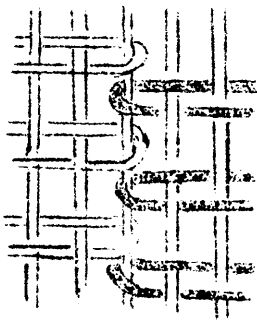


Fig. 3

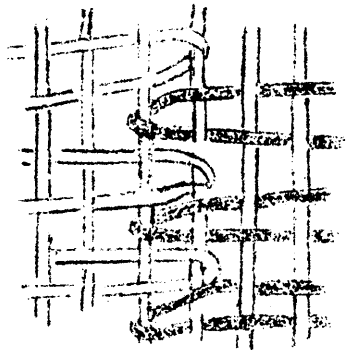


Fig. 4

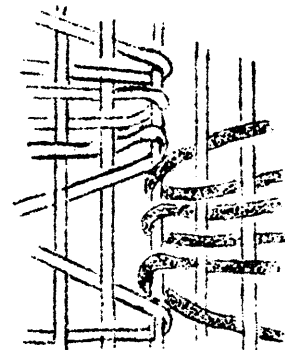


Fig. 5

Interlocking Tapestry

In this, the threads of two adjacent portions of the design interlock and return. Good examples of this type are ancient Peruvian fabrics, and Norwegian Akladae. See Fig. 6.

In Fig. 8, we have another type of interlocking. There are others such as interlocking the adjacent portions of the design and the warp at the same time. But this to me does not seem desirable.

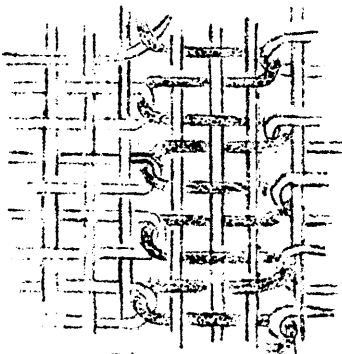


Fig. 6.

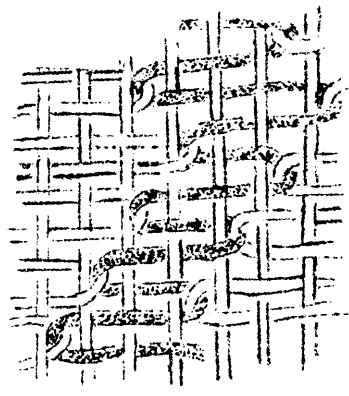
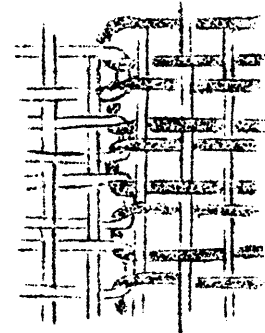
Fig. 7
Diagonal Interlocking

Fig. 8