

THE SHUTTLE-CRAFT GUILD

BULLETIN



January 1950
Volume XXVII, Number 1
Virginia City, Montana

Subject:
Modern Linen Weaving
Chromatic Textures for Towels

When a list of available back Bulletins was sent out a year ago, although our stock was depleted much too soon and many orders could not be filled, the requests served as an effective census of the subject-matter interests of Guild members. Since a wide range of projects and techniques was represented on the list, and we kept a check list of orders for our own information, our conclusion is that the things weavers are most interested in weaving are table linens, cotton dress materials, woolen yardages, draperies and Scotch Tartans. The techniques which were asked for most were the no-tabby humanesque figures (which will be taken up in the March Bulletin), the Polychrome Summer and Winter, the Crackle Weave and the Double Weave. The technical Bulletins were much in demand, which indicates the fine tendency toward weavers "thinking" their craft as well as following directions. In 1949 we have made a definite attempt to plan Bulletins according to the wishes shown by the informal census and our correspondence, and we shall continue this program in 1950. It is because of the trends of our correspondence with Guild members that we are breaking a tradition of the Guild this month by not devoting the January Bulletin to Coverlets, as rarely is a Coverlet project even mentioned in our letters. Coverlets, from the aesthetic point of view the most important single article in Colonial weaving, are therefore a rather static problem, with inspiration drawn from the past. Although many a handweaver wishes to weave at least one Coverlet during his loom career, Mrs Atwater's SHUTTLE CRAFT BOOK OF AMERICAN HANDWEAVING treats the subject almost exhaustively, and provides adequate source for anything except the occasional unpublished draft or pattern which comes our way. Additional help on planning and executing Colonial Coverlets was given in the Bulletin for January 1948. In January 1950 we turn to modern table linens.

Linens, particularly table mats and towels, remain the most important single interest of the handweaver -- and a logical interest it is. Linens are useful, they are constantly wearing out and need replacing; every homemaker knows that frequent changes of table setting styles can enhance the happiness of the meals she prepares; and attractive table linens and towels can be woven on the simple, small loom, by a beginner, as well as on elaborate equipment by the expert. In analyzing the reasons for the continual popularity of this form of weaving, we cannot overlook the great fascination in handling this most beautiful of all fibers, a gratification which is, in these days of high quality domestic linen in beautiful colors, not inhibited by the tortuous processing and special handling problems of the old time linens.

The weaver who will produce outstanding work must develop a sensitivity to and an understanding of the various fibers which go into textiles -- animal, vegetable and synthetic -- and suitable ways to use each. As an understanding of linen develops, the weaver realizes that this fiber is unsuitable for the pattern-accent weaves because its stiff, wiry nature requires close interweaving, and its "stringiness" prevents it from covering a pattern area attractively. At the same time there is the tendency of the fiber to flatten,

and to take on a high gloss when ironed, which makes it adaptable to many beautiful texture-accent weaves. The handweavers of the past realized both the limits and the potentialities of linen thread in their use of it in what have come to be known as the Traditional Linen Weaves: Huck, Spot, Lace Bronson, Bird Eye and Goose Eye, M's and O's, and others. These all fulfill the necessities of the fiber by being closely woven techniques which will not permit individual threads to sag and loop unattractively. But because of this closely-woven nature, they are almost limited to single-color weaving, with identical warp and weft, as the close association of warp and weft leads to unattractive or ineffective color combining. In many cases, two closely related values or tones may be used in warp and weft, such as bleached and natural linen, to give depth to the texture, but disastrous is the effect of strong contrasts. Another factor about the traditional linen weaves is that they are all balanced weaves, produced with exactly as many weft ends per inch as there are warp ends, and they must be interpreted in highly stylized manner. The texture-pattern which is threaded must be woven with exactitude. The traditional linen weaves leave the weaver little creative freedom, or little scope for designing borders or adding colors.

In the monochromatic quality of most traditional linens we can find historic justification. Linen is one of the most difficult fibers to dye, so difficult that in the days of purely utilitarian household linens the threads were used in the natural color, or sun-bleached to a silvery whiteness. This dyeing difficulty is seen in many modern linens in which soft, light tones predominate, and in the much greater cost of colored linens than natural, boiled or bleached linens. In some European countries, the price of colored linens is determined not by the thread size but by the intensity of the color. It is said that some colors, probably red which is a difficult linen color, by old methods required a pound of dye for each pound of fiber. And, as the fiber is difficult to dye, it is likewise difficult to make color-fast. So color-fastness becomes an important issue, increased by the fact that linens are washed hard and often.

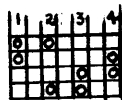
Modern textile science is now solving for us the problems of weak linen threads and has eliminated the special handling requirements, so that many linens may now be warped and woven with the ease of cottons. Science is also solving the dyeing problems, and many linens are now available in beautiful color ranges. But there remains for the weaver the problem of suitable and full use of the beautiful colors which now come to us. Since this cannot be achieved with the traditional linen weaves, we have the problem of either making strenuous adaptations, or devising new linen techniques.

One of the draw-backs which linen weaving has had is the great expense of linen threads. A recent object in the Shuttle-Craft Guild experiments has been to draw linen weaving within the pocketbooks of the handweaver, as well as to expand its texture and color possibilities. We have therefore purchased a large quantity of 17/s (17 singles) linen (5100 yards per pound) in natural color, which we can sell to Guild members at \$2.75 a pound -- little more than good cotton. This thread is fine enough to be suitable for napkins, and, rare quality in singles of this weight, is strong enough to warp and weave without difficulty or special treatment. In a 420-thread 10-yard warp, we had not a single warp breakage in either the beaming or weaving. It sets for good tabby at 30 ends per inch, convenient since this fits a 15-dent reed, but for firm work may be set at 36, and for loose work at 24. Though the color is natural (dark), this may be either boiled or bleached (with Purex) after weaving, if a lighter color is desired. We also have a high quality 12/s, boiled, at \$3.65 a pound (3600 yards per pound). This comes on half-pound tubes and sets well at 24 to 30 ends per inch. The other line of linen which we have stocked for sale to Guild members is 7/s (2100 yards per pound) in the fourteen ecstatic colors developed by Davis Cordage Co:

Meadow Green, Citron Chartreuse and Mellow Yellow; Conifer Green and Ocean Aqua; Dawn, Muted Rose and Wild Cherry; Persian Blue, Infinity Blue and Morning Mist; Cattail Brown, Tawny Tan and Veiled Peach; to list associated colors together. Because the Davis Cordage Company does not care to fill orders of less than 60 pounds, the Shuttle-Craft Guild has stocked these colors for sale to members at \$3.35 a pound or \$1.70 a half pound. This is weft material, so we have also stocked 14/2 warp in Mellow Yellow, Morning Mist, Veiled Peach and Ocean Aqua. Our stock shelves are too tempting with color to resist and I'm afraid we shall be like the candy-maker who ate his own stock. We have tested the color-fastness by giving a thorough "Bendixing" in hot water to a long warp of towels and mats, using all colors, and did not find the slightest trace of either fading or running. Our weight selection was determined by the type of weaving in which the colors can be used to great advantage, and we must confess to an inclination toward getting all of these colors at the low price. If Guild members show sufficient interest in using these linens, we shall stock further sizes. I must admit a personal liking for the soft quality which comes from using the 7/s as warp, set at 18 or 20 per inch, but this would not find favor with the fastidious weaver. A chartreuse 7/s warp (which we beamed and wove with no thread-breaking difficulty) made the loom and the surrounding studio look as though we were growing moss, as it shed, in a fine fuzz, from the action of the reed. Warp suggestions are the 14/2 set at 20 ends per inch, the 12/s at 24 to 30 per inch, the 17/s at 30 per inch.



Sinkino Shed



Rising Shed



The threading suggested is one of the basic, adaptable ones which we find so useful, built on what we call Extended Twills, and descriptively named Chromatic Textures. The weaving, done without tabby, on the standard tie-up, may be varied to give countless attractive textures. No pattern (in the customary interpretation of the word) is produced, so there is no problem in arranging the draft for the loom. Merely thread a 4-thread twill selvage, thread draft repeats until four threads from the end is reached, and add a 4-thread reverse twill selvage. A long warp (because the weaving is beautiful, useful, interesting, and progresses rapidly), 14 inches wide (suitable for both table mats and face towels) is suggested. Color borders are particularly good in this threading because the arrangement of warp threads over the weft breaks the blatant lines, when new colors are introduced, so that stripes have none of the uncompromising sharpness which occurs with their use in twills, tabby or traditional linen weaves. Another advantage of the weave is that it requires no careful warp-weft balance in the weaving. It may be woven loosely to give a light weight, with a close-set warp to give warp emphasis, or beaten firmly to give weft emphasis, and any weight of weft material may be used. The textile weight, when any of the above suggested warps is woven with the 7/s colored linen, is excellent for table mats or towels, but is much too heavy for napkins. Wide hems are appropriate for the heavy fabrics. One towel requires about one ounce of warp, two ounces of the 7/s in the predominating color, and small amounts of border colors. Mats require a little less.

For table mats we wove 3 inches in the basic texture for the hem, then 3 to 3½ inches in pattern borders, 11 inches in basic texture, another 3 to 3½ inches with the border arrangement reversed, and ended with 3 inches for hem. This makes a generous mat, about 13 by 19 after washing, hemmed to the first border. Off-balance borders in various colors are much more interesting than symmetrical. Monochromatic color schemes are fashionable this year.

The towels are definitely not of the finger-tip, guest-towel type. They

are generous sized, thoroughly practical, highly absorbent bathroom towels, which will add a note of gaiety and beauty to any bathroom and will improve with many trips through the weekly laundry. Very masculine looking towels -- a gift which would delight many a man -- can be designed with these textures in the deep, modern colors. Proportion in towels is important -- the way they look when folded twice lengthwise and hung over a towel rack. A total weaving length of twice the width will allow inch and a quarter hems and good proportions, and borders about three inches wide to fall below the center, or about five inches to come above the center, are good. Off-balance borders with the weight at the bottom are best.

This, we found, is a project to keep a weaver at the loom until four in the morning (Unhappy morning after!) as there is always a new color combination and a new texture ahead. Suggested textures for the body of the towels and mats are woven with one shot on each treadle: 1,2,3,4,3,2, repeated; 1,2,3,4,1,2,3,4,3,2,1,4,3,2, repeated (very good); 1,2,3,4, repeated; 1,3,2,4, repeated (for a more open weave); 1,2,3,2 repeated (for warpwise stripes); or 4,3,2,3, repeated; 1,3,2,3, repeated (for excellent texture), or 4,2,3,2, repeated. Other variations will occur to the weaver, the only considerations being that all of the warp ends must be caught into at least one of each three sheds, and that the weave is perfectly consistent.

Suggested border arrangements bring in colors in various amounts. The best effects are gained, at least on natural colored warps, by using the lighter colors for the body of the towel or mat, and darker and contrasting ones for borders. For 3-thread beadings use 1,2,1; 4,3,4; 2,3,2; etc. For 4-thread edgings use the twill succession such as 1,2,3,4. For 5-thread borders, 1,2,3,2,1; 2,3,4,3,2; etc. For 7-thread borders 1,2,3,4,3,2,1; or use any treadle as the starting shot. Wider borders may be woven with repeats and then reverse repeats of the twill succession, for the desired width. A second color may be added in a border by placing it on the center one or three sheds of any stripe. These may be made even more effective by using a double or triple strand of linen.

Here are some of our favorite arrangements for towels -- equally good for mats if the border arrangements are woven in reverse after sufficient texture has been woven for the center. On Infinity Blue base weft treadled 1,2,3,2, add borders in Persian Blue treadled 1,2,3,4,1, then Chartreuse on 2,3,2, and Persian on 1,4,3,2,1; allow 3 inches Infinity for hem, 1st stripe, 12 shots Infinity, 2nd stripe, 12 shots Infinity, 3rd stripe, 12 shots Infinity, 4th stripe, 25 shots Infinity, 5th stripe, 15 inches Infinity, 6th stripe, 3 inches Infinity for hem. Use the same 3-thread beading but in many colors and grouped unevenly, for about three inches for border. Another is in Ocean Aqua with Conifer Green stripes; 3 inches woven 1,2,3,4,1,2,3,4,3,2,1,4,3,2, repeated for hem, Conifer on 1,2,3,2,1, one repeat of the Aqua succession, Conifer on 2,3,2, Aqua on 1,4,3,4,1, Conifer on 2,3,2, first Aqua stripe repeated, first Conifer stripe repeated, 17 inches basic Aqua texture, three Conifer beadings on 2,3,2 separated by Aqua on 1,4,3,4,1, finish with 3 inches Aqua texture for hem. Our favorite design is in Meadow Green, Citron Chartreuse and Mellow Yellow subtly blended together, treadled throughout 1,2,3,4,3,2. Weave 5 inches of this in Meadow, then enter Chartreuse on treadle 4; on the next round weave Chartreuse on 4 and 3, continuing to substitute Chartreuse for Green in one additional shed on each succession; when only one shot of Green is left on shed 1, enter Yellow on shed 4 and grade it in the same way; weave center of Yellow, then repeat in reverse for the other end of either towel or table mat. The three browns or the three rose shades are also beautiful in this design.

With this introduction to Modern Linens, the subject will be continued next month with a number of drafts including multiple-harness arrangements.

Harrist C. Douglas

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BULLETIN



February 1950
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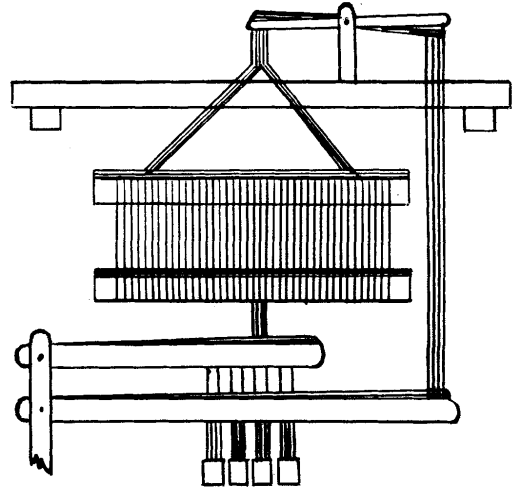
Subject:
Ancient Linen Weaves
Eight-Harness Drafts

A treat is waiting for five hundred handweavers who are interested in the history and the traditions of their craft as handed down in Colonial days in America. The famous old book by the Bronson brothers, published in 1817, has been reprinted in facsimile, in a limited edition of five hundred copies at \$7.50, by Charles T Branford Co of Boston. The book is generously titled, "The Domestic Manufacturer's Assistant, and Family Directory, in the Arts of Weaving and Dyeing; Comprehending A Plain System of Directions, Applying to Those Arts and Other Branches Nearly Connected with Them in the Manufacture of Cotton and Woollen Goods; Including Many Useful Tables and Drafts, in Calculating and Forming Various Kinds and Patterns of Goods, Designed for the Improvement of Domestic Manufactures," by J and R Bronson. With quaint phrase and terminology, the little book of about 200 pages, half of which are devoted to dying, actually lives up to its name. It describes the entire process of textile construction as it was carried on in the early days of our country as a home industry. Directions start with the processes which the modern weaver may avoid: sorting the wool fleeces and scouring and spinning wool, securing skeined cotton and sizing it to make it strong enough for warp, and dyeing of wool and cotton skeins. Each step, through constructing a loom and equipment, dressing the loom, weaving, and the fulling of the final textile, is described, and thirty-five drafts are given for textiles in common use during Colonial days. Its vocabulary requires some transcription, its directions need adaptation to modern materials and equipment, its drafts and weaving directions require interpretation into notation forms used by modern weavers; but the little volume, as one of the few early books for weavers, carries in it many of the seeds of modern American handweaving. Though there is more of Antiquarian than direct practical value in it for the present day weaver, no weaver but will have at least a passing interest in the history of the craft as it is here shown.

In the opening paragraph is expressed a skepticism of the then-developing power loom, "During several years past, there has been many kinds of looms invented and offered to the public, as improvements on the old constructed Fly Shuttle and hand loom" and it goes on to explain that though they may be all right for the professional weaver to use in producing plain cloth, the hand loom is to be preferred. Never a thought that soon the production of textiles would be completely removed from the home.

Of the thirty-five drafts given in the book, thirteen are written in the technique which we have come to call "Spot Bronson" though the Bronson brothers called these weaves "Diapers". Each draft shows four-thread spots with two threads of each spot threaded on harness 1, the two alternating threads on one of the pattern harnesses. Of the thirteen "Bronson Weave" drafts, eight are for five harnesses, four for six harnesses, and one (which is given on the next page) is for eight harnesses. Surprisingly, most of the drafts in the book are given for more than four harnesses. In fact, even the Overshot drafts are threaded on eight-harness Opposites, with no

common threads between adjacent blocks. Summer and Winter drafts are written with four blocks on eight harnesses instead of on six harnesses as we commonly write them. Since we ordinarily think of the typical Colonial loom as a four-harness, counter-balanced type, these multiple-harness, off-balance drafts provoke the question of the type of loom used to produce them. Fortunately the Bronson brothers have answered this question by giving a diagram of their loom -- a double-action loom, based on the sinking-shed principle, but arranged with a jack and a lamm to raise each harness, as well as a lamm to sink it. Therefore each harness had to be tied (through the proper lamm) to each treadle, tie-up draft (called cording) indicating whether the harness should be tied to rise or to sink. It may be suspected that the Bronson brothers were of English origin, as this type of loom is pictured in many English textile books published in the last century. Because questions occasionally come regarding the mechanism of this double-action, double-lamm loom, a drawing is given here, taken from an English book of eighty years ago. Treadle tie-ups were of necessity complex, as indicated by the directions given for one of the Bronson drafts, "This pattern is formed with 8 treadles and 8 wings. In the cording, there are 26 long cords on short lams, and 38 short cords on long lams." Cording is the expression used for tie-up, and wings for harnesses.



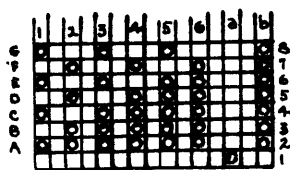
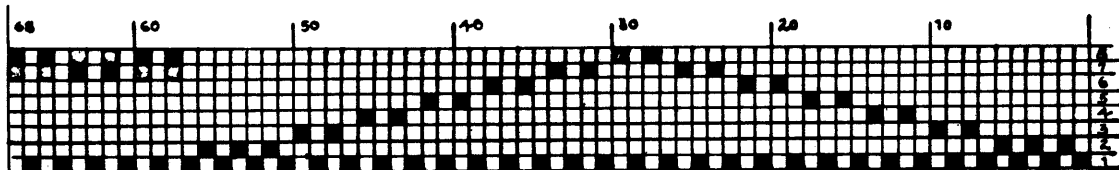
Another thought which the Bronson book provokes, of concern to modern weavers who like to classify their techniques and to be able to read weaving books intelligently and to understand other weavers, is the matter of modern weaving terminology. Our weaving vocabulary has grown through tradition, geographic usages, and verbal continuity. Therefore, unlike scientific terminology, it has never been systematically defined. In the Bronson book the little weave made up of 4-thread texture skips is called Diaper, in English books it is called Spot, or Spotting. Many years ago, when Mrs Atwater discovered the Bronson book with its weaves in this technique, she named it the "Bronson" weave. Most modern teachers follow the name Mrs Atwater gave it, but Mrs Davison in her book translates the old German name for the weave and calls it Barley Corn. There are probably others.

There is another weave which has acquired the appellation of Bronson, the so-called Bronson Lace, the weave in which the spots are separated by tie-down threads, making possible infinite repeats of the spot unit, and forming a lace-like fabric. Superficially, this weave has no relation to the Bronsons, as they give not a single draft in the technique; whereas it is one of the most common of the Scandinavian linen weaves and is called Swedish Lace when woven in the Swedish manner. The Swedish Lace, however, is used as a 3-harness all-over weave, or a two-block alternation threaded on four harnesses and adapted to a counter-balanced loom. Since our Bronson Lace is written in the off-balance arrangement of the Bronson Diapers, and following the multiple-harness Bronson patterns, the interpretation is quite different from the Swedish, and the hybrid name is quite appropriate. This technique has a number of other names. When woven in the Swedish single-block interpretation, Marguerite Brooks has given it the name Bratten Lace. Some writers call it Mock Leno, believing that the openness makes it resemble the Leno twist of warp threads. Since less confusion in weavers' minds

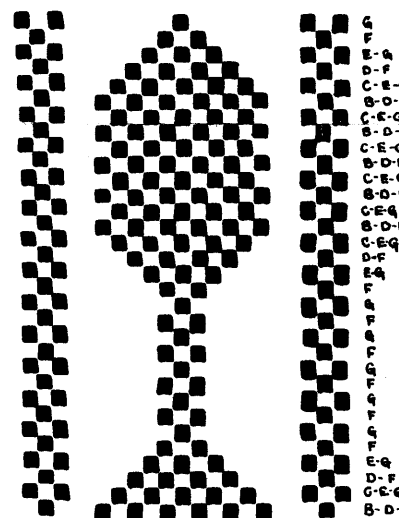
develops if the terminology follows common usage, and, as nearly as possible generic correctness, the Shuttle-Craft Guild prefers to use the hybrid terms Spot Bronson and Lace Bronson.

The changes which occur through generations of use of a weave, are illustrated by the fact that the Bronson brothers give their Diaper weave for cottons, whereas we commonly use it for linens. Tradition, however, substantiates our use, as a preponderance of the surviving Early American linens were woven in this technique, and the linen fiber adapts perfectly to this balanced texture weave. When it is woven with cotton, the Bronson directions for setting the warp closer than for plain weave, should be used

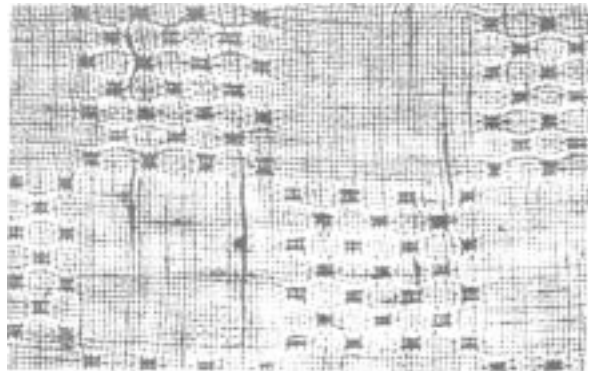
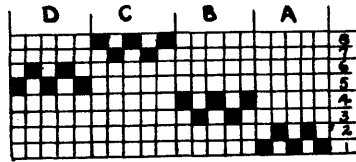
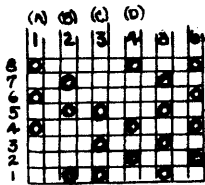
Several of the more interesting Bronson drafts have been interpreted by Mrs Atwater in the Shuttle-Craft Book: drafts 264, 266, 267 and 268. Since the Bronson work has always been standard source material, most books for weavers contain at least one draft from it. One of the more interesting drafts, Number 28 called "Curtain Diaper" written on eight harnesses, seems to have been generally overlooked. This may be because of an error which crept into the Bronsons' draft, so the draft and pattern are given here with suitable correction made. The draft is one of the basic "point" patterns, which the Bronsons develop with alternating spots, to form a tree and a pillar. The curious weaver who likes to experiment will find endless variations of design are possible. Only six of the seven pattern harnesses are woven as pattern blocks. The seventh block, A, threaded on harness 2, has six-thread rather than four-thread units, and is always combined with the other pattern blocks to weave a line of tabby separating the trees and pillars. Weaving this as pattern would cause an unpleasant irregularity in this otherwise very regular weave.



In the tie-up given here, the pattern blocks are given on one side and the harness numbers on the other. At the right of the pattern diagram are indicated the pattern blocks as they are combined in the tie-up: the first block (BDF) on treadle 1, the second row (CEG) on treadle 2, the third (DF) on treadle 3, etc. Weave in the usual Spot manner, four shots per unit, with pattern treadle and tabby a alternated: a,1,a,1; a,2,a,2; a,3,a,3; a,4,a,4; a,5,a,5; a,6,a,6; then for the tree trunk: a,5,a,5; and a,6,a,6, alternated. Reverse the first six blocks to start the tree top and then alternate a,1,a,1; and a,2,a,2, finishing the point with the first six blocks.



Another linen weave, handed down through countless generations, but as charming for modern linens as it was for ancient ones, is the weave commonly called Huck, but known in earlier times as Huckback, Huckaback, Huckabuck. This weave is not included in the Bronson Book, though the effect is similar to Spot Bronson but with five threads, rather than four threads, involved in the texture spots. Only two alternating spots, which give an all-over texture, can be produced on four harnesses. But since the weave has so much charm, we have made an 8-harness interpretation of it which permits the alternation of texture squares with tabby squares. It may also be threaded, by this system, to any two-block pattern. The photograph shows the enlarged effect of this weave, with the lozenge-shaped spots in the texture, a stronger curving of threads than occurs in the Spot Bronson. The sample was woven of 17/s linen set at 30 ends per inch.



To thread the 8-harness Huck, alternate the A and B units of the draft as many times as desired (three times in the photographed piece) and repeat A to balance the block. Alternate C and D as desired (3 times here) and repeat C to balance the block. Thread the selvage, or a tabby border if desired, on harnesses 1 and 8 alternated. Make the rising-shed tie-up as shown. In weaving, the treadled units are exactly like the draft units, with five shots in each to balance the five warp ends. Treadle 1 controls A and should be woven: a,1,a,1,a. Treadle 2 controls B and should be woven: b,2,b,2,b. Treadle 3 controls C and is woven: c,3,c,3,c. Treadle 4 controls D, and is woven: a,4,a,4,a. To weave the pattern as shown in the photograph, weave: A,B,A,B,A,B,A; C,D,C,D,C,D,C. This squares the draft units.

Charming table mats and napkins in this technique were made of 17/s linen (sold by the Shuttle-Craft Guild) set at 30 ends per inch, 14 inches wide, 420 warp ends. A warp nine yards long will make eight mats and eight napkins, with practically no allowance for experimenting, samples or errors, and requires 3780 yards or about 3/4 pound of thread, with an equal amount for weft. For eight mats and napkins, a 10-yard warp, two pounds of thread sufficient, is suggested. Thread 18 ends to selvage (1,8) then thread: A,B,A,B,A,B,A; C,D,C,D,C,D,C, alternating these five times and adding A,B,A,B,A,B,A for pattern balance; end with 17 threads (8,1) for selvage. For the mat, weave 2 1/2 inches of tabby (treadles a,b alternated) for hem, then thirteen complete pattern squares (about 17 inches), and end with 2 1/2 inches of tabby. Hem to the first row of pattern squares. The final size after laundering will be approximately 12 1/2 by 18 inches, with one inch hems. For napkins, weave 1 1/2 inches for hem, 1 complete pattern square, and end with 1 1/2 inches of tabby. The finished mats may be boiled to lighten the linen, or bleached with Purex. In weaving, it is very important that the beat be adjusted to give an exact warp-weft balance.

Harrist C. Douglas

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March 1950
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Subject:
Bound Weaving, Baby Bib,
Weaving With Angora

Although in the midst of linen weaving, and three or four Bulletins on the subject yet to come, this month we interrupt the subject to give an oft requested weave. A no-tabby weave, adapted for rugs, was presented some years ago in a Bulletin by Mrs Atwater and was printed in a Lily Mills leaflet. Don't write for either of these because they are both out of print. It is hoped that the present Bulletin will cover the previous material, and expand the application.

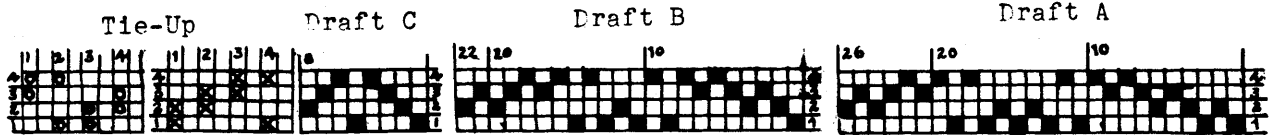
The problem here is a weaving technique -- a specific method for weaving Twill or Overshot threadings -- rather than a threading technique. In Sweden it is known as "Bound" weaving, and is commonly used as a means for producing a thick, weft-faced, highly colored fabric on that useful little Point Twill draft known as Rosepath. We prefer the use of the Swedish name, since there are hundreds of no-tabby weaves and certainly this particular one is not of such complete significance that it can be called THE no-tabby weave. The weave is explained in the Bulletin for July 1948 (still available) as it may be used on any Overshot, Hybrid-Overshot, or Twill threading. The Rosepath interpretations give very minute, needle-point-like effects. Mrs Atwater, in the two articles referred to above, expanded the Rosepath draft to the 5-block Overshot Diamond to give much larger, more striking figures. Regardless of the threading on which Bound weaving is done, the method is always identical.

Bound Weaving is a method of weaving with four shuttles carrying one to four different colors, on a Twill or Overshot threading, to produce a thick, smooth surface fabric in which the weft completely covers the warp. Patterns are produced on a static treadling order, by color arrangements, and may be designed in great variety by changing colors and color relationships. The weaving is done without tabby on the four pattern sheds of the Standard Tie-Up. The weave-unit is four shots in the twill succession, with a different shuttle used in each of the four sheds: treadle 1 (weft passing over threads on harnesses 1 and 2) with shuttle 1, treadle 2 (weft passing over threads on harnesses 2 and 3) with shuttle 2, treadle 3 (weft passing over threads on harnesses 3 and 4) with shuttle 3, treadle 4 (weft passing over threads on harnesses 4 and 1) with shuttle 4. These four shots are repeated without variation. Pattern variations are made by merely changing the colors used in the shuttles, or by changing the relationships of the colors. When first trying this system, a weaver may find it advisable to number the shuttles and shift bobbins each time a color change is desired. The four shots with any particular color order, may be repeated any number of times, to give any desired block size. Often a pattern will require at some points the same color in two, three, or even four sheds. To avoid confusion when first doing this weave, it may be advisable to use four shuttles even in this case, with two, three or four of them carrying the same color, but this is not necessary. However, when all four shots are woven with one color it is best to use at least two shuttles because edge warp threads do not weave, and the only way to make good selvages is to lock two wefts at the edges.

Since Bound Weaving produces a thick, very strong fabric of great beauty and elegance, it is somewhat limited in its application to specific articles. It is most commonly used for one-technique textiles, as patterns of this type have such strong texture that they are difficult to combine with tabby or any other weave to make pattern borders. Because of its similarity in quality and durability to needle-point embroidery, it may be used in much the same way that needle-point fabrics are used. Suggested applications are hand bags, cushions, chair covers, foot stool covers, and rugs. However, we are suggesting below an altogether different use. The weaving progresses quite slowly because of the great number of weft shots required to make a complete warp coverage, and it is an expensive weave, because it requires a great deal of weft material and the quality of the final fabric combined with the slowness of the weaving usually makes it worth while to use only high quality materials.

The warp should be of very strong material, set considerably wider than for normal tabby. The weft should be fine, often finer than the warp, to permit a complete warp coverage. Suggested warps are 16/3 Egyptian cotton or 20/2 linen, set at 18 ends per inch. Ordinary 20/2 cotton may be set at 30 per inch, but threaded and sleyed double to give an actual set of 15 double ends per inch. For very fine work, 40/2 linen may be set at 20 or 24 ends per inch. The perle cottons make excellent warp because of their slickness. Remember that the warp is completely covered by the weft, so warp color is not a consideration. This is a good way to use up odds and ends of colors, or some unattractive color. For rugs in this technique Mrs Atwater suggests using ordinary carpet warp, beamed at 15 ends per inch but threaded with three ends through each heddle, the three ends also drawn through one dent of a 15-dent reed and two dents skipped, or with one dent of a 10-dent reed skipped. For the finer materials, the ideal weft is a fine, high-quality wool such as Fabri. (Fabri, by the way, is moth-proofed, a quality often desired for such a fabric.) When cottons are desired, the weft should be finer than the warp. For the above suggested warps and setting 20/2 or 24/2 cottons are excellent, and, with considerable effort on the beating, soft 10/2 may be used. This weave presents an excellent means for using those odds and ends of materials of many different types and colors which any weaver collects, and where just a touch of some particular color is needed it is often worth while to "split hairs" or unply the yarn. And for such needs, don't forget your sewing basket which probably contains many spools of bright colored silk and nylon threads. It is quite feasible to mix types of material, as long as they are about the same weight and beat up similarly. Linen is the one thread to avoid absolutely, as it is too wiry and inelastic to cover the warp. For rugs in this technique, Lily's fine cotton rug materials are excellent: Art 814 and Art 1014; but the heavy roving cannot be used. However, such beautiful and long lasting rugs may be woven in this manner that the use of cotton seems almost a travesty. Heavy sweater yarn, Germantown or heavier, will produce a beautiful rug, easy to clean, thick enough to lie flat on the floor, and wool colors are so much more sympathetic for designing. But such rugs -- like anything really good -- are expensive.

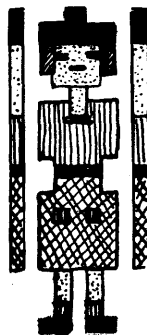
The interpretation we have just made of this weave is for baby bibs, with a plain-weave body and a band of humanesque or animal figures. The warp was 185 ends of 16/3 Egyptian cotton, set at 18 per inch, seven repeats of Draft A, with three pattern-balance threads at the end on 1,2,1. No selvage is added, as a selvage only distorts the weaving. To give a soft, thick, absorbant texture, the body of the bibs was woven in plain weave (tabby treadles 1-3 and 2-4) with Lily Stranded Filler (Art 514) in white, yellow, light blue or light green. Since this is too heavy for hems, weave 3/4 inch in tabby with the warp thread, then 1 1/2 inches plain weave with Art 514, select and weave a pattern border 2 to 3 inches wide, weave six more inches with Art 514, and finish with 3/4 inch tabby for top hem. Mark an oval shape for the neck and stitch three times on the sewing machine before cutting, to prevent fraying. Hem the tabby under at top and bottom. Bind the neck with a long piece of bias tape which is continued for ties. The bibs are charming and practical. Any child (or mother) will love them. They require too much weaving time, however, to be practical commercially.



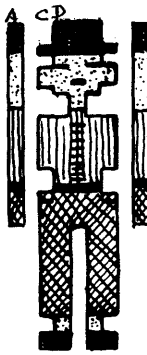
Drafts A, B, and C will all produce the figures given below. "A" makes the center blocks slightly wider than the others, "B" makes them slightly narrower. The Color Key is not specified. Select your own colors.



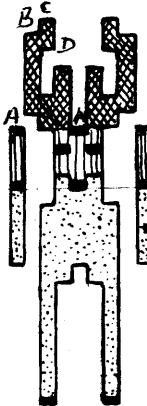
ABCDADCB A



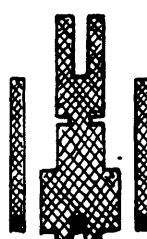
- 1-O, 2-N, 3-N, 4-N;
- 1-O, 2-N, 3-O, 4-O;
- 1-S, 2-N, 3-P, 4-S;
- 1-S, 2-N, 3-N, 4-S;
- 1-S, 2-N, 3-N, 4-N;
- 1-S, 2-N, 3-Q, 4-Q;
- 1-Q, 2-N, 3-Q, 4-Q;
- 1-O, 2-N, 3-N, 4-O;
- 1-R, 2-N, 3-R, 4-R;
- 1-N, 2-N, 3-N, 4-S;
- 1-N, 2-N, 3-N, 4-Q;
- 1-N, 2-N, 3-O, 4-O.



- 1-O, 2-N, 3-N, 4-O;
- 1-O, 2-N, 3-O, 4-O;
- 1-S, 2-N, 3-N, 4-S;
- 1-S, 2-N, 3-S, 4-S;
- 1-S, 2-N, 3-N, 4-S;
- 1-S, 2-N, 3-N, 4-N;
- 1-Q, 2-N, 3-Q, 4-Q;
- 1-Q, 2-N, 3-N, 4-Q;
- 1-O, 2-N, 3-N, 4-O;
- 1-R, 2-N, 3-R, 4-R;
- 1-N, 2-N, 3-R, 4-R;
- 1-N, 2-N, 3-N, 4-S;
- 1-N, 2-N, 3-R, 4-R.

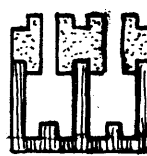
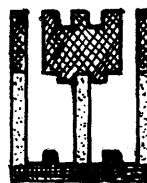
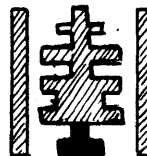


The above treadlings are for the Girl and Boy figures. Numbers refer to treadles, letters to the Color Key. Each succession of four treadle-color arrangements is repeated to give the desired block size. Single shots for features and other details may be added at will. Color arrangements for the other designs are easily made.



The letters at the head of the pattern rows indicate the pattern-block areas. "A" is always woven on treadle 1, "B" on 2, "C" on 3, "D" on 4. Thus, the horizontal arrangement of blocks is always set by the threading.

ABCDADCB A



These are further suggestions for geometric and naturalistic designs. The design possibilities are limited only by the four pattern blocks in their 9-block symmetrical arrangement. Further designs are given in Elmer Hickman's Scandinavian Art Weaving Packet on Rosengang. All Swedish weaving books show photographs of weaving done in "Bound" weave

Try making original designs either on squared paper or directly on the loom.

This weave may be used for attractive table mats on a 14-inch wide warp, 252 ends set at 18, and woven as in the bib. The body may be woven of 20/6 cotton in the 1,2,3,4 treadling order.

Weaving cautions: This weave has a tendency to draw-in severely, so the weft must lie very loosely in the shed to obviate this. A strong tension on the warp makes the weaving easier. Weave in the edge warp threads by "locking" two or more weft threads continuously. If the weaving cannot be beaten to cover the warp completely, insert a stick shuttle or a sword stick into the shed every four shots and pull forward sharply, or beat against it.

In some later Bulletin we shall give directions for making pattern bands of this weave on a fine tabby background, an interesting and sometimes useful technique, because of its strong texture contrasts.

WEAVING WITH ANGORA

The sample cards sent out in January have brought many questions about the use of our 50% Angora Rabbit and 50% Lamb's wool yarn. It is encouraging in our efforts to bring some new and unusual materials to Guild members, to see this interest in this beautiful, luxury yarn, but it is also evident that we have not passed along to Guild members enough of our own experience in using the yarn. First of all a few facts. There are only a few mills in the world which spin Angora Rabbit Fur and one is a small Co-Op enterprise in Montana, which supplies angora yarn to many large yarn distributors. Chances are that the tiny balls found in department stores are spun, balled and labeled at this mill, regardless of the trade name on the box. But since the mill manager is a handweaver himself, and anxious to bring his yarn to the attention of other hand weavers, he has made it possible for us to sell the yarn to Guild members at about half the usual price, giving us luxury fabric at non-luxury prices. We are further stimulated to discuss this yarn by the box which arrived from the mill yesterday. Although we had ordered our usual 5-ounce skeins and 1-ounce balls in unwashed white, out of the box cascaded some of the most beautiful yarn colors we have ever seen: pink, rose, red, carmine, light blue, blue-grey, dark and light green, yellow, beige, brown, and black. No bill yet, but I'm setting a tentative price for colors at \$1.00 per 1-ounce ball, \$4.00 per 5-ounce skein.

The best weave for this yarn, which emphasizes the fur-like fabric texture, is plain tabby -- sometimes 2-2 twill -- set at 20 ends per inch. A warp 32 inches wide, 5 yards long, requires slightly under 3 skeins of yarn, and a little over 2 skeins for weft -- 5 5-ounce skeins for a warp, or 5 ounces per yard -- \$3.00 for white, \$4.00 for colors. The Angora is a delightfully weavable yarn, slightly more delicate than wool, but with care requiring no special handling. It has a great deal of static electricity which may be reduced by rolling the skeins in a damp towel and chilling them in the refrigerator before warping, and it helps to keep your bobbins in a paper sack in the refrigerator too. The uses of the yarn are many. We have found it delightful for baby blankets, head scarves, cloud-like shawls and afghans, infant's coats, and combined with soft wools for suit and coat fabrics. One of the most delightful articles from Angora is the little shoulder wrap we call "Loungers" given in the Bulletin for November 1946. Once you have had one of these little Loungers to throw over your shoulders in a cool house or for reading in bed, you will never be without. They are charmingly becoming and make that rare and perfect gift for an invalid or an expectant mother. Angora weft on a Fabri warp will make scarves softer, lighter, and dantier. I have heard a rumor that Angora wool is not advisable for babies, but biological experiments have proved this to be an "old wives tale."

The warping and weaving require the same care which any delicate wool does, but some special treatment is needed for the finishing. Our own work shows that the unwashed, white wool is best for warp as it seems to have more strength. The fabric is most unattractive as it comes from the loom. The mill says to use any of the mild detergent powders for washing, but we have had best results by using the liquid detergent sold by the Englewood Weavers, 446 W 60th Place, Chicago 21, Illinois, at 35 cents a bottle or 3 for \$1.00. After washing, rinse carefully and squeeze in a towel. Spin drying is excellent if you have an automatic washer, as it heightens the fluff. If further bleaching is desired, use 5 ounces of 100-volume peroxide per pound of material. Mix the solution with enough water to cover the damp material and let the material stand in the solution in a covered container for eight hours. When dry, the material may be brushed to raise any desired amount of nap. We use a fine wire carding brush but a fine nylon-bristle brush is satisfactory. Steam press before or after pressing, as desired. Your bleached, brushed Angora will look as bright as an Easter bunny, and will be much softer, lighter and warmer than wool.

While on the subject of Angora, I should add the experience of several Guild members who have used the yarn for knitting and report it perfect for fluffy sweaters and extra-warm socks. Angora socks are reported as favorites with hunters, skiers, winter sportsmen in general, and winter drivers. Commercial handweavers report that articles woven of Angora have a great sales-appeal and command high prices.

Harrist Douglas

THE SHUTTLE-CRAFT GUILD

BULLETIN



April 1950
Volume XXVII, Number 4
Virginia City, Montana

Subject:
Interpretation of The
DOMESTIC MANUFACTURER'S ASSISTANT

The recent interest revival in Early American weaves brought about by the republication of the 1817 DOMESTIC MANUFACTURER'S ASSISTANT by J and R Bronson illustrates a normal but unfortunate gap in the modern weaver's use of his American heritage. The Colonial Coverlet has been the channel through which modern handweaving has been influenced by that of the past -- a natural channel since the Coverlet was the treasured object of "Art Weaving" produced usually by a young woman before her marriage and reverently handed down from one generation to another, often ending, when its days of usefulness were over, in a museum. But when one considers that the home loom, in all but very wealthy families who could afford to import textiles from Europe, was the only means of producing every textile used by a family, it becomes evident that the decorative coverlet must have been one of its least important products. The Coverlet had a greater chance of survival, while the useful household textiles have largely disappeared, worn to shreds and then converted into rag carpets, which must account for our tendency to overlook the every day textiles of the American pioneer. In THE SHUTTLE CRAFT BOOK OF AMERICAN HANDWEAVING by Mary Atwater, the classic on the subject, this trend is indicated by the fact that of 297 drafts reproduced, 258 are Coverlet patterns, and these are in only four main techniques.

The brothers J and R Bronson, in bringing the only comprehensive book on handweaving to weavers of over a century ago, give now to modern weavers a new understanding of the encompassing scope of Early American weaving. Their 35 drafts, and 24 setts for plaids, stripes and plain materials, include suitable fabrics for shirts, sheets, dresses and aprons, handkerchieves, ticking, table linens, curtains, tubing, suits, carpets, blankets and coverlets -- but only four coverlets in the lot. Types of yardage materials include gingham, broad cloth, casimere, satin, damask, various diapers, dimity, chambray, herringbone, jeans twill and plain twills, and elastic cord. Along with these are directions for dressing the loom and useful hints for weaving, tables for calculating yarn requirements, with many recipes dying and other household manufacturing, and basic instructions for preparing fibers, scouring, carding, spinning and applying warp dressings. Such comprehensiveness is rare on any subject, and the Bronson brothers in calling their book "The Family Directory ---- Designed for the Improvement of Domestic Manufacturers," did not overestimate the value of their writing.

Theirs was a practical age, when producing textiles on the handloom was as important a household activity as preparing food. Ours too is a practical age. Our civilization has not reached the decadent stage when superficial decoration becomes an end in itself. We live in an age dominated by Frank Lloyd Wright's thesis, "Form follows function." The modern handweaver though compelled by a different necessity than his forebears, has slight interest in purely decorative fabrics. His wish is to produce fabrics which are useful, substantial, appropriate to purpose, as well as beautiful and exclusive. The modern handweaver cannot compete with the machine, but he can

do what the machine cannot -- synchronize his textiles to his specific needs, improve their quality, and give them an exclusive beauty. To accomplish these ends, he may well look back to the household textiles which were produced on the handloom before machines took over the manufacture of cloth.

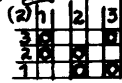
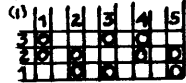
As a guide for the production of modern textiles for widely varying uses, the facsimile of the Bronson brothers' book, recently published by Charles T Branford Co, 6 Beacon Street, Boston, Massachusetts. is unparalleled, not because the book is a colorful bit of early Americana (which it is), but because the Bronsons understood their field so well that they were able to point out means for improving both quality and efficiency in weaving and to make everyday textiles beautiful.

Recognizing that the most efficient rhythm at a loom is the walking motion, every one of the Bronson weaves has a treadle tie-up which permits the treading to be "walked". This factor is too often overlooked (or tie-ups are too little understood) by modern weavers. Just as one can walk farther with less fatigue in the normal manner than by hopping two steps on one foot and two on the other, so the weaver can work longer with less fatigue if he treads 1 (left), 3 (right), 2 (left), 4 (right), than with a treadle order which requires 1, 2 (left), 3, 4 (right). In all weaves which have a tabby background the tabbys are tied at one side, to be operated with one foot, while the pattern treadles are tied at the other side to be operated with the other. Never is there the lost economy of motion caused by tying the tabbys in the center of the loom, or at each side.

Recognizing that the fabrics of the highest beauty and quality, which wear the longest, are those in which the wearing strain falls equally on warp and weft threads, the directions for all of the Bronson techniques are given for a perfect balance between warp and weft. To produce this warp-weft balance, exactly as many weft shots must be thrown per inch as there are warp ends. Modern weavers who adhere to the highest standards of craftsmanship, recognize in their work (except for special weaves which demand a different interpretation) this perfect balance in the finished textile. There is a seeming contradiction in the two-shuttle pattern weaves with tabby background about which the Bronsons say, "The number of treads in the treadle draft, must be twice the number of threads, that are in the drawing through the harness," which means that one weaves twice as many weft shots per inch as there are warp ends. This, however, is not a contradiction, since the actual strength and wearing quality of such a fabric is determined by the quality (the balance) of the tabby background; the pattern weft is merely an added, decorative thread. Anyone familiar with surviving Colonial Coverlets has noted how frequently the pattern weft is worn away in spots, while the firm background material remains intact.

Unfortunately, the facsimile of the ancient Bronson book loses its usefulness to the average modern handweaver by the fact that conventions and terminology in handweaving have changed greatly in the past century and a half, and most modern weavers have difficulty in interpreting the drafts, tie-ups and directions. To bring these important weaves from our American heritage to the modern handweaver, the thirty-five drafts with tie-ups and directions are here written in our modern, standard notation system. The drafts interpreted here all remain identical to the original Bronson drafts, but have been re-arranged to suit modern drafting conventions. In a number of cases apparent errors in the tie-ups have been corrected. It is probable that these errors were not due to carelessness of the Bronsons, certainly not due to any lack of understanding, but probably caused by the very evident difficulty which the printer had in setting up symbols to indicate the tie-ups.

Three Shaft Ticking

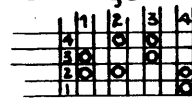


No. 2

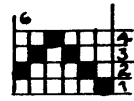


Treadle: 1, 3, 2, 4, 3, 5, repeat
Set as for tabby.

Bird Eye

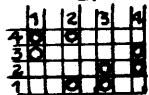


No. 1



Treadle: 1, 4, 1, 3, 2, 4, 2, 3

Herring Bone

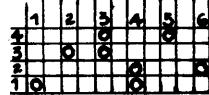


No. 5



Treadle: 1, 4, 2, 3, 2, 4, 1, 3
Set closer than tabby.

Elastic Cord

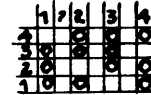


No. 4

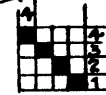


Treadle: 3, 4, 3, 4, 1, 6, 2, 5
Set as for tabby.

4-Shaft Ticking No. 3

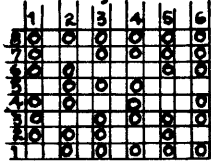


No. 3

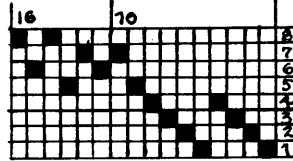


Treadle: 1, 4, 2, 3, repeat
Set closer than tabby

Bird Eye and Twilled

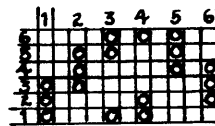


No. 7

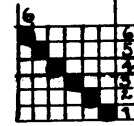


Treadle: 1, 6, 2, 5; 1, 4, 2, 3,
Thread 8 in color 1, 8 in color 2, Weave color 3.
Set much closer than tabby.

Six-Shaft Twill

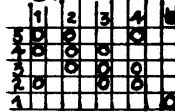


No. 6



Treadle: 1, 6, 2, 5, 3, 4,
Set closer than 4-shaft.

Figured Chambray



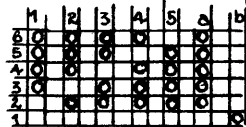
No. 8



Treadle: 5, 4, 5, 4; 5, 3, 5, 3; 5, 4, 5, 4; 5, 1, 5, 1;
5, 2, 5, 2; 5, 1, 5, 1;

Set closer than for tabby.

Diamond and Squares for Diaper

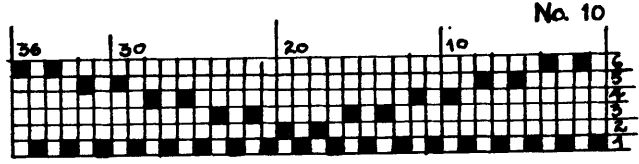
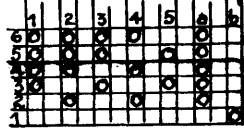


No. 9

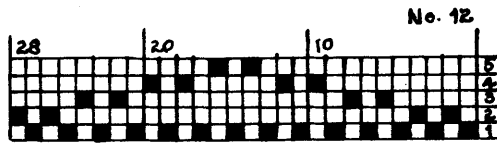
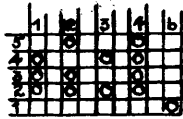


Treadle: b, 1, b, 1; b, 2, b, 2; b, 3, b, 3; b, 4, b, 4; b, 5, b, 5;
b, 4, b, 4; b, 3, b, 3; b, 2, b, 2;
Set closer than for tabby.

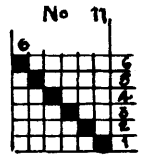
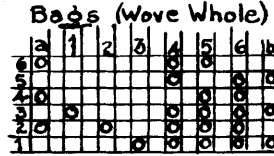
Diamond Diaper



Treadle: b, 1, b, 1; b, 2, b, 2; b, 3, b, 3; b, 4, b, 4; b, 5, b, 5; b, 4, b, 4;
 b, 3, b, 3; b, 2, b, 2; repeat. * Or treadle: b, 3, b, 3; b, 4, b, 4;
 b, 5, b, 5; b, 4, b, 4; b, 3, b, 3; b, a, b, a, b, a, b, a, b, a.
 Set closer than for tabby.

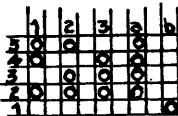
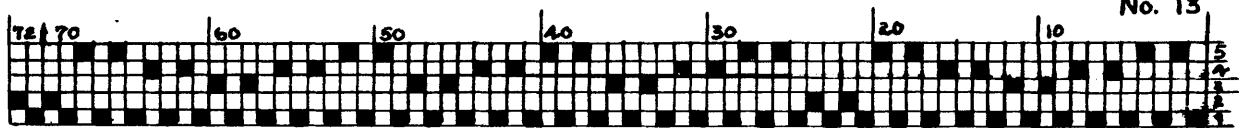


Treadle: b, 1, b, 1; b, 2, b, 2; b, 3, b, 3; b, 2, b, 2;
 b, 1, b, 1; b, a, b, a, b, a, b, a;
 Set closer than for tabby.



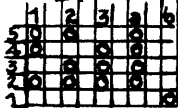
Treadle: 1, 6, 2, 5, 3, 4
 Close bag by weaving: a, b.
 Set twice as close as tabby.

Rose and Diamond Diaper



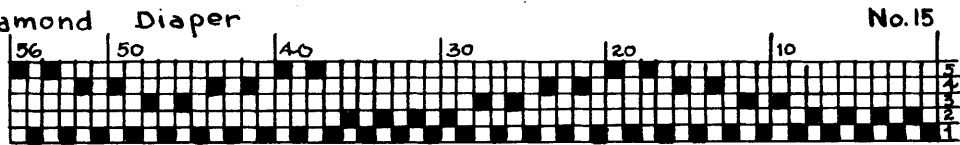
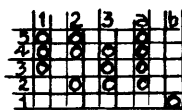
Treadle: b, 1, b, 1; b, 2, b, 2; b, 3, b, 3; b, 2, b, 2; b, 1, b, 1; b, a, b, a; b, 1, b, 1; b, 2, b, 2; b, 3, b, 3;
 b, 1, b, 1; b, 2, b, 2; b, 3, b, 3; b, 1, b, 1; b, 2, b, 2; b, 3, b, 3; b, 2, b, 2; b, 1, b, 1; b, a, b, a;
 Set closer than for tabby.

Eight Block Diamond for Diaper No 14



Treadle: b, a, b, a, b, a, b, a; b, 1, b, 1; b, 2, b, 2;
 b, 3, b, 3; b, 2, b, 2; b, 1, b, 1;
 Set closer than for tabby

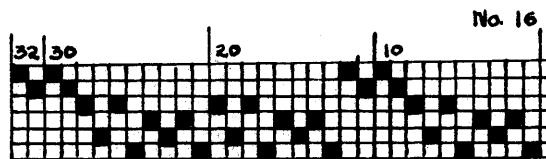
Cross and Diamond Diaper



Treadle: b, a, b, a, b, a, b, a; b, 1, b, 1; b, 2, b, 2; b, 3, b, 3; b, 2, b, 2; b, 1, b, 1;
 b, a, b, a, b, a, b, a; b, 3, b, 3; b, 2, b, 2; b, 1, b, 1; b, 2, b, 2; b, 3, b, 3;
 Set closer than for tabby.

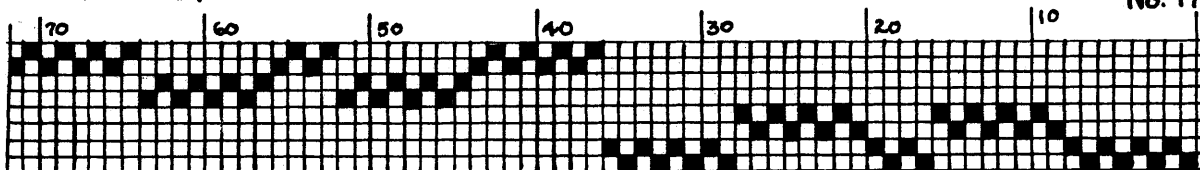
Checked Dimity

	a	1	2	3	4	b
1	0	0	0	0	0	0
2	0	0	0	0	0	0
3	0	0	0	0	0	0
4	0	0	0	0	0	0
5	0	0	0	0	0	0
6	0	0	0	0	0	0
7	0	0	0	0	0	0
8	0	0	0	0	0	0
9	0	0	0	0	0	0
10	0	0	0	0	0	0



Treadle: 1,3,2,3; 1,4,2,4; a,b,a,b; 1,3,2,3; 1,4,2,4; 1,3,2,3;
1,4,2,4; a,b,a,b;
Set Closer than for Tabby.

Coverlet Eight Shaft Coverlet



	1	2	3	4	a	b
1	0	0	0	0	0	0
2	0	0	0	0	0	0
3	0	0	0	0	0	0
4	0	0	0	0	0	0
5	0	0	0	0	0	0
6	0	0	0	0	0	0
7	0	0	0	0	0	0
8	0	0	0	0	0	0
9	0	0	0	0	0	0
10	0	0	0	0	0	0

Treadle with tabby: 1-8 shots, 2-8 shots, 1-4 shots, 2-8 shots, 1-8 shot
3-8 shots, 4-8 shots, 3-4 shots, 4-8 shots, 3-8 shots.
Set as for tabby. Pattern may be varied by weaver's fancy.

Compass Diaper

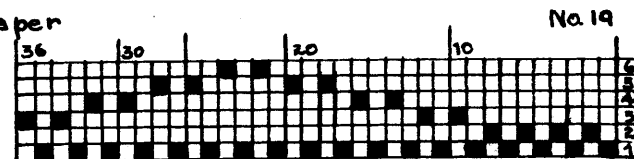


	1	2	3	4	a	b
1	0	0	0	0	0	0
2	0	0	0	0	0	0
3	0	0	0	0	0	0
4	0	0	0	0	0	0
5	0	0	0	0	0	0
6	0	0	0	0	0	0
7	0	0	0	0	0	0
8	0	0	0	0	0	0
9	0	0	0	0	0	0
10	0	0	0	0	0	0

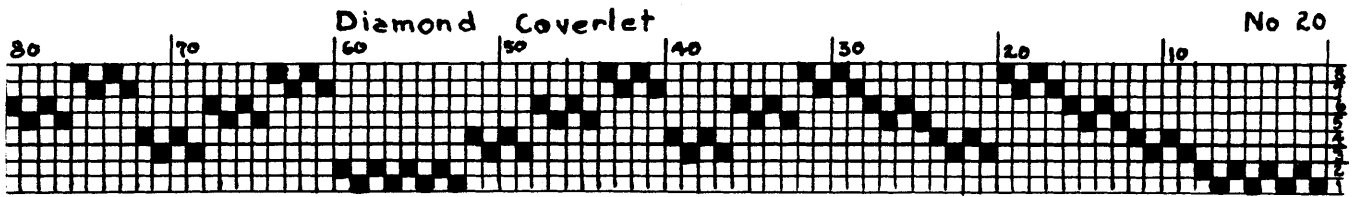
Treadle b,2,b,2; b,1,b,1, b,2,b,2-four times; b,3,b,3; b,4,b,4; b,3,b,
b,2,b,2; b,1,b,1; b,2,b,2; b,3,b,3; b,4,b,4; b,3,b,3;
Set closer than for tabby.

Half-Diamond Diaper

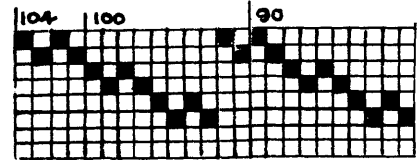
	1	2	3	4	5	a	b
1	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0



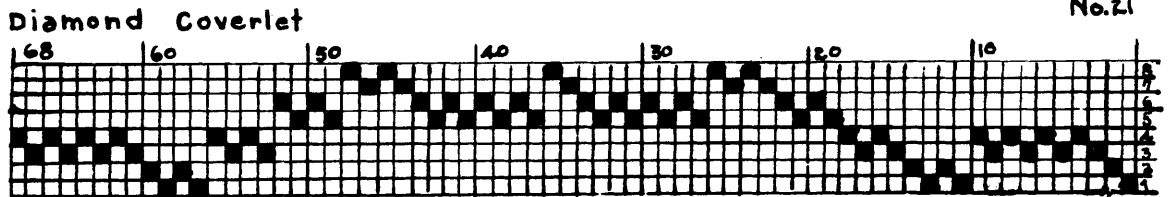
Treadle: b,5,b,5; b,4,b,4; b,3,b,3; b,2,b,2; b,1,b,1; b,a,b,a;
Set closer than for tabby.



	1	2	3	4	a	b
8	0	0	0	0	0	0
7	0	0	0	0	0	0
6	0	0	0	0	0	0
5	0	0	0	0	0	0
4	0	0	0	0	0	0
3	0	0	0	0	0	0
2	0	0	0	0	0	0
1	0	0	0	0	0	0

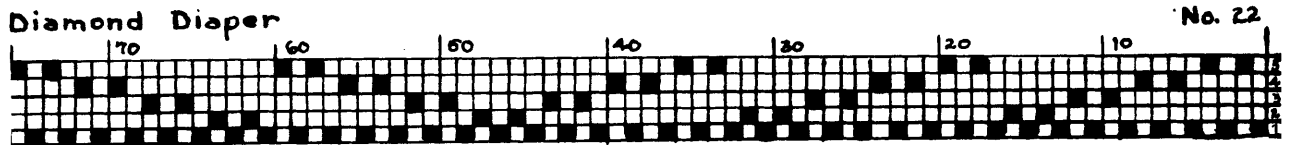


Treadle with tabby: 1-8 shots, 2-4 shots, 3-4 shots, 4-4 shots, 2-4 shots, 3-4 shots, 4-4 shots, 3-4 shots, 2-4 shots, 4-4 shots, 3-4 shots, 2-4 shots; 1-8 shots; 4-4 shots 3-4 shots, 2-4 shots, 4-4 shots, 3-4 shots, 2-4 shots, 3-4 shots, 4-4 shots; 2-4 shots, 3-4 shots, 4-4 shots; Set as for tabby.



	1	2	3	4	a	b
8	0	0	0	0	0	0
7	0	0	0	0	0	0
6	0	0	0	0	0	0
5	0	0	0	0	0	0
4	0	0	0	0	0	0
3	0	0	0	0	0	0
2	0	0	0	0	0	0
1	0	0	0	0	0	0

Treadle with tabby: 1-2 shots, 2-8 shots, 1-4 shots, 2-4 shots, 3-4 shots, 4-4 shots, 3-8 shots, 4-2 shots, 3-8 shots, 4-4 shots, 3-4 shots, 2-4 shots, 1-4 shots, 2-2 shots; Set as for tabby.



	1	2	3	4	a	b
5	0	0	0	0	0	0
4	0	0	0	0	0	0
3	0	0	0	0	0	0
2	0	0	0	0	0	0
1	0	0	0	0	0	0

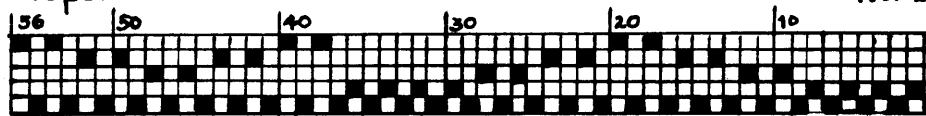


Treadle: b,4,b,4, b,3,b,3; b,2,b,2; b,1,b,1; - 3 times; b,2,b,2, b,3,b,3, b,4,b,4, b,1,b,1 - twice; b,2,b,2; b,3,b,3; Set closer than for tabby.

Block Stripe Diaper

No. 2

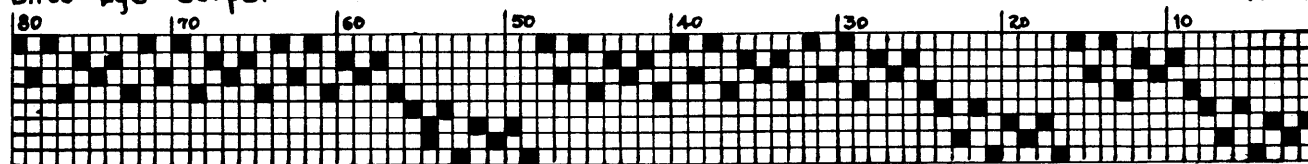
1	1	2	3	4	a	b
2	2	3	4	5	a	b
3	3	4	5	6	a	b
4	4	5	6	7	a	b
5	5	6	7	8	a	b
6	6	7	8	9	a	b
7	7	8	9	10	a	b
8	8	9	10	11	a	b
9	9	10	11	12	a	b
10	10	11	12	13	a	b
11	11	12	13	14	a	b
12	12	13	14	15	a	b
13	13	14	15	16	a	b
14	14	15	16	17	a	b
15	15	16	17	18	a	b
16	16	17	18	19	a	b
17	17	18	19	20	a	b
18	18	19	20	21	a	b
19	19	20	21	22	a	b
20	20	21	22	23	a	b
21	21	22	23	24	a	b
22	22	23	24	25	a	b
23	23	24	25	26	a	b
24	24	25	26	27	a	b
25	25	26	27	28	a	b
26	26	27	28	29	a	b
27	27	28	29	30	a	b
28	28	29	30	31	a	b
29	29	30	31	32	a	b
30	30	31	32	33	a	b
31	31	32	33	34	a	b
32	32	33	34	35	a	b
33	33	34	35	36	a	b
34	34	35	36	37	a	b
35	35	36	37	38	a	b
36	36	37	38	39	a	b
37	37	38	39	40	a	b
38	38	39	40	41	a	b
39	39	40	41	42	a	b
40	40	41	42	43	a	b
41	41	42	43	44	a	b
42	42	43	44	45	a	b
43	43	44	45	46	a	b
44	44	45	46	47	a	b
45	45	46	47	48	a	b
46	46	47	48	49	a	b
47	47	48	49	50	a	b
48	48	49	50	51	a	b
49	49	50	51	52	a	b
50	50	51	52	53	a	b
51	51	52	53	54	a	b
52	52	53	54	55	a	b
53	53	54	55	56	a	b
54	54	55	56	57	a	b
55	55	56	57	58	a	b
56	56	57	58	59	a	b
57	57	58	59	60	a	b
58	58	59	60	61	a	b
59	59	60	61	62	a	b
60	60	61	62	63	a	b
61	61	62	63	64	a	b
62	62	63	64	65	a	b
63	63	64	65	66	a	b
64	64	65	66	67	a	b
65	65	66	67	68	a	b
66	66	67	68	69	a	b
67	67	68	69	70	a	b
68	68	69	70	71	a	b
69	69	70	71	72	a	b
70	70	71	72	73	a	b
71	71	72	73	74	a	b
72	72	73	74	75	a	b
73	73	74	75	76	a	b
74	74	75	76	77	a	b
75	75	76	77	78	a	b
76	76	77	78	79	a	b
77	77	78	79	80	a	b



Treadle: b,1,b,1; b,2,b,2; b,3,b,3; b,4,b,4; Set closer than for tabby

Birds Eye Carpet

No. 2

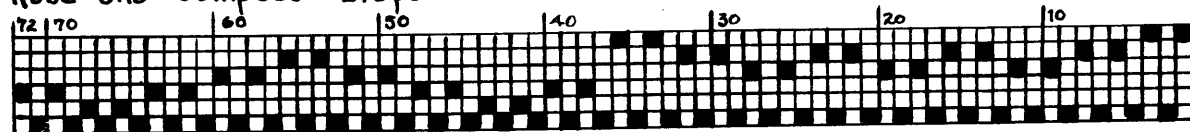


1	1	2	3	4	5	6	7	8	a	b
2	2	3	4	5	6	7	8	9	a	b
3	3	4	5	6	7	8	9	10	a	b
4	4	5	6	7	8	9	10	11	a	b
5	5	6	7	8	9	10	11	12	a	b
6	6	7	8	9	10	11	12	13	a	b
7	7	8	9	10	11	12	13	14	a	b
8	8	9	10	11	12	13	14	15	a	b
9	9	10	11	12	13	14	15	16	a	b
10	10	11	12	13	14	15	16	17	a	b
11	11	12	13	14	15	16	17	18	a	b
12	12	13	14	15	16	17	18	19	a	b
13	13	14	15	16	17	18	19	20	a	b
14	14	15	16	17	18	19	20	21	a	b
15	15	16	17	18	19	20	21	22	a	b
16	16	17	18	19	20	21	22	23	a	b
17	17	18	19	20	21	22	23	24	a	b
18	18	19	20	21	22	23	24	25	a	b
19	19	20	21	22	23	24	25	26	a	b
20	20	21	22	23	24	25	26	27	a	b
21	21	22	23	24	25	26	27	28	a	b
22	22	23	24	25	26	27	28	29	a	b
23	23	24	25	26	27	28	29	30	a	b
24	24	25	26	27	28	29	30	31	a	b
25	25	26	27	28	29	30	31	32	a	b
26	26	27	28	29	30	31	32	33	a	b
27	27	28	29	30	31	32	33	34	a	b
28	28	29	30	31	32	33	34	35	a	b
29	29	30	31	32	33	34	35	36	a	b
30	30	31	32	33	34	35	36	37	a	b
31	31	32	33	34	35	36	37	38	a	b
32	32	33	34	35	36	37	38	39	a	b
33	33	34	35	36	37	38	39	40	a	b
34	34	35	36	37	38	39	40	41	a	b
35	35	36	37	38	39	40	41	42	a	b
36	36	37	38	39	40	41	42	43	a	b
37	37	38	39	40	41	42	43	44	a	b
38	38	39	40	41	42	43	44	45	a	b
39	39	40	41	42	43	44	45	46	a	b
40	40	41	42	43	44	45	46	47	a	b
41	41	42	43	44	45	46	47	48	a	b
42	42	43	44	45	46	47	48	49	a	b
43	43	44	45	46	47	48	49	50	a	b
44	44	45	46	47	48	49	50	51	a	b
45	45	46	47	48	49	50	51	52	a	b
46	46	47	48	49	50	51	52	53	a	b
47	47	48	49	50	51	52	53	54	a	b
48	48	49	50	51	52	53	54	55	a	b
49	49	50	51	52	53	54	55	56	a	b
50	50	51	52	53	54	55	56	57	a	b
51	51	52	53	54	55	56	57	58	a	b
52	52	53	54	55	56	57	58	59	a	b
53	53	54	55	56	57	58	59	60	a	b
54	54	55	56	57	58	59	60	61	a	b
55	55	56	57	58	59	60	61	62	a	b
56	56	57	58	59	60	61	62	63	a	b
57	57	58	59	60	61	62	63	64	a	b
58	58	59	60	61	62	63	64	65	a	b
59	59	60	61	62	63	64	65	66	a	b
60	60	61	62	63	64	65	66	67	a	b
61	61	62	63	64	65	66	67	68	a	b
62	62	63	64	65	66	67	68	69	a	b
63	63	64	65	66	67	68	69	70	a	b
64	64	65	66	67	68	69	70	71	a	b
65	65	66	67	68	69	70	71	72	a	b
66	66	67	68	69	70	71	72	73	a	b
67	67	68	69	70	71	72	73	74	a	b
68	68	69	70	71	72	73	74	75	a	b
69	69	70	71	72	73	74	75	76	a	b
70	70	71	72	73	74	75	76	77	a	b
71	71	72	73	74	75	76	77	78	a	b
72	72	73	74	75	76	77	78	79	a	b
73	73	74	75	76	77	78	79	80	a	b

Treadle: 1,8,2,8; 1,7,2,7; 3,6,4,6,3,5,4,5; 1,8,2,8,1,7,2,7;
3,6,4,6,3,5,4,5 - 3 times; 1,8,2,8,1,7,2,7; 3,6,4,6,3,5,4,5 - 3 ti
Set as for tabby

Rose and Compass Diaper

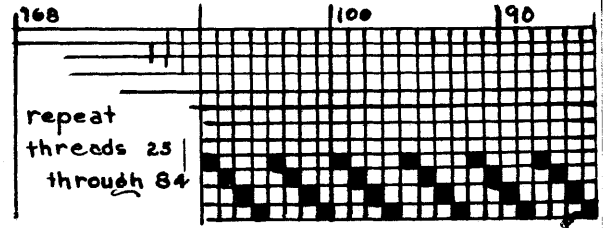
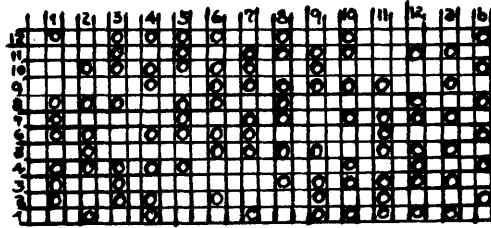
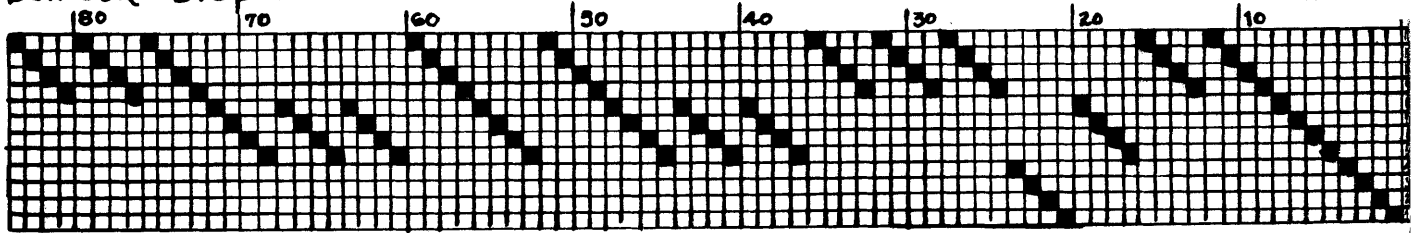
No. 2



1	1	2	3	4	5	a	b
2	2	3	4	5	6	a	b
3	3	4	5	6	7	a	b
4	4	5	6	7	8	a	b
5	5	6	7	8	9	a	b
6	6	7	8	9	10	a	b
7	7	8	9	10	11	a	b
8	8	9	10	11	12	a	b
9	9	10	11	12	13	a	b
10	10	11	12	13	14	a	b
11	11	12	13	14	15	a	b
12	12	13	14	15	16	a	b
13	13	14	15	16	17	a	b
14	14	15	16	17	18	a	b
15	15	16	17	18	19	a	b
16	16	17	18	19	20	a	b
17	17	18	19	20	21	a	b
18	18	19	20	21	22	a	b
19	19	20	21	22	23	a	b
20	20	21	22	23	24	a	b
21	21	22	23	24	25	a	b
22	22	23	24	25	26	a	b
23	23	24	25	26	27	a	b
24	24	25	26	27	28	a	b
25	25	26	27	28	29	a	b
26	26	27	28	29	30	a	b
27	27	28	29	30	31	a	b
28	28	29	30	31	32	a	b
29	29	30	31	32	33	a	b
30	30	31	32	33	34	a	b
31	31	32	33	34	35	a	b
32	32	33	34	35	36	a	b
33	33	34	35	36	37	a	b
34	34	35	36	37	38	a	b
35	35	36	37	38			

Damask Diaper

No. 27

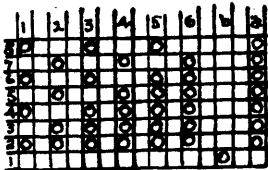
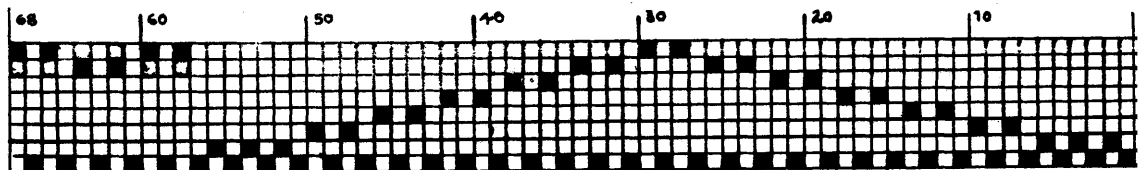


Treadle: 1, 12, 2, 11, 3, 10, 4, 9, 5, 8, 6, 7; 5, 8, 6, 7; 3, 10, 4, 9; 1, 12, 2, 11; 5, 8, 6, 7 - 3 times; 3, 10, 4, 9 - 3 times; 5, 8, 6, 7; 3, 10, 4, 9; 5, 8, 6, 7; 3, 10, 4, 9 - 3 times; 5, 8, 6, 7 - 3 times; 1, 12, 2, 11 - 5 times; 5, 8, 6, 7 - 3 times;

Set as for tabby.

Curtain Diaper

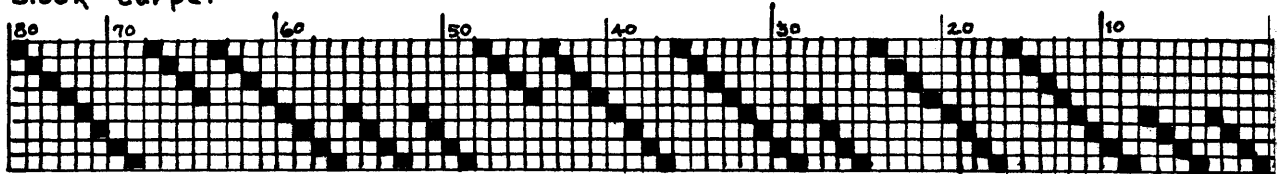
No. 28



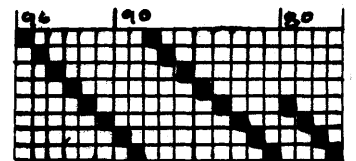
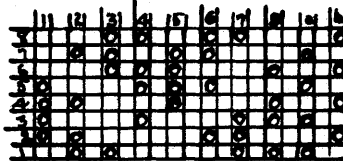
Treadle: b, 1, b, 1; b, 2, b, 2; b, 3, b, 3; b, 4, b, 4; b, 5, b, 5; b, 6, b, 6; repeat 4 times; b, 5, b, 5; b, 4, b, 4; b, 3, b, 3; b, 2, b, 2; b, 1, b, 1; repeat 5 times; b, 2, b, 2; b, 3, b, 3; b, 4, b, 4; b, 5, b, 5; b, 6, b, 6; b, a, b, a;

Block Carpet

No. 29



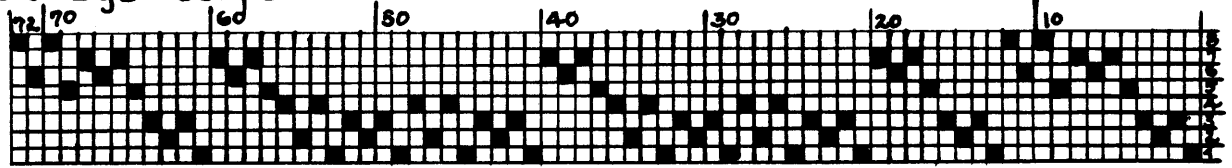
Treadle: 1, 8, 2, 7 - 3 times,
3, 6, 4, 5, 1, 8, 4, 7 - twice,
1, 8, 2, 7, 3, 6, 4, 5 - twice,
3, 6, 4, 5; 1, 8, 2, 7 - 3 times,
3, 6, 4, 5; 3, 6, 4, 5, 1, 8, 2, 7 - twice
1, 8, 2, 7, 3, 6, 4, 5 - twice;
number of threads in each block.



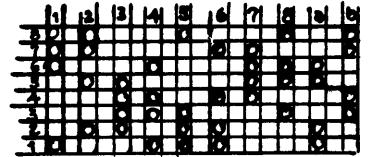
To enlarge the pattern, double the number of threads in each block.

Bird's Eye Carpet

No. 30

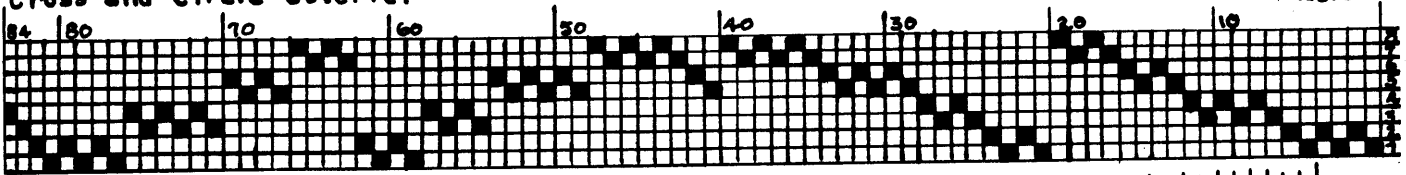


Treadle: 1,8,2,8, 3,6,4,6, 3,5,4,5; 1,8,2,8, 3,6,4,6; 1,8,2,8, 1,7,2,7;
1,8,2,8, 1,7,2,7; 3,6,4,6; 1,8,2,8, 1,7,2,7; 1,8,2,8, 1,7,2,7; 3,6,4,6;

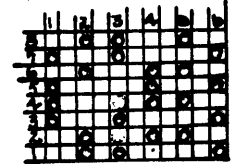


Cross and Circle Coverlet

No. 31

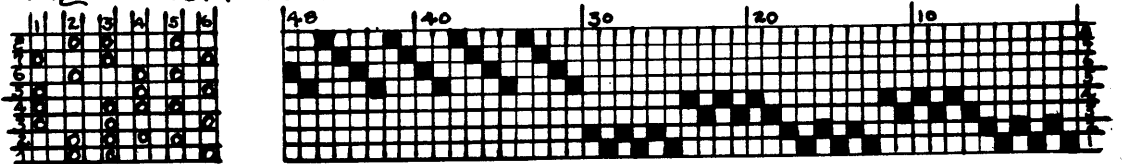


Treadle with tabby: 1-6 shots, 3-4 shots, 4-4 shots, 1-4 shots,
2-2 shots, 3-6 shots, 4-6 shots, 3-2 shots, 4-6 shots,
3-6 shots, 2-4 shots, 1-4 shots, 4-4 shots, 3-4 shots,
2-6 shots, 1-6 shots, 2-2 shots;
Set as for tabby.



Eight Shaft Coverlet

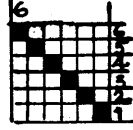
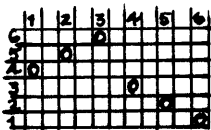
No. 32



Treadle with tabby: 1-6 shots, 2-6 shots, 1-6 shots, 2-6 shots,
1-6 shots; 3 3-2 shots, 4-2 shots-4 times; 3-2 shots;

Satinet

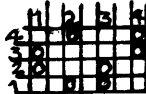
No. 35



Treadle: 1,6, 2,5, 3,4;

Casimere

No. 34-



Treadle: 1,4, 2,3;

Broad Cloth No. 33



In addition to the drafts, the Bronsons give a number of setts for plaids checks and stripes, to be woven in tabby, of cotton. Following are some of their color arrangement suggestions, all to be repeated for the full width of the warp, and woven in identical color sequence unless otherwise specified.

- (1) 8 threads of deep blue, 6 of pale blue, 2 of white.
- (2) 2 threads of blue, 2 threads of white; filling with one color only.
- (3) 4 blue, 2 white; weave with one color.
- (4) 12 dark blue, 2 white; weave with 12 dark blue, 2 copperas.
- (5) 10 dark blue, 1 white; weave with 10 dark blue, 1 copperas.
- (6) 6 pale blue, 1 orange, 3 dark blue; weave with 8 pale blue, 4 dark blue.
- (7) 8 dark blue, 5 pale blue, 1 white; weave with 8 dark blue, 8 copperas.
- (8) 8 dark blue, 2 pale blue, 2 white, 2 pale blue.
- (9) 10 dark blue, 2 copperas, 2 dark blue, 2 copperas; weave with 10 dark blue, 2 pale blue, 2 dark blue, 2 pale blue.
- (10) 6 dark blue, 6 pale blue, 1 white, 1 orange; weave with 6 dark blue, 6 pale blue.
- (11) 8 dark blue, 1 white, 1 dark blue, 1 white, 1 dark blue, 1 white.
- (12) 12 dark blue, 1 white, 6 green, 1 white; weave with 12 dark blue, 2 red, 6 pale blue, 1 red.
- (13) 12 dark blue, 6 pale blue, 1 white, 6 pale blue; weave with 12 dark blue, 6 pale blue, 2 copperas, 6 pale blue.
- (14) 6 dark blue, 2 orange, 8 pale blue, 2 orange; weave with 6 dark blue, 6 pale blue.
- (15) For Twilled Bed Ticking (set closer than for tabby). 16 white, 2 blue 2 white, 6 blue, 2 white, 2 blue; weave with white.

The uniformity of color suggestions is probably due to the common limitation of home dying, blues being compounded from Indigo and green from Copperas.

The technical vocabulary of the Bronson book makes it evident that in the course of years the useage of terms, as well as actual words, has changed. Thus, in the old book, the word "harness" is used to denote what we call the entire group of harnesses which the loom contains or which the weave demands. "Wing" is used for our present term "harness". "Cording" is the tie-up draft. "Laith" means "beater"; "Shade" means "shed"; "Helve" means "heddle. "The tread is now once over, and you will begin again at the beginning and go over as before," means merely, "repeat the treadling." "The draft is represented as being drawn over once. You will then begin to draw over again as before, first with the first wing, and so on, according to the figures on the shafts of the harness, and so through the piece," means "repeat the draft."

Interpretation of the tables calculating the yarn requirements and warp sets is a more difficult matter than revising terms. To the modern weaver these tables are incomprehensible, being based on an unidentified yarn number, "No. of Slaie" and "Knots". "No. of Slaie" was obviously not based on number of reed dents per inch, and no elucidation is given. "Knots" are vaguely

explained, "By so many knots to warp a yard, means that the Factory 7 knotted skeins are 10 knots, as they are so in reality; being more threads in each tie, than those from family reels." Slale is calculated in "beers" but this term too is elusive, nor does research in technical books published in the last century help. One comes in the end to accept with thanks the conclusions of Thomas R Ashenhurst, published in London in 1880, since Ashenhurst too gave up in confusion. "This is a branch of the subject (calculations of materials) with which there is some difficulty in dealing satisfactorily, this difficulty arising from the numerous systems of calculation in use in the different manufacturing districts. This diversity of systems applies not only to the methods of counting or weighing yarns, but even in a greater degree to what are termed the sets of reeds or slays." Ashenhurst proceeds to explain many of the calculations in common use, but gives no conclusive word on the one used by the Bronsons. He says, "In some cases the number of ends in a beer are 38, in others 40, in others again they are 50. Then, in addition to the number of ends in the beer varying, the width upon which the calculation is based varies." One can but agree with his conclusion that the systems of calculation are troublesome, "and what adds to the trouble is the difficulty of obtaining information as to the basis upon which the system is founded." Since cotton thread sizes are now completely standardized, it is only feasible to look on the Bronson Calculation Tables as mere curiosities for the modern weaver, and abandon them for our own.

The Bronsons give warp settings for each weave by relating them to the ideal tabby setting. Some weaves are set the same as for tabby, some closer, some much closer, and some wider. For example, if one is using 20/2 cotton which sets well for tabby at 30 or 32 ends per inch, the statement, "The slale for this pattern should be 2 beers finer than for plain cloth," could be interpreted to mean 34 or 36 ends per inch. The table below gives the best tabby settings for the most commonly used cotton and linen threads.

24/2	cotton	sets	at	36	ends	per	inch,
20/2	"	"	"	32	"	"	"
24/3	"	"	"	28	"	"	"
10/2	"	"	"	24	"	"	"
10/3	"	"	"	20	"	"	"
8/4	"	"	"	15	"	"	"

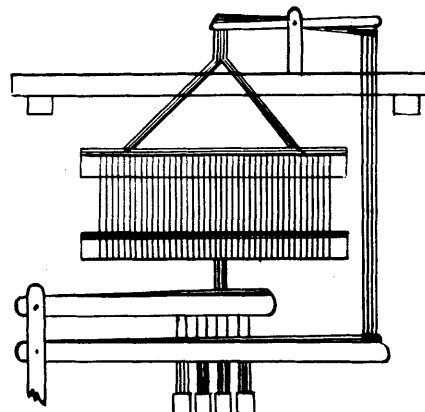
These warp settings cannot be dogmatically accepted, but are better used as a general guide. Variations from these settings will be determined by the type of fabric desired, and by available reeds.

40/2	linen	sets	at	40	ends	per	inch,
50/3	"	"	"	36	"	"	"
18/s	"	"	"	34	"	"	"
17/2	"	"	"	32	"	"	"
30/2	"	"	"	30	"	"	"
14/s	"	"	"	27	"	"	"
12/2	"	"	"	26	"	"	"
20/2	"	"	"	24	"	"	"
10/s	"	"	"	24	"	"	"
7/2	"	"	"	20	"	"	"
14/2	"	"	"	20	"	"	"

In the warp settings for linens, especially with the singles linens which have a rough clinging quality, there is much more freedom allowable than in the set of a satisfactory tabby for cottons. Wide set singles linens make a light, open fabric, whereas a similar set for a cotton would produce a sleazy, poor quality material.

The Colonial loom used by the Bronsons becomes a matter of speculation after one has noted the wide diversity in the techniques they describe for different weaves. Most surviving Colonial looms are of the two-harness or four-harness counter-balanced variety. That this was not the Bronson loom becomes evident when one notes that of the thirty-five drafts, one is for three harnesses, only six are for four harnesses, eight are for six, eleven are for eight, and one is for twelve harnesses. The Bronsons have helped here by giving a sketch of their loom -- a multiple harness one in which each harness worked independently, controlled by both a jack to raise it and a mechanism for sinking it, making it a sinking-shed control. The diagram

illustrates the double set of lamms used, a short one attached to the bottom of each harnesses for sinking it, and a long one attached by a jack to the top of each harness for raising it. Thus it was necessary in the tie-up to tie each harness to every treadle through either the short lamm or the long lamm. The tie-up drafts are all explained like, for instance a six-harness weave which required six treadles, "In the cording there are 16 long cords on the short lamms, 20 short cords on the long lams." In the tie-up drafts the sinking-shed harnesses are indicated by crosses and the rising shed harnesses by circles. Since the double-action loom is no longer in use, all of the tie-ups given in the draft interpretations here are for the rising shed loom, since few of the weaves could be accomplished on the common counter-balanced, sinking-shed loom. The interpreted tie-up drafts have been expanded in some cases by the addition of the second, or both, tabbys. The Bronsons give the tie-ups only far enough to make the basic texture or the drafted pattern, without indicating the tie-up by which plain cloth might be woven on each threading.



Another point of interest is that, while one commonly looks on the Overshot weave as the most common Colonial technique since most of the existing old Coverlets are woven in this manner, the Bronsons give not a single four-harness Overshot draft. There are the four coverlets, however, which are drafted on what might be considered eight-harness "Opposite" Overshot.

About half of the Bronsons' book is devoted to directions for dyeing -- a fascinating bit of Early Americana. Beyond that they are hardly significant. The Indigo vat would hardly coordinate with a modern household, and no end of beautiful colors in yarns would justify now the days of work over groups of out-door vats and racks. But for the person who would like to experiment with the methods of his forebears, the original language as well as the recipes will have charm. He will also find such "Useful Receipts" as, "To remove Carriage Wheel Grease from Woolen Cloth," "To restore a Spoiled Wine," "A method to Soften Horn so that it may be cast in any shape," "To make a Black Varnish," "Of Gilding, proper for the Edges of Books and Paper," "Composition of common black ink," "Composition of the best hard red sealing wax,"--- truly the DOMESTIC MANUFACTURER'S ASSISTANT were the Bronson brothers.

The more one studies this little book, the only comprehensive treatise on handweaving printed in this country's early days, the greater is the weaver's respect for the knowledge and understanding of this pair of early weavers. There is always confident modesty, "The arts of Weaving and Dyeing attracted our attention as early as the year 1800, and from that period until the present, our time has been chiefly occupied in those branches. From these advantages and the assistance our manufacturing friends have obligingly afforded us, we feel satisfied that we possess competent means of information to publish a book of this kind, which we believe will prove valuable --- particularly to those who wish to manufacture in their own families." The modern weaver is in awe of the fact that so much understanding of the techniques of weaving could be gained in the short space of 17 years. We can be only regretful that we cannot shake hands with the pair who conclude their statements, "Of the merits of this work the public will judge; having no desire to raise our reputation at the expense of those who have preceded us, and conscious that we have employed the means of information with patient industry and strict integrity in the execution of it, we are willing to abide the decision of those who examine for themselves and judge with candor."

THE SHUTTLE-CRAFT GUILD

BULLETIN



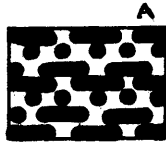
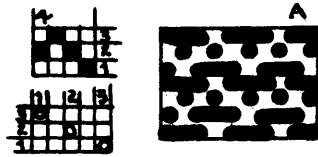
May 1950
Volume XXVII, Number 5
Virginia City, Montana

Subject:
Linen Weaving
Point Weaves for Texture

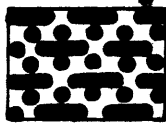
Traditionally known as the Cloth of Kings, linen, from the bast plant flax, is a material of such enduring quality and beauty that its use deserves sensitive planning. Characteristics of the linen yarn are: greater strength than found in any other natural fiber, a high luster, very high moisture absorption, practically no elasticity, freedom from lint, and complete washability. Each of these characteristics should be exploited to its greatest advantage in weaving linen thread into textiles. The remarkable strength and washability make linen the most practical material for household textiles which must take hard wear and countless washings, articles such as table cloths and towels. For towels, the high moisture absorption and freedom from lint make linen ideal. The very high luster and natural beauty of the fiber make it desirable where beauty of fabric should be emphasized, as in table linens.

Linen weaves are planned to enhance the natural beauty of the thread, to utilize to greatest advantage the fiber's strength, and to minimize design confusion which might reduce both. Since the fiber also has characteristics which the weaver cannot sway - a stiff, inflexible quality and a smoothness which prevents felting and leads to stringiness if incorrectly used, and no elasticity -- one must treat it with respect and follow the dictates of its character. Since the tabby weave grips each warp and weft thread firmly and evenly, and weaves the strongest fabric, this weave is used more than any other for plain linens. To impart elegance to a linen textile, a simple warp and weft texture can be introduced along with the tabby, without destroying either strength or balance. Texture is a structural characteristic of a textile, produced by adapting the system of interlacement between warp and weft threads, to achieve special effects in depth, surface quality and light reflection. In linen weaving, texture contrasts produced by opposing areas of smooth and rough surface, high gloss and low light reflection, are achieved by relating closely woven areas such as tabby, to more openly woven areas. Examples of traditional linen weaves which utilize this texture contrast system are: Huck, Spot Weaves, Lace Bronson, M's and O's, and Twill variations.

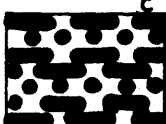
Because of the strong emphasis which is commonly placed on texture in designing linens, the other two basic textile qualities of pattern and color, must be handled with great restraint. If either or both of these qualities are similarly stressed, the result is confusion. Pattern is most effectively limited to the small thread-arrangement patterns which produce or enhance texture, and strong surface patterns are best avoided. Colors are seldom used lavishly, as color emphasis produces a design distraction more appropriate for fibers of lesser merit. Monochromatic is the best color scheme if one wishes to make the best use of linens. Two tones or values of a color can add richness if integrated to enhance the texture rather than to call attention to themselves. This does not mean the avoidance of brilliant colors, but points to their restrained use.



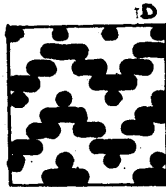
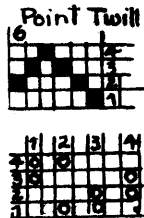
A. Treadle:
1, 2, 3;
repeat.



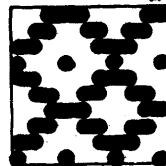
B. Treadle:
1, 2, 3, 2;
repeat.



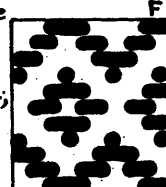
C. Treadle:
1, 2, 1; 3, 2, 3;
repeat.



Tie-Up
for
D, E, F

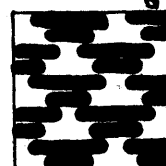
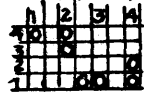


D. Treadle:
1, 2, 3, 4; re



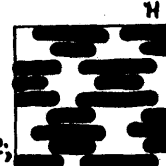
E. Treadle:
1, 2, 3, 4, 3, 2;

F. Treadle:
1, 2, 3, 4, 1,
2, 1, 4, 3, 2



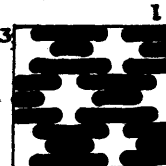
Tie-Up
for
G, H, I

G. Treadle:
1, 2, 3, 4;



H. Treadle:
1, 2, 3, 4, 3, 2;

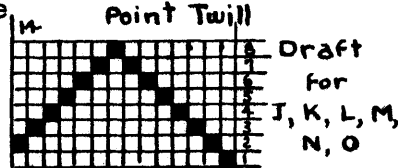
I. Treadle:
1, 2, 1; 3, 4, 3;



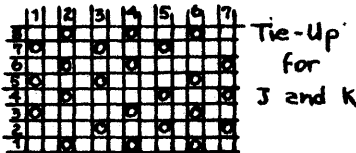
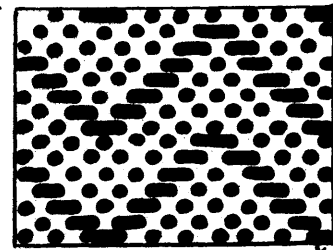
The Point Twills, which can so advantageously combine tabby areas with warp and weft textures, make an ideal weave for linens, particularly for deep textures which produce the elegant simplicity of modern design.

The shortest possible Point Twill draft is the Three-Harness Point, an off-balance weave which must always have two harnesses up and one down, or the reverse. It follows the rule of all Point Twills, that one tabby may be made by combining all odd numbered harnesses, and the other by combining the even numbered ones, as harnesses 1 and 3 combine for one tabby and harness 2 makes the other one. Only a few texture variations are possible, and these are minute figures because of the limitation of the four-thread draft.

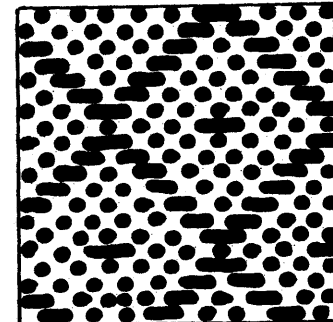
The Point texture scope broadens with the 4-harness twill. The logical method of making Point Texture variations is to start with the Standard Tie-Up and treadle repeats of the twill succession; next, treadle in the point succession of 1,2,3,4,3,2 repeated; next, change the number of shots for the succession, shifting the turning treadle. These are illustrated in diagrams D, E, and F. Diagrams G, H, and I illustrate the same three treadling systems when applied to a different tie-up. Almost any of the 4-harness twill tie-ups diagrammed on page 15 of TWILLS, TWEEDS AND ALL WOOL FABRICS, may be used as the basis for designing 4-harness Point Twill Textures. In addition to varying the treadle tie-up and the treadling order, the Point Twill draft may be extended to vary the texture scope. Such an Extended Twill draft was given in the January Bulletin as the Chromatic Textures draft. Because there is an inevitably close interweaving in the 4-harness Point Twills, the weaver has a great deal of freedom in using different tie-ups and treadling orders. Although the Chromatic Textures was introduced as an example of a linen weave which need not be woven to balance, in most cases the Point Twills are used with good effect only if there is a perfect warp-weft balance.



Draft
for
J, K, L, M,
N, O

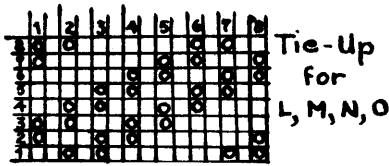


Tie-Up
for
J and K



J. Treadle: 1, 2, 3, 4, 5,
6, 7; repeat.

K. Treadle: 1, 2, 3, 4, 5, 6, 7, 1;
7, 6, 5, 4, 3, 2, 1, 7;
repeat.



L. Treadle: 1, 2, 3, 4, 5
6, 7, 8; repeat.

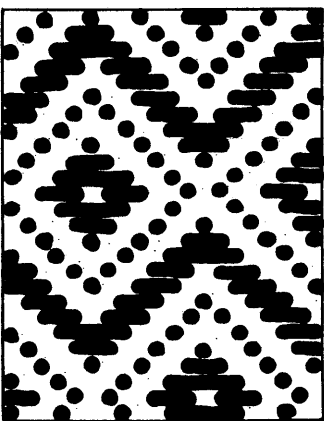
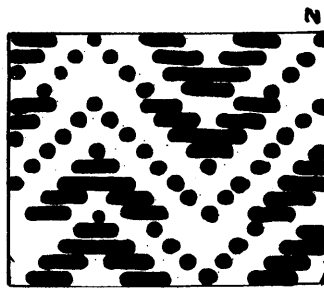
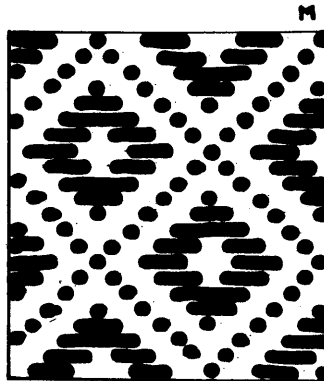
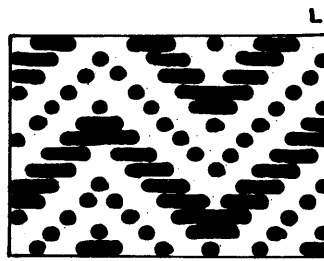
M. Treadle: 1, 2, 3, 4, 5,
6, 7, 8;
7, 6, 5, 4, 3, 2;
repeat.

N. Treadle: 1, 2, 3, 4 - twice;
5, 6, 7, 8 - twice;
repeat.



O. Treadle: 2, 3, 4, 5, 6, 7, 8;
1, 2, 3, 4, 5, 6, 7;
6, 5, 4, 3, 2, 1;
8, 7, 6, 5, 4, 3;
repeat.

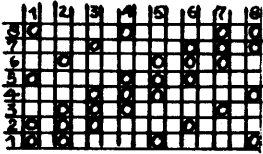
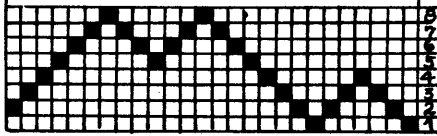
The mats for N were of 7/s warp and weft in Chartreuse and Meadow Green; for R of 14/2 grey warp and copper metallic weft. For 12 mats wind 280 ends, 9 yards. Weave 2½" tabby like warp, 17" texture, 2½" tabby and hem to texture. There is considerable shrinkage and take-up with heavy material. Project requires 1½ pounds 14/2 and 1 pound 7/s or 14/2 in a related color. If metallic is used, get the coarse, strong type, with an undyed, strong core.



The 8-harness Points open a fascinating and broad field for texture designing. As is true with most weaves, the more harnesses added to the draft, the greater are the design possibilities, but the more rigid become the rules for producing them. The weaver cannot, with good effect, select a tie-up at random and casually devise treading systems. A logical tie-up pattern must be selected and a logical treading order followed. Diagrams J and K give the basic variations for the simplest 8-harness tie-up, which has one 2-thread skip of weft over warp, with the rest of the draft woven in tabby. A little study of the tie-up and diagram will indicate the system for raising the harnesses. Notice that all the tie-ups are here given for rising sheds. This means that the harnesses to which the ties are made will weave on the top surface in warp; Weft will cover the warp ends threaded on the harnesses which remain stationary. Notice that in the tie-up for J and K, treadle 1 starts like the Standard 4-harness tie-up with threads on harnesses 1 and 2 weaving as weft; then the remaining harnesses weave as tabby. Treadle 2 continues in the Standard tie-up order with harnesses 2 and 3 weaving as weft; the remaining harnesses making the second tabby. The pairs of weft-weaving harnesses progress through 7 treadles, and the eighth combination which would normally be 8-1 is omitted because these harnesses are not threaded adjacently.

Diagrams L, M and N show simple, logical variations treadled on a more complex tie-up. The basis of this tie-up is: over 1, under 2, over 3, under 2. This order is maintained for eight treadles, but each time it progresses one, as is evident from the tie-up draft. Other logical arrangements of 8-harness tie-ups are easy to devise, and the 8-harness fancy twills given in the TWILL pamphlet make a good starting point. The photograph for N shows how this tie-up and treading look when woven on a 7/s linen warp, set at 20 per inch, woven with 7/s of a deeper color. Many

26 Extended Point Twill

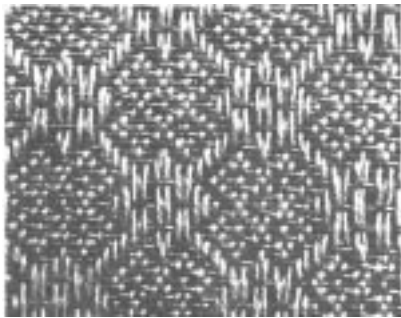


Tie-Up
for
P, Q, R

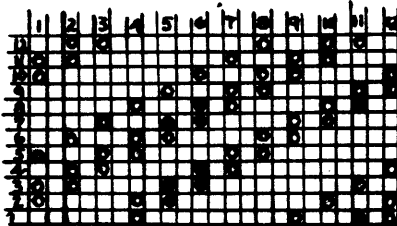
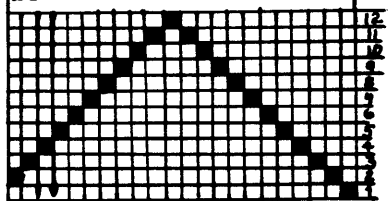
P. Treadle: 1, 2, 3, 4, 5, 6, 7, 8;
repeat.

Q. Treadle: 1, 2, 3, 4, 5, 6, 7, 8;
7, 6, 5, 4, 3, 2;
repeat

R. Treadle: 1, 2, 3, 4, 3, 2;
1, 2, 3, 4, 5, 6, 7, 8;
7, 6, 5, 6, 7;
8, 7, 6, 5, 4, 3, 2;
repeat.

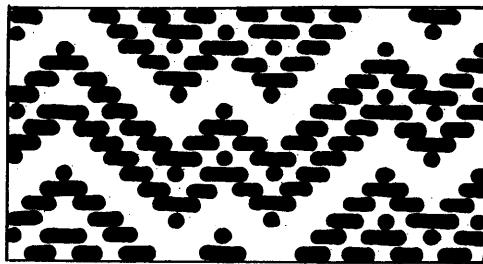


22 Point Twill



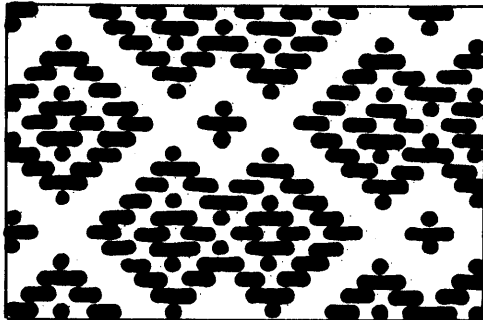
S. Treadle: 1, 2, 3, 4, 5, 6, 7, 8,
9, 10, 11, 12;
11, 10, 9, 8, 7, 6, 5, 4, 3,
2; repeat.

P



more texture-pattern variations may be made on this tie-up, but the treadle sequences should always be kept logical and balance points selected carefully. As with most good design, simplicity produces the best effect, and more than one texture should not be used on a single article.

Q



Diagrams P, Q and R show an 8-harness Extended Twill, actually a combination of a 4 and an 8-harness twill. Since all of these designs are simple thread textures, they weave into small all-over textures which are handsome when woven in all one color, but take on a richness when a slightly different color of the same thread is used for weft. Since warp and weft associate so closely, very bad effects can result from the use of a strong color or value contrast.

R

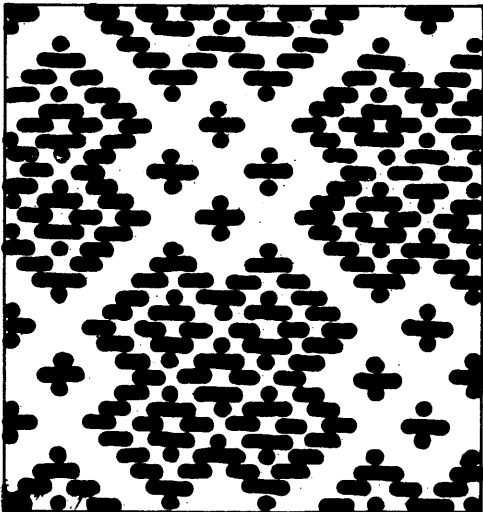
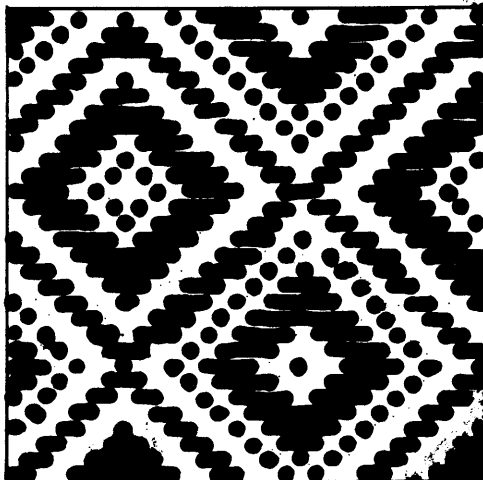


Diagram S offers a starting point for the 12-harness weaver. Very elegant textures may be achieved with 12-harness threadings and they are well worth studying if a person owns a 12-harness loom. The very ownership of such a complex loom, almost of necessity, puts on the weaver the obligation of studying weaves to gain an understanding of the way threads interlace through control of the draft and the tie-up. Since the Point Twills are one of the most expressive mediums for the 12-harness weaver, for all materials, it is hoped that the logical approach to texture variations given here, will provide a foundation for an extended understanding.

S



Harriet C. Douglas

THE SHUTTLE-CRAFT GUILD

BULLETIN



June 1950
Volume XXVII, Number 6
Virginia City, Montana

Subject:
THREADBENDER Contributions
Canadian Directory

In a magazine article, I cannot remember what or when, on the Creative Mind, I read the statement that the true originator, the person who can think independently, never hesitates to share an idea; he knows there are plenty more where than one came from. It is an idea which deserves a little thought. To weavers, the thought will probably bring to mind weaving personalities they have known, beginners or experienced weavers, whose minds are simply popping with ideas, and who are always generous in sharing them and in helping solve a weaving problem for a friend. My own mind goes to one of these generous spirits in Columbus, Ohio, without whose enthusiasm many years ago I should never have thought of taking up handweaving. And few are the weavers who have not had a similar experience. The Shuttle-Craft Guild is fortunate in having many of these creative, generous minds among its membership. Since the THREADBENDER sheet was started, many letters have come with such statements as, "I have found this idea useful and should like to share it with other weavers who have had the same problem;" or, "This weaving project was fun, and I'd like to pass it along." So here some of them are!

A Necktie Ascot Scarf, from Mrs Fred Miller, Detroit, Mich.

Rather than describing her small scarves, Mrs Miller sent us one. She made a 12 inch wide warp of Bernat Afghan (same as Fabri but twice as fine, now in the Shuttle-Craft Guild stock for 85¢ a skein, in white only) set at 20 per inch, 240 ends threaded to Rosepath. Two of the narrow, fringed all around scarves are woven at once. For base weft use Fabri, Angora, or other light weight wool, spun nylon or rayon. For decorative stripes get out your miscellany box, as this is the place to use all those left-over skeins, tubes and bobbins of wools, rayons, silks, novelties, metallics -- almost anything except cottons and linens. For base weft select any light color or white, and for the borders it is best to select a group of harmonizing colors, with perhaps one strong contrast. Mrs Miller used fine wool in pale yellow with borders in several shades of brown and yellow, white, jade green and gold metallic. She wove $1\frac{1}{2}$ " in yellow tabby, 5" of borders, 21" yellow tabby, 5" borders, $1\frac{1}{2}$ " yellow tabby. This piece was stitched on the sewing machine $\frac{1}{4}$ " from the edge all around, and a double row of stitching, half an inch apart, down the center. The two halves were cut apart and the scarf fringed all around, to the machine stitching. Then fold the scarf down the center and stitch $1\frac{1}{2}$ " from the fold, in a straight line 15" through the center. Steam press this as a box pleat, and the scarf is done. Here is Mrs Miller's brouping of borders written



for the Standard Tie-Up, which can serve as a basis for loom designing:

4 shots gold lurex on a tabby shed, alternated with yellow tabby,
 3 shots yellow tabby, 2 shots spun glass on treadle 3, with tabby,
 3 shots yellow tabby, 2 shots gold with tabby, 2 shots yellow tabby,
 Without tabby treadle 2,3,4 with rich brown rayon nub, 1,2,3,4 with
 light brown rayon nub, 1,2,3,4 with jade rayon floss, 1,2,3,4 with
 bright yellow rayon floss,
 2 shots yellow tabby, 2 gold lurex tabby shots, 2 yellow tabby shots,
 With tabby, and rust wool boucle pattern weft treadle 3-twice, 4-twice,
 3-twice,
 3 shots yellow tabby, 2 shots lurex tabby, 2 shots yellow tabby,
 Without tabby weave 4 shots each of the light brown, jade, and yellow
 on treadles 1,2,3,4,
 2 shots yellow tabby, 2 shots lurex tabby, 2 shots on treadle 3 with
 spun glass and tabby, 2 shots lurex tabby, 4 shots yellow tabby,
 4 shots each of jade, dark brown, light brown, jade, and yellow on
 treadles 1,2,3,4, without tabby, 2 yellow tabbys,
 Repeat the rust wool border; 2 shots yellow tabby, 2 shots lurex tabby,
 2 shots yellow tabby,
 4 shots each of light brown, jade, yellow, on treadles 4,3,2,1, without
 tabby,
 Finish with spun glass and lurex to match the beginning.

It is obvious that this is one of those little free design projects in which the weaver just sits at the loom and lets the shuttle follow the imagination. Both Mr and Mrs Miller are enthusiastic hobby weavers who, like so many other amateurs, like to sell just enough of their loom products to finance their weaving. Mrs Miller writes that she sold these little scarves before Christmas to her friends, some of whom took them by the dozen. And it's no wonder. They are so gay and attractive, and can be sold quite inexpensively. I must mention, as digression, the occasion by which we met these two generous weavers last May in Detroit. When the newly organized Southern Michigan Weavers could find no suitable place for holding an exhibit to stimulate new members, Mr and Mrs Miller turned over their charming home for two days from ten A M until far into the night, and even served coffee to all visitors. Each room was given over to a different type of weaving, many excellent and beautiful pieces. I was happy to come face to face with some delightful tapestry panels by Mrs Stella Stocking, long familiar from pictures in the old WEAVER magazine. Being invited to attend this exhibit brought us a stimulating experience, and enforced our belief that weavers are mighty fine people to know.

Buckingham Grenadiers on Rosepath, from Mrs Kate Churchill, Winnipeg, Canada.

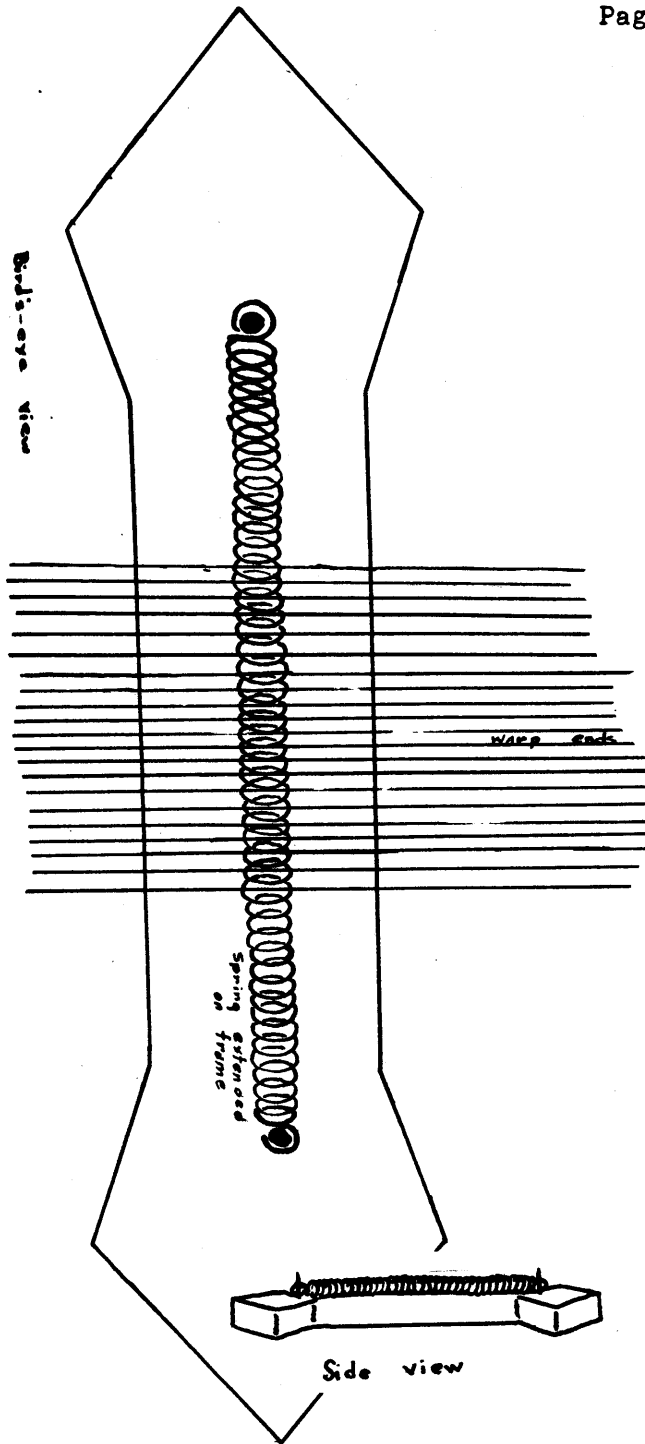
Here is a clever border of Humanesque figures on Rosepath which could be used on the above scarves, or interpreted in bound weaving as given in the March Bulletin. Mrs Churchill wove the Grenadiers, photographed with the scarf, on a wide-set Rosepath warp, with fingering yarn weft and a fine tabby. The following treadling directions are for a rising shed:

Raise harnesses	1-4	for two shots in black (shoes)
"	"	1-2 for 7 shots in bright blue (trousers)
"	"	2-3 for 4 shots in bright red (jacket)
"	"	1-2 for 1 shot and 2-3 for 1 shot in red
"	"	2-3 for 2 shots in flesh color (face)
"	"	2-3 for 1 shot in black (the high hat)
"	"	2 alone for 4 shots, and 2-3 for 1 shot in black.



Balance Your Beater, from Josephine George, South Pasadena, Calif.

Many loom manufacturers make beaters too light for good weaving. Mrs George had a 30-inch piece of lead cast, with holes, and screwed it under her beater. A Guild member fixed one of my looms with a strip of iron, adding about five pounds and great efficiency.



Thelma Shepard
 Specialist in Workshop & H. Ind.
 Commission for Blind - Austin, Tex.

A "Hold-It-For-Me", by Willie Loudd, Austin, Texas.

Miss Thelma Shepard of the Texas State Commission for the Blind writes, "One of our blind weavers, Willie Loudd, is an ingenious fellow with initiative. He is constantly developing new ideas, on his own, which will aid him in caring for his loom, in preparing it for weaving, and in producing a good handwoven product. He wants to be as independent of help and supervision as possible and is able to manage his loom alone, with only his wife to help in warping. His most recent gadget evolves from the need of a method of holding thread ends in place per section while warping, so they will be secured for threading. This gadget Willie has termed a "Hold-It-For-Me" which in addition to being practical has never ceased to give us amusement. I am including a sketch, hoping that it may prove of interest to other weavers. The only materials needed are:

- Wire springs - 3" in length (one per section),
- A small, heavy board,
- 2 nails or prongs.

The springs are placed on the board which is then held in position under the warp threads extending from tensioner to warp beam. If each thread is allowed to rest in a separate section of the spring, before releasing spring from frame, there can be no crossing of threads nor any question as to the order of threading the heddles. The Hold-It-For-Me is especially good for blind weavers because it holds the warp ends in their rightful places during the tying on and threading procedure. We had suggested it might be well to apply for a patent on this, but in any event Willie wishes to share his weaving aids with other weavers."

The drawings here reproduced are the carefully made ones sent by Miss Shepard.

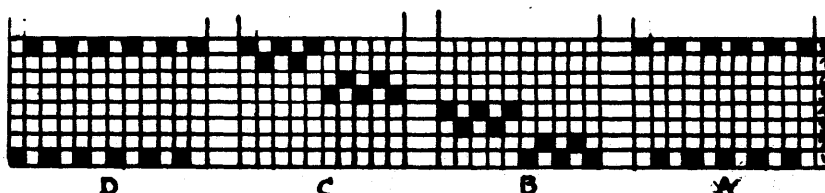
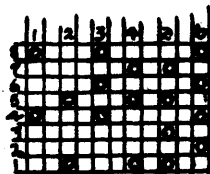
National Industries for the Blind, 15 West 16th St, New York 14, N Y. This address is given here because of the sincere effort which the National Industries makes to help blind adults support themselves through weaving and spinning, as well as by other handcrafts. From the organization, weavers and knitters may secure real handspun yarn,

Picture-Frame Mats in Huck, from Mrs Alice Macdonald, Desmoines, Iowa.

After we gave the 8-harness Huck draft in the February Bulletin, Mrs Macdonald wrote us of the way she had previously used a similar draft for mats with a border all around and a tabby center. Mrs Macdonald's mats were of spun glass, but since we have been unable to locate a reliable source for this material, we have adapted the directions for 14/2 linen, set at 20 ends per inch. Warp 283 ends; thread 11 ends to selvage (A), thread four repeats of (B), thread 18 repeats of (C), thread four repeats of (B), thread 12 ends to selvage (D). Weave 1½" tabby, 4 full repeats on treadles 1 and 2, 14" on treadles 3 and 4, 4 full repeats on treadles 1 and 2, 1½" tabby. See the February Bulletin for full explanation.

Weave:

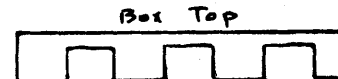
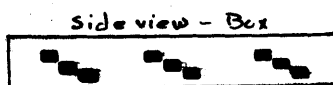
a, 1, a, 1, a }
 b, 2, b, 2, b }
 a, 3, a, 3, a }
 b, 4, b, 4, b }



Here is another idea Mrs Macdonald sends along. "When working on wool yardage of yarns in oil, I was always coming away from the loom with a greasy streak across my middle, so I started wearing a plastic apron. I hate the things, so I finally came to, and tied the apron across the front beam and left it there. The cloth slides nicely under it, and no more greasy streaks."

Heddle Transfer Box, from Mrs Arthur Hinkley, Niagara Falls, New York.

"I wonder if other weavers have been tantalized by the contrariness of flat heddles when filling or emptying the harnesses?" writes Mrs Hinkley. I control them with corset steels -- three long ones for storage and a short pair for transferring from harness to storage or visa versa. I slip a short steel through the top of a considerable group of heddles as I take the tops off the harness, and another through the bottom slots. Then I lay the controlled group flat on the table and slide them onto the longer steels that hold the main supply. The third long steel goes through the heddle eyes for extra safety. A shallow card board box with slots cut in the sides will hold 2 or 3 layers of heddles. The box cover is notched to fit over the projecting ends of the steels. It is easy to lift out a layer of these controlled heddles, count off the required number for the new set-up, slip them onto the 2 short steels and transfer them quickly to the harness frame.



Repair Method for Warp Knots, from A I MacKay, Duncan, V I, B C, Canada.

Mr Mackay writes, "This method for eliminating warp knots is my own idea (tho it may be as old as the hills). It appeals to me because I loathe darning in, and by my method the sequence of weaving does all the work. When a warp knot is near the weaving edge, I run a duplicate repair thread thru the same dent and the same heddle as the knot yarn. I moor the weaving end of the duplicate to a pin and attach a suitable light weight to the other end. I then throw a few weft shots, cut the knot, bring one end to the weaving edge and pull the other end back through the reed and heddle, to hang over the back beam. Then I go ahead and weave until I am beyond the knot position, rethread the original warp end, and moor it to a pin, weave a few shots, unthread the duplicate warp end, clip the loose ends, and proceed with weaving."

THE SHUTTLE-CRAFT GUILD

BULLETIN



July 1950
Volume XXVII, Number 7
Virginia City, Montana

Subject;
Mesh Weaves
Table Setting Styles

Although in the cycle of table decoration styles, the damask table cloth certainly will return some day to its supremacy over the dining table, there is no doubt that in the mid century it is laid away in deep storage. A survey of household and decorating magazines will not turn up one in a dozen issues. And what has taken the place of the beautiful, snowy linen which was once the foundation of every well regulated table service? The setting of a dining table has now become so varied and imaginative that entire books are written on the subject. Here are the fashion trends which now replace the traditional three yards of damask on the dining table:

First consideration in modern table decoration is the providing of an appealing, appetizing setting for the service of food; one which will enhance the visual aspects of the meal to be served, provide a stimulating setting to increase the pleasure of any meal. "Bringing out the best for company" while the family uses makeshifts, is no longer the American way. The family meal is treated with as much respect as the "company" feast, and the table setting for lunch or dinner at home is made as interesting, beautiful, or exciting as the good homemaker can plan it. This good homemaker uses variety in type, color and design of both dishes and table linens, to reduce mealtime monotony.

Color, riotous color, appears in all table linens, solid colors predominating, and deep, rich colors most popular. Colors are selected to match, harmonize with, or contrast with the wide varieties of china and pottery now available. Colors are selected to dramatize foods.

Size and shape of table linens have gone through a quiet revolution. Practicality is predominant, which means no more long, heavy linens with an eighteen inch drop at the sides. Easily laundered mats even for formal occasions, are superseding. Cloths are small, with slight drops, and sometimes just reach the edge of the table, or leave an inch of bare table all around. Small, square luncheon cloths are used diagonally, to make the most of their area. As table mats become more prominent, they also become larger, to better meet their basic purpose of providing a cushion between dishes and table. Gone are the little doily-like patches of cloth, replaced by mats of generous dimensions, 14 by 18 or 20 inches, large enough to hold plate, silver, water glass, cup and saucer, and whatever else the table setting calls for. Center runners likewise are out. In most cases, narrow, modern tables will not hold them, and the cluttered appearance they give a table is out of harmony with modern design. A pair of long runners, one for each side of the table, often replaces the mats. For informal buffets and barbecues, long runner-like cloths, the width of the table or slightly narrower, in gaily colored stripes, checks and plaids, are popular. The guides are: to be practical, to be gay, to be beautiful, to be serene and uncluttered, to be versatile, and also to be elegant.

Patterns for table linens are marked by simplicity. Elaborate,

florid patterns destroy the harmony of the table and are largely avoided. Stripes, either lengthwise or crosswise, are good in many cases, and plaids and checks are used for informal occasions. But solid colors, utilizing elegant textures, are most popular. Keep in mind that table coverings are a background for a table setting; their function, aside from providing a cushion for dishes, is to help create a beautiful table which will make food seem more appetizing. Table coverings are not an art exhibit, and should not attract undue attention in themselves, but should be a part of a harmonious whole.

Materials used for table coverings seem to be limited only by the imagination. Heavy linen and deep textures are most popular, and linen in general tops the list. Beyond linen, there is the whole range of washable materials: cotton jute, hemp, silk, metallics (strong), rayon, cellophane, plastic, natural fibers and grasses, bamboo and wood strips, practically everything one can think of except wools and hair yarns. If practicality predominates, washability and wearability and beauty of fiber must be the judging standards. For formal occasions use linen or silk or rayon; the less formal the occasion, the wider is the choice. Harmonize the textures of the materials with the textures of the dishes to be used.

Napkins too have lost their formality. In size and shape they vary, with a strong leaning toward Lapkins -- long, narrow napkins which are folded in only one direction. When the mats are of fine materials, a second mat is sometimes used as a napkin, though heavy mats with fine napkins are more satisfactory. Napkins are usually perfectly plain, without any ornamentation, though occasionally they have a reserved border, harmonizing with the mats. Colors different from that of the table cloth or mats are very good, with table cloth color contrasting with the dishes and napkins matching, or both taking different colors from the colors in the dishes.

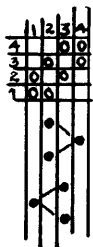
MESH WEAVES FOR TABLE LINENS

The Mesh Weaves are those in which warp and weft threads are grouped to give contrasting areas of open and closed texture. They are usually produced by grouping warp ends closely in the reed, and alternating the groups with skipped dents. Mesh weaves may be woven in stripes, with an equally spaced weft throughout, but are more interesting when woven to balance the warp spacing through a carefully adjusted beat. The chief problem in the Mesh Weaves is the selection of proper material, as they require rough threads which will cling together even after repeated washings. Slick materials have a tendency toward assuming equal spacing when there is no warp or weft tension. For instance, in trying mesh weaves with both 40/2 and 20/s linens, the spaced dent effects were beautiful on the loom; when cut off the loom the open spaces tended to disappear and the fabrics lost their character; after washing the resulting fabrics were suitable for nothing but dish cloths. Rough, singles linens, on the other hand, tend to cling in groups, and this tendency increases with repeated washings and ironings. Few cottons, except nub and novelty cottons, will hold spaced meshes. Some wools may be woven in this manner. The 7/s linen is excellent for producing heavy Mesh Weaves, and 14/s for fine ones.

Mesh Weaves are perfectly balanced weaves which use identical materials for both warp and weft. In general they produce a better effect if an identical color is used throughout. The grouped warps must be spaced sufficiently closely to encourage the grouped threads to cling. The open squares between grouped warps and wefts do not remain as they are on the loom, but become widely cross-hatched by the natural adjustment of the edge threads in each group. If wide areas are skipped, there is merely a slipping distortion at the edges of the groups. Adjusting the beat to balance the mesh, presents a

problem. The easiest way to leave a weft skip is to throw two shots without beating, change the shed, then beat the two locked wefts into position. On the third shot in the group, the beat may be normal.

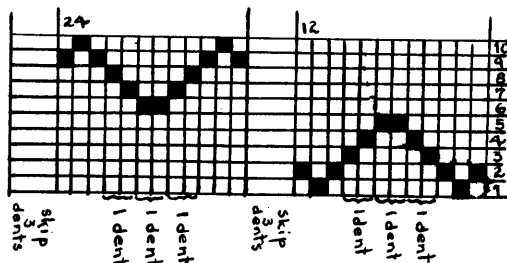
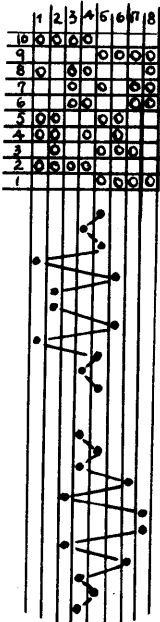
The simplest Mesh is a plain tabby weave, threaded on two or four harnesses, and sleyed with groups of skipped dents at regular intervals. The grouped warps and wefts, are held together better, however, if the threading is a little more complex, with a long warp and weft skip in the center of each group to bind the group in both directions. The draft below is the simplest way to do this.



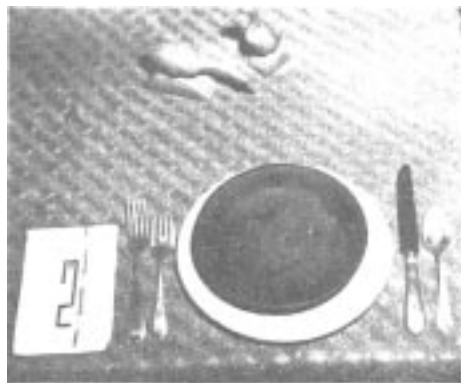
The weave produces three-thread groups which are held together by the long skip in the center thread of each group, and a canvas-like material results. Sley a group of three threads in one dent of the reed, then skip two dents. Weave as explained above by throwing the first two shots, changing the shed, beating these two ends to square the warp skip, and then throwing the third shot. We used 7/s linen, beamed at 12 ends per inch. An inch and a half was woven in tabby, at each end of the mats, to give a plain hem. and 20 inches in mesh for a generous sized mat. The very open effect is beautiful on a polished table top.

Simple Swedish Lace (or one-block Lace Bronson) may be set to weave as a mesh. The threading is 1,3,1,3,1,2. Sley the first thread alone, the next three threads in the same dent, the fifth thread alone, skip a dent, thread the last thread, skip a dent, and repeat. Weave one shot each raising harnesses 1,2,1,2,1,2-3, and repeating.

Below is a new 10-harness mesh which gives a very rich, deep texture and is particularly attractive in deep colors. Sley three ends singly, six in pairs, three singly, and skip three dents; repeat for the next group. In



weaving, follow the order of treadling as given below the tie-up. This tie-up has been arranged so that the weaver may "walk" the treadles.



For square luncheon cloths in any of these three weaves, warp 480 ends of 7/s linen, beam 40 inches wide, 12 per inch, and use a 12-dent reed. Four luncheon cloths may be woven on a warp 5½ yards long, which requires about 1 1/3 pounds of 7/s, or 2 1/2 pounds for the entire project. Twelve luncheon cloths may be woven on a 15 yard warp, requiring about 3 1/4 pounds of linen, 6 1/2 for the entire project. Each finished cloth will weigh about one half pound. Weave 1 inch in tabby for hem, then 42 inches of mesh, and 1 inch for hem (measured under tension) for a square cloth. For mats, warp 168 ends, set 14 inches wide, 12 per inch.

Or warp 240 ends and set 20 inches wide for mats with the hems extending lengthwise. Luncheon cloths and mats in Mesh Weaves of heavy linen are a satisfying project because they are warped and woven so rapidly, yet the effects of the deep textures are delightful and practical. They are a relatively inexpensive project as luncheon cloths cost about \$1.90 each and mats about 40¢ each.

Have you ever been in a position where you wished to have an extra nice gift, but in emergency time -- perhaps for a wedding, or for a bread and butter gift for which nothing would be as welcome as a piece of your own weaving? Here is a Mesh project which can meet that emergency in a simple, elegant manner, and the entire project can be completed in little more than half a day. Warp 168 ends of 7/s linen, 5 yards long. In a 12-dent reed sley 2 ends singly, 6 ends at 2 per dent 2 ends singly, and skip five dents. Thread to twill or tabby, and beam with dowel sticks. The warping and dressing will require less than two hours. Weave the entire length in tabby, spacing in groups of 12 weft shots, to square the warp. (about 1 1/2 hours time) Cut the piece in two to give two runners about 2 1/4 yards long, and turn narrow hems at the ends. Wash carefully, roll in thick towels to extract water, iron first under a cloth, then iron surface until dry. Here, in from 4 to 5 hours, is a completed project which requires less than one pound of linen. The runners are the very popular ones which are used on each side of a table for serving six, or crossed in the center for serving four. Or, the length may be cut to make 8 20-inch mats.

Napkins to use with Mesh Weave cloths or mats should be woven in tabby, of similar, but finer, thread. A good weight is 14/s set at from 15 to 20 ends per inch. Because of the fuzzy nature of the dyed, singles linens, it is imperative that a fairly wide dentage reed be used, and the 14/s be sleyed double. Napkins in light colors, with a dark cloth, are good. For a 16 inch wide warp of 14/s at 18 per inch, warp 288 ends. One half pound will warp about 7 1/2 yards.

Here are some suggestions for using Mesh Weave table coverings cleverly. For the narrow-loom weaver, or the weaver who wishes a wider cloth, a three strip cloth, with the center strip of a different material, is more satisfactory in this case than two identical strips hemmed together. Make a 16 or 18 inch napkin warp, long enough to weave the desired length cloth and also the napkins. Then weave two strips in the heavier mesh, in the same or a darker color, and catch the edges of the three strips together. Color suggestions are: Mellow Yellow tabby with Chartreuse Mesh, Veiled Peach tabby with Infinity Blue or Cattail Brown Mesh, Ocean Aqua tabby with Conifer Green or Cattail Brown Mesh. For the bridge player, the suggestion is a set of four Mesh cloths in Conifer Green, Wild Cherry, or Persian Blue (according to the dishes), with sets of napkins, four each, in yellow, aqua, morning mist, and veiled peach. The combination is beautiful with pure white dishes, or pastel colors. The heavy Mesh Weaves are particularly appropriate with hand made pottery, and with simple earthenware. The illustration shows a Persian Blue cloth laid diagonally on a blond wood table, with hand-turned wooden dishes. The napkin is beige, with a laid-in monogram matching the cloth in color.

The Mesh Weaves are also used for transparent curtains. The 17/s set at about 18 per inch may be used. Certain fine, novelty cottons are good. A curtain idea which we have not yet tried out, but think might be practical and very elegant, is raw silk. In wools, the Mesh Weaves make pleasant, light weight shawls, stoles and scarves.

Harrist C Douglas

THE SHUTTLE-CRAFT GUILD

BULLETIN



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Virginia City, Montana

Subject:
Weavers' Guild Organization

The creative satisfaction which comes from sitting at a loom and designing and producing beautiful and useful textiles, is evidenced by the amazing increase of participation in the craft, and the increasing desire for information and instruction in handweaving. One of the finest means of securing help and information in the craft is through mutual sharing and cooperation among weavers, widely recognized through the organization of local Weavers' Guilds. Whenever two weavers meet in a community, there is the nucleus of a Guild -- organization with the aim of cooperation among weavers through sharing experience and information, teaching beginners, creating and maintaining high standards of craftsmanship, and making all possible information available to all members. In many instances, weavers, realizing the advantages of association with other weavers, are looking for guides from the experiences of others in forming useful organization. Groups long organized, are looking for new ideas to vitalize their programs.

The Guilds, though a recent development among amateur and professional handweavers in the United States, have taken their inspiration from the European Craftsmen Guilds of the pre-industrial age. And from the centuries of experience of these ancient organizations, stems valuable help to modern Guilds. A fascinating account of the OLD GLASGOW WEAVERS from 1514 to 1905, "Being Records of the Incorporation of Weavers" is full of historic and even practical interest. In the twentieth century the organization of professional weavers is largely fraternal in nature; it adheres to the ancient forms and standards, however, and a review of the ancient organization provides valuable ideas to modern groups.

The early records hold difficulties for the person not versed in Elizabethan English, but they also reveal that many of the problems of the modern Guilds are far from new. The interesting excerpt from the minutes of "Sexto Novembris 1640" show that delinquency of dues, and keeping order in meetings were problems. "The quhilk day, the deacon and maisteris of craft, being convenit with the haill bretherin, at the leist, the maist pairt thairof, understanding the great abuse, contest and stryfe that hes bein in thair calling at the electoun of the deacon and utheris courtis; thairfoir, that the samen may be amendit, and peace intertanet, it is aggried and concludit amongst them, in all in ane voice, that na personne, not payit of thair qwarter comptis, nor peipeis thairof, sall have only voitt or voce the day of the election; and that na unfriemen sall compeir in court that day, nather servantis or prentessis, and that all the croft be silent, and evrie ane byde thir presents, and voitt as they ar callit."

Here are some of the LAWS AND REGULATIONS of the OLD GLASGOW WEAVERS, whose earliest history is lost in the shadows of the dark ages, but whose existing records indicate Incorporation as early as 1514. Members were the professional handweavers, recognized craftsmen in good standing. Officers were

the Deacon (corresponding to president), the Collector (Secretary-Treasurer), Clerk (legal advisor), and the Masters (Board of Directors). "The affairs of the Incorporation shall be managed by a Master Court, consisting of the Deacon, Collector, late Deacon, late Collector, and 12 Masters, in all 16. Any member of the Incorporation eligible to be elected to the office of Deacon must have held the office of Collector for at least one year, and been honourably discharged of his intrusions, and been a year out of that office. The Deacon shall hold office for one year, but may be re-elected. The Deacon shall act as Chairman at all meetings. In the absence of the Deacon the late Deacon shall preside, and failing them the meeting shall elect a Chairman for the time being, who must be a Member of the Master Court. Any Member of the Incorporation eligible to be elected to the office of Collector must have been for one year at least a Member of the Master Court. The Collector shall manage the whole money transactions of the Incorporation and shall keep regular and distinct accounts of his receipts and disbursements." Ten members of the Master Court are elected for terms of two years, five retiring each year and five elected from the Incorporation membership to replace them. Two members are appointed by the Deacon, as Deacon's Masters, to serve during his term. To be eligible for the Master Court, a person must have been a member in good standing of the Incorporation for a year and a day.

"There shall be two fixed meetings of the Incorporation held each year." The first of these is the general business meeting when nominations are held for Deacon, Collector and Masters. The second, a month later, is for election of officers and planning the year's program and business. "Special Meetings of the Incorporation may be called for the despatch of business, or for the consideration of any matter --." "The whole affairs of the Incorporation, except as is otherwise provided for, shall be managed by the Master Court -- at four quarterly meetings. At the four Quarterly Meetings the general business shall be transacted, such as the admission of members, and other business. At all Meetings of the Master Court seven shall be a quorum."

There are two types of applicants for membership: applicants at the Near-Hand and applicants at the Far-Hand. "Apprentices of members of the Incorporation shall be entitled to admission as Members at the Near-Hand on the termination of their apprenticeship. Applicants at the Far-Hand are those who have had no previous connection with the Incorporation. Every Entrant at Far-Hand must be approved by three fourths of the Master Court present when he is proposed for admission. The Master Court shall have the absolute power to admit or reject the application. The applicant, if found qualified, shall, upon payment of the Entry Money as specified, be admitted a Member of the Incorporation. All persons joining the Incorporation shall be bound by the Rules and Regulations thereof."

A quick review of some of the 17th century records of the Incorporation indicate the timelessness of certain organization problems. For instance, in 1624 it was found undesirable to allow the deacon to exercise exclusive control of the affairs of the craft, and there is a continued desire to limit his power. There are continual indications of difficulty in getting a craftsman to discharge the duties of Collector. Evidently these were unpaid labours, and the burden fell on the latest comen eligible. In 1645 it is mentioned that from very early days an important duty of the deacon and his court has been the responsibility of maintaining a reputable workmanship; and it is always clearly recognised that defective work done by any member injures the whole craft. There are continuous regulations, "for the weale of the craft." The weavers of 1599 seem to have had human failings in seeking to secure for themselves ample supply of work, and possibly doing so by specious promises, which it was recognised did a general injury to the trade, so the Master Court had

legislate against such practices. Banishment for bad workmanship seems to have been of frequent occurrence. Fines were instituted for various offences, which were a source of revenue. An outside control of the deacon and his spendings became necessary, and a practice was enacted bearing that the audit of the collector's accounts took place after the election of the new deacon.

Preparation for the weaver's craft was through the apprenticeship system. Five years seems generally to have been recognised as the period necessary to fit an apprentice for the position of journeyman, and the Master was paid for taking the apprentice for this period of training. But frequently two years were added, during which time the apprentice was paid in "meat and fee," apparently an "internship" period. Difficulties between Masters and apprentices were settled by the Master Court, as shown by the record of February 15, 1615, "The quhilk day, in consideratioune of the complaint maid by Wm Crawford to the craft, of Archibald Thomesoune, his maister, for conceilling fra him of diveris poyntis of his craft specially hyding fra him all playdis (plaids) he weifes and sea bumbasies. Thairfoir the deikin and maisteris all in ane voice hes ordainit the said Archibald for the said William his instructiounes to give him to warp and weife during his prenteship ilk third pair of playdis that cumis in his hous to seife and als to acquent him and instruct him with sea bumbasie that is brocht to him to work under the pain of four pundis as he failzies sua to do he being tryit culpabill thairin."

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This somewhat lengthy review of the OLD GLASGOW WEAVERS is given, not for curiosity, but for the concrete guidance it can give to modern organizations. The Journeymen who make up the membership of the ancient Guild, correspond to the experienced weavers, amateurs, professionals and teachers, who comprise a modern organization. The apprentices correspond to the beginners in the craft, who in most of the Guilds hold non-voting membership until they have achieved specified standards in the craft to make them eligible for full membership. The Masters are an elected group of members (officers and Directors) with recognized competence in the craft, who can be relied upon to set standards and pass judgements. The Master Court system has much to be said for it, in craft organizations, as the group is large enough that responsibility for judgements, cannot fall upon any one individual. By turning over routine business matters to the Master Court, the valuable time of Journeymen members who are interested in the craft, rather than in parliamentary procedure, is not wasted. Meetings may thus be concentrated upon more profitable matters of exhibits, demonstrations, lectures, and matters pertaining to craftsmanship. A weaver's Guild is not a club or fraternal order which emphasizes organization; it is a group of people which gathers together for the specific purpose of increasing knowledge and skill in the craft. The craft, rather than the organization, is important.

Membership Standards: If the modern Guild is to serve its members well, it is necessary, just as in the old Guilds, that specified membership standards be adhered to. These standards must be based upon achievement in the craft. However, since the Guild can be of great service to new weavers, beginners in weaving should be admitted, perhaps as non-voting, non-office-holding members, to share all other activities. When specified standards of craftsmanship have been achieved, full membership is granted. Most groups require, even for non-voting members, testimony of sincerity in the craft by the actual ownership of a loom. Another type of non-voting membership is granted in some Guilds, to full members who for some reason or another must temporarily give up their activity in the craft, but wish to retain membership in the group. Groups which maintain libraries, club rooms, exhibits, or other property, must charge new members an entrance fee which will balance the years of work and expense which old members have put into these. The contribution of an acceptable program is a requirement for new members, in many instances.

Library: The nucleus of many organizations is the circulating or lending library collected by and owned by the Guild, and made available to all members. The importance to a weaver of a good, readily available, reference library cannot be minimized. However, the cost of a complete weaving library makes it beyond the reach of most individuals. Most Guilds elect a librarian, and sometimes a library committee. Large Guilds which have permanent Guild rooms, usually house their own library, and some pay a small remuneration to the librarian. Smaller Guilds can usually cooperate very effectively with city, county, or High School libraries, supplying the books and periodicals for a Weaver's Reserve Shelf, which are checked in and out by the regular librarian. The possibilities of such a service should not be overlooked by any Guild, as most local libraries are anxious to serve the community, and special interest groups, as far as possible. Though library budgets do not permit large expenditures in specialized fields, almost any library will work with a group in organizing a mutually beneficial program. In many cases local Guild meetings are held in the Public Library, and the library often provides exhibit space for the Guild. Similar arrangements with local Museums or Art Galleries, are successful in a number of the larger cities.

Weaving Collections: Many Guilds maintain permanent exhibits of weaving. In some cases these are historic collections contributed to by any person who has an old piece of weaving, worthy of being preserved, who wishes to place it in the hands of an organization which will honor it. In more cases, the permanent exhibit is of contemporary weaving, provided by the Guild members, and often a Guild admittance requirement is the contribution of a suitable Exhibit Piece for the collection. Other groups collect, organize and file samples for study purposes. Some Guilds require that every member, in order to maintain an active status in the Guild, contribute an acceptable and desired sample, with information sufficient to make it a valuable study piece, each year.

Programs: One of the most important offices of any Guild is that of Program Chairman. The vitality of the organization depends upon the value of the regular meeting programs. It is always advisable to select a theme for the year, and build unified programs around it. The large Guilds, with several hundred members, and plump treasuries, usually have speakers (weavers of note, designers, decorators, artists, etc). In smaller groups, programs usually originate within the membership, with perhaps one outside speaker during the year. An exhibit, brought in from the outside, is an important stimulation and helps break down sectionalism or "getting into a rut." There is usually a vitality in membership-contributed programs which is missing in large, formal meetings, but can be compensated for, in large organizations, by small study groups.

Financing Projects: Finances are usually not as great a problem in a Weavers' Guild as in other organizations. Special projects such as speakers, exhibits, libraries, and even group-owned equipment, are often ^{financed} done within the group. Guilds can hold sales of books and materials for weavers. Some publishers will give dealerships on weaving books to Guilds, so that members may purchase through the Guild, with the dealer's margin going to the organization. Yarns may often be purchased in large quantities, at great savings. Public Exhibits, Demonstrations and Talks, for which admission is charged, are occasionally held. Probably the most popular means for earning organization money is the annual Handweaving Sale, held by most groups a month or two before Christmas. In many communities the Weavers' Sale (Tea sometimes included) has gained wide local fame, and many hundred dollars worth of handwoven articles are sold during the day or two when it is held. Usually each member contributes to the sale, articles worth a certain value (\$10.00 seems common) the proceeds from which go to the Guild treasury. Occasionally members will prefer to contribute that amount in cash, instead of in weaving. Members usually have the privilege of offering as many articles as desired, for sale, and the Guild takes a stated percentage (usually 20%) of the price. For successful sales, articles usually pass a judging board to assure proper pricing and acceptable craftsmanship.

Harriet D. Duffalo

THE SHUTTLE-CRAFT GUILD

BULLETIN



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Subjects:
Pricing and Marketing
Weaving Pot Holders

For most of the handloom owners in this country, weaving is a means of creative expression, a part-time activity in which the entire family often participates. It is a recreational pleasure which is also practical because, from the handloom comes an endless succession of useful fabrics, beautiful and exclusive. Can handweaving also be a means for supplementing a family income, for making an entire living? Yes, there are thousands of handweavers who are proving that it can. These fall into several groups: those who have actual weaving businesses and produce textiles for sale; teachers who specialize in handweaving instruction in a school or institution or privately; those who bring in much-needed extra income by weaving in their spare time, supplying handweaving to an agent or a store, or to a regular group of clients; those who weave primarily for pleasure, but like to have their recreation support itself, and sell part of their loom products, mainly among their friends.

For the first group, handweaving is a full-time business, though always an unusual business. There are few guides and standards for them to follow; each enterprise is entirely different from all others; each one is built primarily on the ability, energy, ingenuity, business acumen, personal contacts, of the one who operates it. A person who maintains a successful handweaving business must have the technical background of a craftsman, the training of an artist, the courage of a pioneer, the physical stamina of a laborer, and a talent for creating a demand in a customer's mind for something whose value lies in its beauty, quality, and exclusiveness. An article in the July issue of MADE-MOISELLE, written by Polly Weaver, the Jobs and Futures Editor, presents a survey of the handweaving field for the woman who would be a career handweaver. This article should be read by any handweaver with such plans. The import may be more discouraging than otherwise. It points out that the person who wishes to enter the field has the greatest chance for success by taking thorough training and becoming a teacher, as there is a growing demand for handweaving teachers in schools, universities, hospitals, and other institutions. The conclusion is that the outstanding career branch in the field, but one which requires exhaustive training in both weaving and art, is in designing textiles for the mills. The matter of thorough training is stressed, since the creative side of handweaving is as technical as any other professional activity.

The person who will turn his handweaving hobby into a means for supplementing an income; is in an easier position, since he can often find a niche and learn to produce some few marketable items, without first becoming a thorough master of the technical and artistic sides of weaving. Probably the largest percentage of weaver-sellers falls into this group. Here are some of the requirements for this type of weaving business. Since the part-time weaver is not totally dependant upon income derived from his weaving, he may select his own wage rate; but, since in our present economy no one can live at even

modest standards by earning much less than \$1.00 an hour, if weaving cannot provide such a basic income, it should be abandoned for some other remunerative field. Income is partly determined by the efficiency of one's equipment and one's own working habits. Therefore the commercial weaver should start with the most efficient equipment available -- a loom which will stand up under endless hard work, which reacts instantaneously to the weaver's will, which is light in action so that weaving may be carried on for long periods without fatigue, which requires none of the weaver's time in making adjustments. Some looms will produce twice as rapidly as others. If, for instance, one is to weave remuneratively 1000 hours in a year, and on a good loom costing \$200 one can earn \$1.25 an hour, is there any economy in purchasing a poor loom for \$100 or less on which one can earn only 75¢ an hour, when there would be a difference of \$500 in income in only one year? The commercial weaver must develop maximum efficiency in weaving, which can come only with putting on very long warps in the most efficient manner, developing and weaving over and over one or two well-designed articles, changing only color arrangements and details, buying materials in large quantities. Always have a supply of articles on hand ready to sell, and for samples.

Marketing is the greatest problem for most handweavers. For the part-time weaver, the most satisfactory system is to do one's own marketing in one's own community. Create a demand, and then be ready to fill it. Keep in mind that exclusiveness is the first selling factor, and that there is no object in weaving something which can be produced on a machine. In setting prices, remember that the time and cost of marketing must be added to the final price. In our present economic system marketing is expensive and most stores must take a margin of about 50% of the retail price (100% markup from wholesale) in order to make handling an item worth while. This is a factor which a person who creates with his own hands often resents, but the best way to learn that selling is a distinct business, deserving as much labor income as other creative efforts, is to try doing one's own selling. In some cases shops will take handweaving on consignment, accepting what the weaver brings, but accepting no responsibility, and paying the weaver only after, and if, the article is sold. In this case, with no investment or risk to the seller involved, he will take a smaller margin, usually about one third. There are certain charitable or cooperative organizations such as Women's Exchanges and Foundations which are non-profit, are supported by contributions or grants or are operated by volunteer labor, which will sell handcrafts on as low a margin as 20%, but these are special situations. The handweaver is wisest to sell outright, even though his margin is narrower, as any store puts selling effort into the things which it buys. One large gift shop operator who takes carefully selected handcrafts on a 25% consignment basis says that he does this because he personally likes hand crafts and thinks they add a good atmosphere to his shops. But, since he cannot meet his costs by selling at this margin, when a customer shows inclination to spend money, he is directed toward purchases on which a normal margin is made. Thus the craftsman is actually merely providing free decoration to the shops. This may seem unethical; but the shop owner does not believe so. The articles on display provide advertising for the craftsman, and the shop owner finds that if a customer goes directly to the weaver, in most cases the weaver will undersell his own products shown in the shop. So any lack of ethics is balanced. A craftsman who is in business should not compete with himself.

What kinds of articles sell? This depends upon many factors; the ability of the weaver, the income-bracket of the market, the persuasiveness of the seller, the type of business (year around or seasonal, local or tourist), the textile-consciousness of the market, the living standards of the community, etc. All weavers look to the notable examples of the custom-weavers who sell widely and command astonishing prices. In MADEMOISELLE, Dorothy Leibes, the outstanding success in this field, is quoted as saying that she cannot touch a shuttle to a loom for less than \$25 a yard wholesale, \$50 and up a yard retail. There obviously is a market for fabrics in this price range, but find-

ing it is beyond the ability of most handweavers. And another factor is too often overlooked -- commanding such prices is not as much finding the people who will pay them as developing the ability which can deserve them. Miss Weaver says, "In this field, unlike many talent fields, success is not so much a matter of getting a break as it is of ability and application."

The part-time weaver who sells through shops or through the Guild Christmas Sale finds that the best sellers are the small things which are within the financial range of a large group of buyers. Though it is difficult to produce an article which can sell at this range, the fastest moving articles are those selling at under \$2.50. In a recent shop marketing experiment, the fastest selling handwoven articles were the little ascot scarves given in the June Bulletin, priced at \$2.50 each. Dainty linen towels marked at \$1.50 to \$2.50 moved well. Pot holders and hot dish mats, Double-Woven at \$1.00 and Log Cabin at 70¢ (directions given herewith) sold very fast. Cocktail aprons at \$7.50 and up, linen table mats and napkins at \$4.00 and up, Leno and Tartan scarves at \$5.00, were much admired, but seldom purchased. Small envelope purses at \$1.50 and draw string bags at \$2.00, were good sellers. The weaver who sells among acquaintances can usually develop a good "wedding gift" trade in table linens and towels. Most weavers find that things for women to wear sell better than anything else: dirndl skirts, scarves, aprons, stoles, bags, etc. One of the most satisfactory businesses, but one which requires considerable investment in materials and a lot of selling ground work, is in wool yardages. This becomes truly profitable if the weaver is a good designer and establishes a business connection with a good tailor, or if an outstanding dressmaker is willing to use and promote dress materials. One point to keep in mind is that men are usually better buyers of handwoven textiles than women, and will pay adequately and freely for good wool yardages, sport shirt materials, Tartan scarves and neckties, and even table linens. It is well to avoid the handweaving fields which are already over-exploited -- for instance, leave the Navajo rugs to the Navajos, and do not try to compete in neckties with the highly organized Indian weavers of the South West.

Pricing is one of the amateur's most difficult problems, and a pricing formula is frequently requested. A general formula can be applied only to well designed, perfectly woven articles, and used only on the basis of most efficient production. In order to apply a formula, one article must be woven over and over and over, with only minor design variations. Very long warps must be used to keep the warping and threading time at a minimum per article, efficient equipment which permits maximum weaving speed is necessary. An average wage level, perhaps \$1.00 an hour, must be set; inefficient weavers will fall below this and experienced weavers may be able to make much more. After enough articles have been woven that maximum efficiency is developed, make an exact record of the weaving time per article; add to this the proportion of warping, threading, bobbin winding time for each, and time required for such finishing as sewing, washing and ironing; and on this total figure the wage value. To this figure add the cost of materials; then double the sum, for the retail selling price. Multiplying the cost of weaving time by two gives a suitable margin for marketing and investment risk; doubling the cost of materials gives a small return for designing, and also for overhead and cost of equipment.

For the person whose weaving habits do not permit such close figuring, there is a short-cut way which will give an approximately good price: figure four to six times the cost of materials. If the project is a one-shuttle linen weave in which the weaving time is relatively low but the cost of materials high, the price will be about four times the cost of materials. Yardages which are woven one or two at a time, requiring more loom-dressing time, will be about five times the cost of materials. Two shuttle pattern weaving of all cotton or cotton and wool, which have a low cost but require a great deal of weaving time, will be six or more times the cost of materials. Remember that the heavier the materials, the higher they cost; as materials get finer, the cost goes down but the weaving time increases. Of course any weaving with pick-up, open work, or laid-in designs must be valued much higher because of the weaving time required.

An experiment was conducted in estimating wholesale and retail price on a good-selling shop article -- colored linen hand towels. These were woven on a 12/s linen warp set 10 inches wide, 24 ends per inch, threaded to the Chromatic Textures given in the January Bulletin. They were made with 1¼ inch tabby hems, a 2-inch pattern border in two colors with a third color for accent, the body of tabby, and the second hem-border only ½ inch -- requiring 23 inches of weaving for a 20-inch final length. Preparing the loom with a 10-yard warp required 4 hours. Weaving the entire warp (sufficient for 14 towels) required 6 hours, cutting and hemming the 14 towels about 1½ hours, washing and ironing about 1 hour -- all top speed work. The total time was 50 minutes per towel. The cost of materials, using 7/s weft throughout, was 42¢ per towel. The shop keeper bought these by the dozen, paying \$1.35 and selling them for \$2.50 each. He wished to purchase further towels at \$1.00 each, and sufficient saving could be made to make this possible by warping 50 yards of 20/2 cotton, which would reduce the warping and threading time to about 3 minutes per towel, and the cost to 32¢ each. The quality would be reduced, but the buying public does not seem to object. Another style of towel, the 8 by 16 inch fingertip towel in soft colors with pretty borders, sells even faster than larger towels, and weaving this size would reduce the cost by 1/3rd and the total time by 1/4th. Weavers who specialize in these say that sets of three matching towels sell even better than single ones.

Part-time weavers who sell mainly to friends and acquaintances in their own community often have competition problems with other similarly inclined weavers. Too often the customer makes his buying decision on the basis of price alone, desiring the snob-value of the "handwoven" label, at the lowest possible cost. Thus the customer goes to the weaver who sells low, regardless of quality. There is little to be done about this situation except for the good, honest craftsman to build up a clientel of customers who appreciate good craftsmanship and superior designing to the point of being willing to pay for them. Another problem is the competing handweaver who undersells everyone else because he is willing to work for 50¢ an hour in order to get a customer. There is nothing to regulate such unfair competition, and the only way around it is to remove oneself from competition by developing an exclusive line, or by doing better work which has more buyer-appeal. Another problem is the copying of designs; for instance, a weaver designs a good article, creates a demand for it, has a good market, and another weaver copies the article and starts encroaching on the clientel. This could be controlled by developing designs so characteristic and so good, and associating them so firmly in the public's mind with one's own work, that no one would dare copy them. But it is wise to keep in mind that what one weaver has done, another can copy, and that any draft, pattern, design or suggestion which has been published or sold is the property of anyone who has access to it. Often what appears to be copying may not actually be so; both weavers may be using the same source material. Regarding the encroachment of one person on another's market, remember that public fancy is fickle, and fashions change by the year and by the season. In the \$18 dress shop one may find Hattie Carnegie's last-year model. But in the meantime Hattie Carnegie is still ahead -- with something new. The cream will go to the weaver who can come out with a new idea, a new design, when the old one begins to become stale. Don't worry about the weaver who is copying your last year's style. Have something yourself which is new and better.

The most serious menace to the commercial weaver, whether part-time or full-time, who is dependant upon an income from his handweaving, is the weaver who loves to sell, but does not actually need the income derived from selling. Such people will often ruin a local market by underselling, since the sale is more important than the money derived from selling. These weavers are usually inexperienced in business, but a little education in business ethics will stop unfair competition, of which they are often unaware.

Harrist Douglas

THE SHUTTLE-CRAFT GUILD

BULLETIN



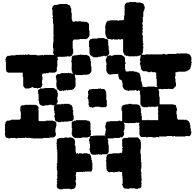
October 1950
Volume XXVII, Number 9
Virginia City, Montana

Subject:
Warp Pattern Weaving
Handwoven Christmas Cards

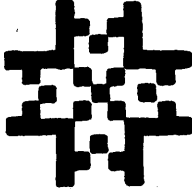
"Merry Christmas," "Season's Greetings," "Wishing You Happiness for Christmas and the New Year," the messages brought in dozens and hundreds by the postman each December. But in the printed cards, some beautiful, some magnificent, some gay, some gaudy and sentimental, there is often a synthetic impression, a monotony of reoccurrence. With the oft-repeated mechanics of the Christmas Card list, how often comes the desire to put a little of oneself into the envelope, knowing well that this feeling is too easily lost by the recipient who sits down to open a dozen square envelopes containing pretty pictures, engraved messages, a scrawled or printed name. But what card recipient is there who does not keep a group of especially treasured cards -- those which show the thought, time, special talents, and genuine regard of the sender -- those cards which have been carefully and beautifully made by hand.

The weaver, at Christmas time, wishes to share his own pleasure in his craft by sending hand woven Christmas Cards to at least special friends. However, the idea for adapting a handwoven textile to a Christmas greeting is often elusive. One season I solved the problem with a Summer and Winter Pine Tree woven in deep green with a sparkling silver background, on a light green warp -- a single figure on a 3 inch wide warp, woven four inches long, and mounted on a plain correspondence card. Yes, it took time to weave and finish one hundred of the little swatches, but the effort was rewarded. Hardly a card was mailed which did not bring an appreciative response, "The little woven piece is on the wall beside our fireplace," "I have the little tree in a silver frame on my desk," "Your Christmas Card is the marker for my favorite books;" and better yet, it brought long letters from old friends who with passing years had slipped into the Christmas Card only category.

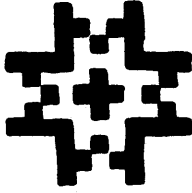
Evidence of the thought and cleverness which some weavers have applied to personalizing their Christmas greetings showed last season in the many handwoven greetings which came to the Shuttle-Craft Guild, each one of which is treasured and permanently mounted. These ideas are worth passing along to other Guild members who would like to send a special Christmas greeting through a bit of loom work. The weaving ranged from an elaborate Christmas Tree, sprinkled with gold, silver, and bright colored balls, woven in Dukagang, to a scrap of textile effectively glued to an appropriate card or drawing. One clever weaver made a linoleum block print showing a Christmas fireplace with a chair and spinning wheel beside it, a scrap of carded wool glued to the spinning wheel, a scrap of handwoven upholstery material to the chair. One lively card had a stick-figure girl with a button face, wearing a handwoven balet-type skirt glued on and full under a ribbon sash. A weaver who is also a textile painter wove an elegant square of white and silver and, with a few simple brush strokes, painted a suggestive Christmas scene, aided by the lines of the weaving. A pair of simple Trees



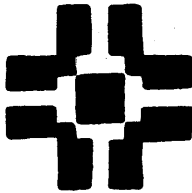
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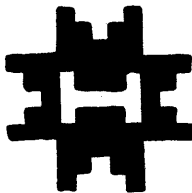
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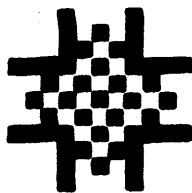
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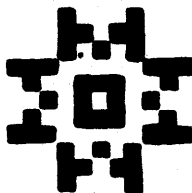
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cut from a handsome green and gold fabric was effectively mounted on a folded square of light green construction paper. A piece of tweed was mounted on a white card, and on this was mounted a picture of the family gathered around the loom. A square of drapery material was used for mounting a photograph of an evergreen framed window in the weaver's home. There was a simple sketch of a loom with a scrap of handwoven fabric glued to the cloth beam. All of these are simple ideas which require little time. Some weavers like to make especially designed swatches which their friends will treasure. These may be small squares of Double Weaving or Dukagang with appropriate pick-up designs, or pieces in which designs are produced in other pick-up, laid-in, or open work weaves. Weavers fortunate enough to have access to the old WEAVER Magazines will find suggestions for Dukagang cards in the article by Bertha Hayes, Volume VI, Number 4, 1941. If these pieces are woven individually, finish the ends and mount them on plain cards. If they are woven in wide pieces and cut, mount them under a cut-out frame, or in one of the folders intended for greeting photographs.

Don't be baffled by the problem of mounting your handwoven Christmas greeting. Small, single-fold note paper may be just the thing, or a correspondence card. For the person who wishes to make the entire card, one of the most satisfactory papers is standard construction paper, available in many colors at most stationery stores in 9 by 11½ sheets. A piece of construction paper may be folded in half the short way, and then the long way, to give a double fold card. If desired, a window may be cut in the front, the weaving inserted under it. If it is difficult to secure envelopes of the correct size, a self-envelope card may be made of construction paper: fold the sheet into thirds the short way, then fold the two long ends to meet in the center, and seal with a Christmas seal.

Two specific suggestions are given herewith -- one for an elaborate "treasure" card, the other for a simple one. The simple card can utilize the scraps of handweaving which most weavers have on hand, the gayer the better. Make double-folded construction paper cards with appropriate cut-outs and perhaps simple sketches. Following are several cut-out suggestions: a swag of bells, a candle, a single or a group of stars, Christmas trees of different styles, alone or in groups. Make a cardboard model of the desired cut-out and cut the construction paper with a razor blade. Mount a piece of handwoven material under the cut-out section, or several different pieces if you use several cut-out figures. Appropriate greetings may be written inside: "May the New Year weave you a pattern of happiness," "The same old homespun wish -- A Merry Christmas and a Happy New Year," "Bright wishes for the Season are woven into our every thought of you," "Warped with memories of happy Christmases passed, and woven with wishes for a Merry Christmas and a Happy New Year," "May the Season's warp be strong with happiness, and woven with bright threads of success."

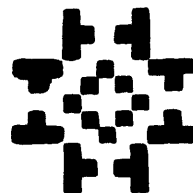
For a more elaborate card, a book marker makes a perfect remembrance. This may be just a gay strip, cut from a fine warp which was woven with a pattern band in a glittering thread, and fringed all the way around. Or it

may be a carefully designed and especially woven strip, one to two inches wide, and eight to ten inches long. Inkle weavers may make these of fine, gaily colored threads, or the Inkle techniques may be woven on the loom, with a 2-harness threading. We suggest a strip of silver stars, produced in Warp-Pattern Weave on a warp ribbon of fine mercerized cotton or silk.

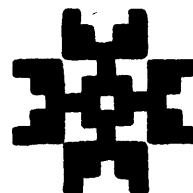
The draft given here calls for a warp of 54 ends of 20/2 mercerized cotton in a deep color, and 22 ends of the fine metallic which is twisted on a cotton core. Some other elegant material may be used instead of the metallic. This is actually a two-beam weave, but for such a narrow, small project the two warps may be beamed together, though it may be necessary to cut and re-tie frequently to preserve the tension. The project is ideal for an 8-harness table loom, and practical for a treadle loom on which tie-ups are easily changed, but if tie-ups are difficult, it may be a bit frustrating. Four-harness weavers will have no difficulty in producing the stars with the aid of a pick-up stick. Thread the loom with the cotton or base-warp on harnesses 1 and 2, and the pattern or secondary warp on back harnesses, as indicated on the drafts. Sley in a 15-dent reed with three ends to a dent, two base warps and one pattern warp, except for the selvage which should be threaded with two per dent.

The weaving is all done in tabby, on harness 1 and harness 2 alternately, and the pattern threads are raised and lowered so that they run over or under the surface of the tabby cloth to make the designs. If the Stars are to be woven without distortion, exactly four tabby shots must be woven for each pattern unit, and the beat must produce a perfectly balanced weave. Weft thread should be exactly like the warp. The figures beside the Stars illustrated indicate the harnesses which should be raised to produce the patterns. To weave the first Star (upper left) raise harness 6 and with the harness up, weave four shots on harnesses 1 and 2 raised alternately; raise harnesses 6 and 7 and weave four shots on 1 and 2; raise harnesses 6 and 8 and then weave four shots on 1 and 2; raise 3, 4, 5 and 7 and weave 4 shots on 1 and 2; raise 4 and 6 and weave 4 shots on 1 and 2; raise 5 and 7 and weave 4 shots on 1 and 2; then repeat in reverse direction from 4-6 to the last 4. The other designs are worked out in the same manner. If horizontal bars are desired between the Stars, these are made by raising all the pattern harnesses (3 through 8) and weaving four weft shots on harnesses 1 and 2 alternately. The fabric produced will have a distinct right and wrong side and there will be long pattern-warp skips on the wrong side. As well as for long book markers these pieces are attractive if woven in 4-inch lengths, a single Star with a group of horizontal bars, and mounted on a card. The weave is of course adaptable to other types of materials and projects.

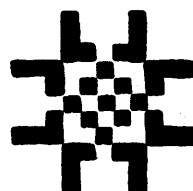
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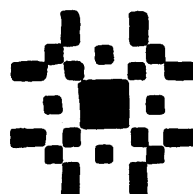
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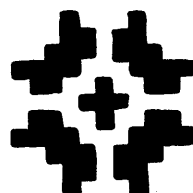
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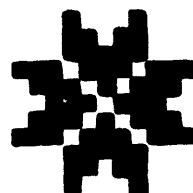
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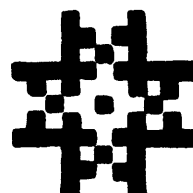
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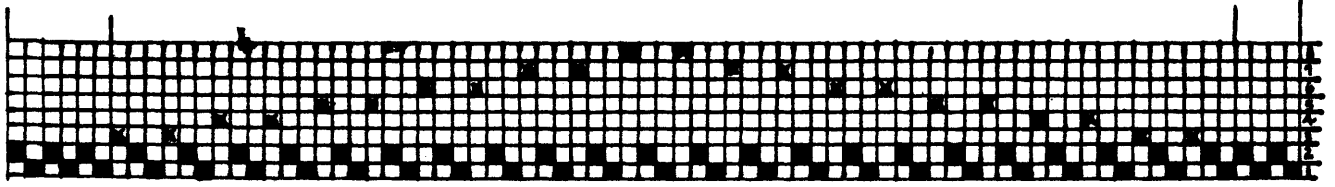


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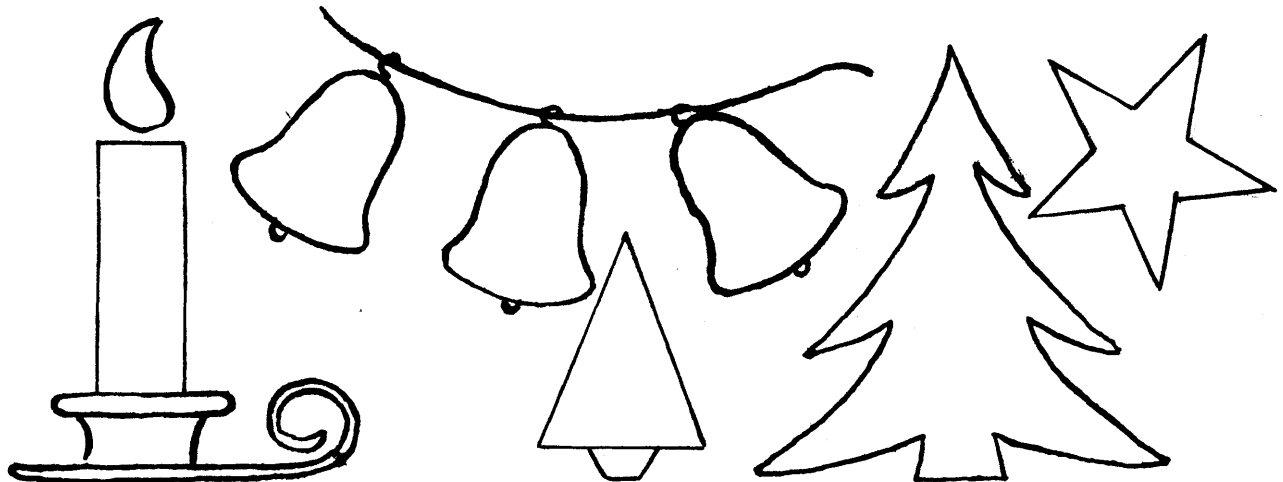




Four-harness weavers may thread all of the pattern-warp threads on harness 3, but the pick-ups will go faster if the pattern warp is distributed between harnesses 3 and 4 as indicated on the second draft. Only a small pick-up stick is required, a smooth stick about 6 inches long, with a point on one end is adequate, or a small knitting needle may be used. To weave the first Star by the pick-up method: raise harness 4 and pick up the first two and the last two threads, with the pick-up stick pushed back to the reed weave four shots on harnesses 1 and 2 raised alternately; raise harness 4 and pick up the first four and last four threads, and weave 4 shots on 1 and 2; raise harness 4 and pick up two threads, drop two, pick up two, drop two, pick up two, then weave 4 shots on 1 and 2; raise harnesses 3 and 4 and pick up six, drop two, pick up two, drop two, pick up two, drop two, pick up six, and weave 4 shots on 1 and 2; raise 3 and 4 and drop two, pick up two, drop two, pick up two, drop six, etc, and weave on 1 and 2; raise 3 and 4 and drop four, pick up two, drop four, pick up two, etc, and weave on 1 and 2; reverse direction to balance design. Since it is impossible to beat against the weaving edge when the pick up stick is in place, it is wise to use a small stick-shuttle or a belt-shuttle and beat against this while it is still in the shed. Or two shots may be thrown, the pick up stick removed for the beat, and the same pick-up repeated.

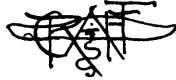
May the coming holiday season see a wider use of Weaver-Personalized greeting cards.

Harriet C Douglas



THE SHUTTLE-CRAFT GUILD

BULLETIN



November 1950
Volume XXVII, Number 11
Virginia City, Montana

Subject:
"Long-Warp" Projects
Summer and Winter Weave

The long-warp project answers many a weaving problem. By the long-warp project we mean an assortment of weaving adventures, all of which may flourish on a single threading of a single warp.

The specific long-warp project on which the greatest variety of weaving may be produced requires a long warp of 24/2 colored cotton, set at 36 ends per inch, about 30 inches wide, threaded to a simple, geometric, Summer and Winter design. What are the possibilities of such a project and its advantages; what can be made on the long-warp described here? Since one or more of the Shuttle-Craft looms is always threaded to a long-warp, many of the possibilities have been explored; others are constantly turning up. Here are some of the things we have woven on a single warp:

- Dress, suit and blouse materials, including house dresses, year-around street dresses, suits with blouses, halters, and evening dresses;
- Dirndl skirts and square-dance skirts in wide variety;
- Aprons in many styles, colors and designs;
- Material for evening jackets and bags; and skirts;
- Housecoat and bathrobe materials;
- Curtains for kitchen, bedroom, bathroom, hallway, study;
- Upholstery materials in many types;
- Bed spreads and cushion covers;
- Window blinds and lamp shades using bamboo and reeds;
- Bag materials of many kinds;
- Table Mats and napkins in wide variety, and gay table cloths;
- Tray cloths, with tea napkins, cocktail napkins, and beerkins;
- Absorbant bath towels and wash cloths.

Yes, every one of these articles, each one made of a completely different type of fabric, with a different color emphasis, has been woven on a single warp, with a good basic threading. Different interpretations in weave, in weft materials, and in colors, can produce an astonishing range of textile types. Fabrics may be woven thin or heavy, soft or stiff, smooth or rough, patterned or plain, textured or flat, formal or informal, stylized or casual. There is no limit to variations, or no end to imaginative applications. The long-warp project is ideal for the weaver who, with a single loom, wishes to weave in wide variety, but to avoid continual threadings. It is ideal for the two-loom weaver who wishes to keep one loom constantly ready for weave, while another one is available for experimenting and short projects of a specialized nature. It is a wonderful solution for the weaver who dislikes spending a large share of weaving time on the tedious tasks of warping and threading. In the seven-point argument for the long-warp, each phase deserves special consideration.

Type of Material: Of all weaving materials, cotton remains the most universally used and useful. It makes a strong warp which does not deteriorate in strength or quality on the warp beam. There are no special problems in warping, and it

weaves more easily than most fibers. It has the advantage that it may be combined with almost any other type of fiber, natural or synthetic, for specialized effects. Lily Mills supplies 24/2 in high quality, lustrous, unmercerized cotton, on convenient 2-ounce tubes. A sufficient number of these (72 tubes or 9 pounds) should be purchased to fill the standard 2-inch bout of the sectional warp beam. Great loss in time, quality, and even money will result if the weaver attempts winding his own small tubes from large cones. Only sectional warping is recommended.

Weight of Material: The most satisfactory material for the widest variety of textiles is 24/2 cotton, which sets to best advantage at 36 ends per inch. Sley this at 2 per dent on an 18-dent reed, 3 per dent in a 12-dent reed, or it may be sleyed 2, 3 in a 15-dent reed for a setting of 37½ ends per inch. The heavier 20/2 does not give as light weight or lustrous a fabric, nor are color effects as good.

Color of Material: Some weavers may be apprehensive of the use of a strong color for such a lengthy project, but take your courage in hand and select something brilliant. Keep in mind that the most "honest" colors are the easiest to use -- the full-bodied primaries or secondaries such as red, yellow, blue, green. Dark colors such as navy blue, brown, dark green, maroon, give excellent effects but are more limited in adaptability. Pale colors are difficult to strengthen in the weaving, and are apt to give fabrics with less character. Off-shades are difficult to use and are apt to become monotonous, tiresome, and wearing on the nerves, even though one is much excited by their beauty at the outset. White and black are the most difficult colors there are for backgrounds, and should be consciously avoided in the long-warp projects. If complete safety combined with conservatism is desired, make the warp of grey, as grey is a balanced combination of all colors and almost anything can be used with it. Since the use of fine thread makes it possible to achieve unlimited color effects by weaving with one color weft on another color warp, save the odd and unusual colors for weft, with something strong and simple for warp, and you will never be "stuck" with a disappointment. Have 6 or 8 colors in small quantity (½ to 1 pound) for weft.

Warp Length: From the point of view of economy, a warp not shorter than 40 yards is recommended. A warning --- by the time you have woven 20 yards on such a warp you will have 20 more projects in mind, so less yardage will be frustrating. From the point of view of efficiency, not more than 60 yards is recommended. Nine pounds, or 72 2-ounce tubes, of 24/2 cotton will safely warp 15 2-inch bouts 60 yards long, with small amounts remaining on the tubes for weft, but more length means less width. The warping of such a length must be done with great care. Be sure to use a tensioner, and do not handle the warp ribbon between the tensioner and the beam. The warp in each bout must be spread perfectly, with never a hump in the center or at the pegs. If there is a tendency to hump while winding, stop winding at each ten rounds and force the warp flat between each set of pegs.

Warp Width: A width of 30 to 32 inches is suggested for several reasons. This is one of the most useful widths for the greatest number of projects -- wide enough for upholstery and curtains, correct for dressmaker patterns. It is the standard width of many looms. It is one of the most convenient widths for the average person to weave. In warping sectionally, it is a good idea to warp the center bout first, and then warp bouts on each side, alternately, to the width.

Selection of Weft Materials: On a well-planned long-warp project, a great deal of the flexibility of textiles produced depends upon the use of a wide variety of weft materials, appropriately introduced. The basic weft should be similar to the warp. For varying color effects, use material identical to the warp but in different colors. Lily Mills supplies 24/2 in 24 different colors, and almost any of these may be woven across any other to give an appealing blended color. This use of different colors for warp and weft also adds a visual texture depth. For unbalanced weave textures, and for pattern borders or all-over patterns, one of the most useful of materials is the Lily Soft-Twist 20/6 strand

filler (Art 914). When a harder material is desired, the Lily Soft Twist, 10/3 (Art 714) is excellent. For producing heavy, thick materials, Lily stranded Filler (Art 514) has many uses. The #3 Pearl, #5 Pearl, and Mercerized Floss (Art 114) are also useful, when shiny effects are desired. Of course similar threads from other sources may be used. Many other types of material may be incorporated for special fabrics and effects. Among wools, Fabri is an ideal weight and quality for this type of warp, and it comes in colors which harmonize. The whole range of novelty yarns in cotton, cotton and rayon, rayon and wool, rayon, rayon and metallic, rayon and linen, have their individual places. Rough singles linen, particularly the 7/s in colors, are effectively incorporated for specific projects and techniques. Among the hundreds of types of metallics available, the most useful in the long-warp projects is the very fine metallic twisted with a silk or synthetic strand. This type of metallic weaves almost like thread or yarn, is easy to handle, and has as great strength as the 24/2 warp so the textile is not weakened by its use. If used throughout a textile, it gives a soft, fine fabric which drapes well. The Terrace Yarn Co sells this type of metallic on 1/2 pound spools, and the Shuttle-Craft Guild now stocks it in gold, silver and copper, on 3 to 4 ounce spools, at 50¢ per ounce. The yardage per ounce is enormous; a yard of tabby material, 30 inches wide, requires 1 1/2 ounces, when no other weft material is used. And there are other ornaments which are incorporated into special projects: split bamboo, reed, lurex, plasticbeads, metallic guimp, jute, spun glass, nylons, silk, wools, mohair, homespun, carpet warp, chenille.

The Summer and Winter Weave: Of all techniques from which one may select, the Summer and Winter Weave has been found the most versatile for the long-warp project. Experiments with other techniques have invariably been rethreaded to Summer and Winter. The advantages of this weave for producing many types of fabrics lie in its closely interwoven nature, which gives strength and high quality; it may be woven as tabby, as plain weave, as any one of a variety of texture weaves either with or without tabby, or as a pattern weave; geometric designs may be produced, or simple block or line movements, or symmetrical or asymmetrical patterns; almost any type of material may be introduced into the weft; many colors may be combined in a single project, and colors may be woven in vertical bands as well as horizontal, or several colors may be woven simultaneously. Summer and Winter lends itself to the most intricate of designs and to the most refined of textures, as well as to the most simple of effects.

For long-warp projects, the interpretation of the Summer and Winter weave is usually free and modern, rather than adhering to the strict limitations of the traditional weave. For modern effects and the greatest flexibility, it is wise to avoid the intricate and florid multiple-harness patterns of the Colonial tradition. Four-harness, 2-block threadings are often as effective as multiple-harness drafts, so the long-warp projects are as useful to the 4-harness weaver as to the one who has a more complex loom. The 8, 10 and 12-harness threadings may be used to lend very subtle, delicate, and occult effects to the weaving. However, experience indicates that the most convenient multiple-harness threading is on 6 harnesses. Since so much of a long-warp project will be woven as tabby or simple texture, it is desirable to have the tabby treadles fairly even in weight. A 12-harness threading means that ten harnesses must be tied to one tabby treadle, making that treadle heavy to operate. Since a long-warp project means many miles of treadle walking, don't make the hike an all up-hill one. A 6-harness threading gives four possible pattern-blocks, which are adequate.

Following are listed the basic characteristics of the Summer and Winter Weave. For interpretative weaving, and the creation of individual and modern effects, the weaver must know and understand these characteristics.

- The threading unit is composed of four warp ends, which may be repeated any desired number of times to form a pattern block of any desired size.
- The first thread of the unit (thus, every 4th thread of the entire warp) is on harness 1.
- The third thread of the unit (thus, every 4th thread of the entire warp) is on harness 2.

Harnesses 1 and 2 together (all the odd-numbered threads of the entire warp) produce one tabby. The remaining harnesses, regardless of the number employed, are the pattern harnesses, and together form the second tabby. The second and fourth threads of the unit (thus, all of the even-numbered threads of the entire warp) are threaded on a pattern harness. Pattern Block A is threaded on harness 3, Block B on harness 4, Block C on harness 5, Block D on harness 6, Block E on harness 7, etc. Harness 1 alone is known as the x tie-down, and is used to tie down the pattern areas. Harness 2 alone is known as the y tie-down, and may also be used to tie down the pattern areas, or x and y may be used alternately. Common Summer and Winter is woven with tabby shots and pattern shots alternating, somewhat as in Overshot, but variations on this are possible. Any Summer and Winter pattern has two textures: pattern texture in which pattern weft floats on the surface, held down by every fourth warp end (a tie-down harness); background texture which is mainly tabby but has pattern weft appearing on the surface over every fourth warp, giving a salt-and-pepper effect. Thus, both textures are three-quarter tones. One or the other tie-down harnesses (in a definite order) must be combined with every pattern combination in weaving pattern sheds. Raising one pattern harness (with a tie-down) will weave that particular pattern block in background texture, all unraised blocks in pattern. If all but one pattern harnesses are raised, the unraised block will weave in pattern texture, all other areas in background texture. To weave pattern texture across the entire warp, raise only the tie-down. To weave background texture across the warp, raise all the pattern harnesses.

There are many ways to weave Summer and Winter, each one lying within the limitations outlined above. These are treadled in specific sequences, and are not interchangeable within any one project. Below are outlined the basic treadling systems. "P" refers to any pattern harness or combination of pattern harnesses. Px means a pattern harness (or harnesses) plus the x tie-down (for instance, 1 plus 3, or 1 plus 3-4-5), and Py means the pattern harness plus the y tie-down. "P" sheds are woven with a shuttle carrying pattern weft, and a and b tabby sheds are woven with a shuttle carrying weft like the warp, unless otherwise specified.

- Method 1: a, Px, b, Px, repeated; or a, Py, b, Py, repeated.
Method 2: a, Px, b, Py, repeated.
Method 3: a, Px, b, Py, a, Py, b, Px, repeated.
Method 4: b, Px, a, Py, b, Py, a, Px, repeated.
Method 5: a, b, Px, repeated; or a, b, Py, repeated.
Method 6: a, b, Px, a, b, Py, repeated.

The traditional, geometric patterns are commonly woven by Methods 3 or 4, on a specific tie-up, with two treadles for each harness or combination of harnesses, one tied to x and the other to y. For freedom of interpretation in the weave, it is advisable to use the skeleton tie-up, in which each harness is tied to a single treadle. Pattern sheds are made by depressing the desired pattern treadle or treadles with the right foot, and the correct tie-down treadle with the left foot. If elaborate combinations are desired on multiple-harness threadings, it is advisable to use Method 1, and tie either x or y to each of the pattern treadles, leaving both feet free for making pattern combinations. If the weave is to be dominately background (in multiple-harness threadings) tie two or more pattern harnesses to each treadle, in regular sequence. For polychrome weaving (which will be taken up in a later Bulletin) tie all but one pattern harness to each treadle.

The subject started here is a long one, as long as the warps involved. Even the table-loom weaver who must work with warps not longer than twenty yards will find it worth while. And it is always possible to thread any of the specific projects individually, if the long warp is not desired. Therefore it will be continued in future Bulletins. Draft references, for the time being, are Numbers 150, 151, 165, 166, 176, 177 in the Shuttle-Craft Book,

Hubert Douglas

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Subject
Upholstery on a "Long Warp"
Notes on Good Weaving Technique

The handweaver who would produce a suitable and handsome upholstery fabric must be guided by the same standards applied to commercially-woven upholsteries. The first designing point must be to harmonize the textile with its purpose. Thus durability becomes the primary consideration. An upholstery fabric is a textile which is subjected to a great deal of hard wear. Since, aside from the cost and labor which go into the actual textile, the cost of an upholstering job is great, and the process is an inconveniently lengthy one, any upholstery fabric should be made to withstand many years of hard wear. As the upholstery fabric will have a prominent place in one's home for many years, it must be sufficiently conservative in design that it will last, and will not offend one's sensibilities five years or ten years after it is woven. The colors should be likewise conservative and of the blending quality which will permit harmonizing with changing decorative schemes, renewing of such other basic decorations as wallpaper or paint, rugs, curtains and draperies. A further and very important point to consider is that the upholstery material must feel sympathetic to the touch. Since one sits on an upholstered chair or sofa, the material must not be rough or prickly, and it should not have the abrasive quality which makes clothing shiny. Weaving of upholstery is not "weaving for now," it is "designing for the future."

The technical requirements for an upholstery fabric are numerous. An upholstery must be very strong in both the warp and the weft directions to withstand the taut pulling and tacking of the upholsterer. It must be very closely woven so that dirt does not penetrate it. Thus, most upholsteries are double-faced, with a firm, close surface, usually tabby, on the under side, and the decorative threads concentrated on the top side. Since an upholstered chair is difficult to clean, it should be made of the most soil-resistant materials. Wool and linen shed dirt readily so they are excellent, whereas cotton absorbs dirt and should consequently be avoided except for backing. Cotton is preferable for the backing (warp and tabby) because it can be woven closely, is strong, and has the elasticity which the upholsterer needs. Mohair, because of its long wearing and dirt shedding quality has long been an upholstery favorite, and rayon, with these same qualities but to a lesser degree, is increasing in popularity. Silk, with its great strength and resistance to soil, has long been the preference for elegant upholsteries, and metallics have always had a place in fine upholsteries and are increasingly popular as their quality increases. For informal upholsteries, wool tweed is now leading in favor. But the gay, deeply textured, impractical cottons are rapidly dwindling as the fad of the recent past. From the above considerations, one starts the designing of an upholstery fabric with a strong, closely-set warp, and a weave which is closely interwoven on one side, preferably with a tabby base to give equal warp and weft strength. The basic color should be rich, but conservative, pleasant to look at, and easy to harmonize with other colors. The selection of an earth or nature color is always safe, and modern decoration is tending

more and more to the use of nature colors in home decoration. The fabric should be plain, or with a very simple pattern, so it will not become tiresome. A strong texture effect adds the greatest interest, but the texture should be open and on a firm background, to avoid dirt catchers. There should be no loops, long warp or weft skips, or roughness to snag on clothing or cleaning equipment, no threads which can be pulled easily to make the fabric look shabby.

The Summer and Winter weave is an ideal medium for high quality upholstery, as it can be woven to produce a two-faced material with the warp and tabby giving the wrong-side strength, the pattern threads on the surface giving the color, material-interest, soil resistance, and texture. The weave is close so dirt does not easily penetrate, there are no long skips to catch on clothing or to wear quickly, and it permits the weaving of a wide range of texture and color effects. The "Long Warp Project" is useful because upholsteries in wide variety may be woven on any threading in Summer and Winter which is used for other things.

The weaves given here are of the type called by many weavers "Texture Weaves" as the emphasis is on the texture of the fabric rather than on pattern. They may be woven on any Summer and Winter threading, whether it be a simple 2-block arrangement on four harnesses, or an intricate 8-block pattern on ten harnesses. The weft materials used are linen, wool, mohair, and metallics. Mohair is the 50% mohair-50% rayon, sold by Contessa yarns, which comes in white at a lot price, but may be dyed to desired colors. Where a hard, heavily textured surface is desired, the linen used is 1 $\frac{1}{2}$ /singles which the Shuttle-Craft Guild now carries in the 17 Davis colors. The extra cost of this (\$2.80 per pound of 400 yards) above novelty cottons is well worth while. The wool used is Fabri -- desirable because it is strong, takes endless wear, and is moth-proofed. We have used two types of metallics, the heavy cord in which lurex is wound around a cotton core, and the Dorothy Leibes-type braid of the quarter-inch variety. The colors used in our experiments are given with the weaving directions merely as a convenience; the weaver will wish to substitute his own harmonies. We were experimenting for a particular room which required accent on nature-tones of green, some white, and copper as the metallic. The depth of the nature-tones is achieved by combining different shades or colors in the warp, tabby and pattern weft. The upholstery varieties given below range from the most conservative, to the ultra modern. There is something here for every taste and type of room.

An upholstery fabric which is conspicuous and is used for many years should be perfectly suitable to its purpose, its surroundings, and its users. Therefore careful planning and a good bit of sampling are important. Since a tiny swatch is altogether inadequate for judging an upholstery, it is suggested that several large size pieces be woven and made up into sofa pillows, which can be used in the setting where the upholstery is to be used while the weaver decides which would be best. Or make enough to cover a foot stool or a chair seat, for an even more realistic trial sample. Fabrics suitable for upholstery will usually make up into handsome knitting or shopping bags. So there is no need for being wasteful in your sampling and weaving large pieces which have no potential use.

Most of the weaving for the ten textiles described here is done on a very simple tie-up, with only four treadles. Two treadles are tied to tabbys: a is all of the pattern treadles tied together, and b is harnesses 1 and 2 tied together. The other two treadles are: x, harness 1 tied alone, and y, harness 2 tied alone. In a few cases two other treadles are used to give pattern effects and are called 1 and 2; 1 is harnesses 1 and 3 tied together, regardless of the pattern threading; and 2 is harness 1 plus all of the pattern harnesses except 3 (1 plus 4, and on). Where a double weight of weft material is suggested, a double shuttle (one which holds two bobbins) should be used, or two shuttles carrying identical material thrown in the same shed. If the two shuttles are of the small Swedish type, two shuttles may be held together and thrown and caught as though they were one. The warp is 24/2 cotton in dark jade, set at 36 ends per inch. On sheds a and b use the suggested tabby thread, on sheds x, y, 1, 2, use a shuttle carrying the suggested pattern weft.

Texture 1: A rich, conservative fabric. Tabby of 24/2 cotton in a color which differs from the warp color, to give depth. Pattern weft of Contessa mohair.
Weave: a, x, b, y, repeated throughout.

Texture 2: A conservative fabric with an interesting surface texture. Tabby of 10/2 cotton in Leaf Beige; Pattern weft a double strand of Sea Moss Fabri.
Weave: a, x, b, y, a, y, b, x, repeated throughout.

Texture 3: A dignified fabric with a uniform surface texture and a simple pattern in two-tone effect. Tabby of 10/2 cotton in Leaf Beige; pattern weft of a double strand of Sea Moss Green Fabri, and a double strand of Medium Green.
Weave: a, b, 1 (Sea Moss), 2 (medium green), repeated 6 times;
a, b, x (Sea Moss);
a, b, 1 (Med Green), 2 (Sea Moss), repeated twice;
a, b, x (Sea Moss). Repeat this entire succession continuously.

Texture 4: A formal textile with dashes of metallic in vertical lines. Tabby a double strand of 24/2 cotton in yellow; pattern weft a double strand of mohair; second pattern weft copper metallic cord.
Weave: a, b, y, a, b, x, repeated 3 times;
a, b, 1 (Mohair), 2 (Metallic). Repeat this succession throughout.

Texture 5: A modern vertical stripe in two tones, with copper metallic touches. Tabby of 7/s linen in yellow; pattern weft of 7/s linen in Meadow Green; secondary weft of metallic cord.
Weave: a, 1, b, 1, repeated. At irregular intervals substitute as follows:
a, 1, 2 (metallic), b, 1.

Texture 6: A dignified, formal fabric with a metallic figure. Tabby of 10/2 cotton in Leaf Beige; pattern weft of a double strand of Medium Green Fabri; secondary pattern weft of copper metallic cord.
Weave: a, b, x (Fabri), repeated 1½ inches;
a, b, 1 (Fabri), 2 (metallic);
a, b, x (metallic);
a, b, 1 (Fabri), 2 (metallic); repeat the entire succession.

Texture 7: A formal textile with metallic harmonizing with background. Tabby of a double strand of 24/2 in Topaz; pattern weft a double strand of mohair; second pattern weft of copper metallic cord.
Weave: a, b, x (mohair), a, b, y (metallic); repeat throughout.

Texture 8: A formal, modern spirit, corded textile which is particularly handsome. Tabby of a double strand of 24/2 cotton in Topaz; pattern weft of 1½/s linen in Meadow Green; secondary pattern weft of copper metallic cord.
Weave: a, b, a, b, a, b, x (linen), a, b, y (metallic), a, b, x (linen); repeat throughout.

Texture 9: An ultra-modern corded textile. Tabby of a double strand of 24/2 cotton in topaz; pattern weft of 1½/singles linen in Chartreuse; secondary pattern weft of ¼-inch gold metallic braid.
Weave: a, b, a, b, x (linen), repeated 4 times;
a, b, y (metallic braid), a, b, x (linen); repeat succession.
This is best if the entire succession is repeated for three rows of metallic braid, then eight inches woven like first repeat, to give wide stripes.

Texture 10: Modern weft color stripes. Tabby of material matching the warp; pattern weft of 1½/singles linen in Yellow, Chartreuse and Meadow Green; secondary pattern weft of ¼-inch gold metallic braid.
Weave: a, b, x (yellow), a, b, y (yellow), repeated for 1½ inches;
a, b, x (metallic braid), a, b, y (green), a, b, x (green);
a, b, y (chartreuse), a, b, x (chartreuse), repeated twice;
a, b, y (green). Repeat the entire stripe.

NOTES ON GOOD WEAVING TECHNIQUE

Adjusting the Warp. For most looms, the weaving line for the maximum weaving space falls about $2\frac{1}{2}$ inches from the inside edge of the breast beam. To adjust the warp, rest the beater against the weaving surface, release the tension on the cloth beam, then release the catch on the warp beam and roll up the cloth on the cloth beam until the beater just clears the breast beam.

Warp Tension. Different types of warp require different tensions. Fuzzy or sticky materials such as wool or singles linen require a rather severe tension to force the sheds apart efficiently. Elastic materials such as most cottons may be woven on a fairly loose tension. Inelastic materials such as rayon and linen must be woven on a fairly severe tension to prevent sag in the warp. Too severe a tension puts an undesirable and unnecessary strain on the loom, the warp, and the weaver. The heavier the tension, the greater is the weight on the treadles, so aim to make the treadle action as light as possible. As the weaving surface progresses from the breast beam toward the beater, the angle of the shed increases, and the warp is taken-up in the weaving, so the tension of the warp increases. To obviate this, as soon as the treadles become heavier, release the catch on the cloth beam one notch. With an average warp, two releases on the beam are necessary in a weaving space of 6 to 7 inches. Heavy, inelastic warps which have a severe take-up, require more frequent adjustments. Elastic warps often require no adjustment.

Throwing the Shuttle. The shuttle should be thrown on the shuttle-race with a long, swinging motion, so that neither hand touches the warp when the shuttle is thrown or caught. The shuttle is held lightly, at the end, between the thumb and the last three fingers, the fore-finger lying on top to control the bobbin. It is thrown and caught in the same position. The shuttle should be pulled sufficiently beyond the arc of the beater so that the weft will lie on a loose diagonal in the shed. Allow no tension on the weft during the beat. Economize motion as much as possible, avoiding, except when weaving with two or more shuttles, bringing the hands toward the body. That is, keep the arms extended so that the hands are in a position to throw the shuttle along the shuttle-race, moving in a line almost parallel to the front of the body.

The Beat. The beat should be made with the weight of the beater and not with muscular force. This necessitates a proper, well-weighted beater. Always grasp the beater exactly in the center -- never at either side. Grasp it very lightly, so that it swings almost freely between the fingers and the thumb -- never firmly with the fist. Swing the beater with wrist and elbow motion, never with shoulder motion. Control the weight of the beat by the sharpness with which the beater is swung. Remember that a pair of short, sharp beats is more effective than a beat made with a great deal of muscular force. No exact rules for the correct method of beating can be given, because every different type of warp, many of the techniques, different warp settings, and even different warp widths, require different beats. For most weaves (the wool weaves, the traditional linen weaves, all tabby fabrics, and Colonial 2-shuttle pattern weaves) the beat must be adjusted so that a balanced fabric results; which means that the fabric should have exactly as many weft shots per inch as there are warp ends, when the fabric is under no tension. (For the 2-shuttle weaves this means a balance between warp and tabby shots, or twice as many weft shots per inch as there are warp ends.) Therefore the weaver must experiment for each new problem, to find the proper way to beat it. For closely interwoven fabrics it is usually necessary to make two short, very sharp taps with the beater before changing the shed, and two more after changing the shed. In some cases a single tap may be given after throwing the shuttle, and another one after changing the shed. Sometimes only the first tap is needed. In extreme cases, where the weft must be carefully and widely spaced, it is wise to close the shed before beating. Keep in mind that the tap of the beater which follows the weft shot places the last weft shot parallel to the weaving edge, but the force of the beat goes to place the previous weft shot into its proper position. Since the weft, when the shuttle is removed from the shed, lies in the shed on a loose diagonal, the changing of the shed before the weft is beaten parallel puts an undue strain on the warp and distributes the weft unevenly.

Harrist Douglas