From the Isle of Capri came the finely woven textile shown at the right in 84. The amateur group at the Hillside Loomhouse used the weave at 30 to 50 threads to the inch. When the experimental group saw the weave, they took it over in the coarser form as being suitable for beginners. 82-84 shows the weaves at 30 threads to the inch for fine luncheon mats. Your first warp can be used for the form shown in 85 with candlewicking being used with 12/4 cotton. The technique used two plain weave threads—back harness, front harness—and then the same two harnesses for two pattern threads—back harness, front harness. A diagonal as in 85 is easy for you to begin on. Later you may want to try all types of geometric figures or even flower designs. In 86 is the first piece of weaving by Lyda Boyd woven with a nubby wool diagonal on 15/2 linen warp, 15 threads to the inch. In case you have a broken thread, you simply tie a like strand to the warp end, wrap it around a pin—as in 85—and go ahead with your weaving. Later you can run the end into the cloth with a needle so that there will be no gap or place to wear out.

One of the favorite techniques at the Little Loomhouse is the laid-in tapestry—the laying-in of a design on part of the warp on the shed with the plain weave thread which runs all the way across warp. In this technique you may do little tapestries which pertain to your own living. This technique may be used for stylized designs on a warp having 15 threads to the inch—as 15/2, 18/2, 30/3 linen, and for detailed designs on a warp having 30 threads to the inch—as 20/2 cotton, 30/2 linen.

As ours is an experimental group, some beginners have started doing freehand designs as the first piece in 87 done by a teenage girl with a weaver watching. This method is good for group use where each person weaves but one or two pieces and does not have time to make his cartoon. Others start by making a cartoon to follow.

If you plan to do really fine weaving, it is better to spend considerable time on your design before weaving. Squared paper may be obtained in many sizes—10, 13, 16, 20 squares to the inch. 16 to the inch is used for the cartoon in 88 which is woven on 15/2 linen, 15 threads to the inch. Ann Allen made the drawing on paper; 10-year-old Wood Bousman made it into the cartoon with each block representing a thread-part up on the back harness and the others up on the front harness; and Anne Wolfe wove the design from the cartoon. Your time spent cartooning is fully repaid in the results shown in your weaving.

Using 30 threads to the inch, a weaver tries a simple hexagon pattern preparatory to doing a laid-in tapestry.
Continuing with the laid-in tapestry technique, you can let your tapestries reflect your interests. At first, you will carefully block off on squared paper each tapestry or even each initial. At first, you will find that one warp thread per dent—15 to the inch—makes it better to use; also you will find using 3 to 5 colors is preferable to many colors. If you like to "take off to the hills", as we do at the Kenwood Hill loomhouses, you can sketch dog-toothed violets, wild grapes, or a saucy squirrel. The detail of the grape (91) shows a laid-in heavy raw silk pattern on linen warp. The grapes are wrapped around each thread to make them stand out.

Many of the second season weavers develop whatever technique is necessary to produce the desired result. Ridiculous pieces like "Jenny with the light black hair, 1879 A.D." are woven for fun. You may remember Jenny on page 12—Jenny who teaches us all to weave who knows her letters "but jist can't tell 'em apart", who says we study too much "psychosophy at the anniversary", and who mimics each of us as soon as a back is turned. (92)

Your caricature may have a serious turn or you may use Americana for your subject matter. Georgia Hemans (93) pictures life as some would have it and Jane Hall reflects the Louisville habit of "railbirding" at Churchill Downs in "Across the Tracks" (94). Hopi Indian research is used by Jeanette Tandy for her panels (95). Visitors to the Loomhouses are not spared—so Anne Ruane weaves Carol Rust at work with her camera. In 96, a detail of the tapestry on the loom and the cartoon, whereas the finished tapestry is shown in 97.

As mentioned previously, at the loomhouses, we weave nearly all tapestries from the wrong side. Even the eight and nine year olds, will cartoon their initials on the wrong side and then will weave a good signature to their little tapestries.

Later after you develop considerable weaving skill, you will want to try many of the other weaving techniques. Another tapestry technique which you can use well as a beginner is the slit tapestry as shown in 98. Bold geometric designs are stunning and handle well for beginners. Usually at first, you will find 15 warp threads to the inch better. Later you may like finer warps. The fine count horse tapestry (in 99) has 30 threads to the inch. The warp threads interlock so you have a more smoothly finished surface.
Altho this weaving manual is for beginners, there are several different weaving techniques which you, as a beginner, will enjoy trying out. A study of the photographs will show the technique better than the brief explanation and will help you learn to weave any technique you see. In 100-1, the pattern covers three threads and the fourth shows. A two harness loom with extra stick, a double roller loom, or a four harness loom threaded to a twill are all good to use. Either one or two plain weave threads can be woven after the pattern thread—depending upon the weight of the pattern yarns. The found in several places, the weave is best known as douk-agang.

A favorite technique of the youngsters is one harness tapestry 102-4. The pattern is woven on one harness (pattern yarn should interlock and the pattern is woven from the wrong side), and a thread similar to the warp is woven each time on the other harness. The cartoon in 102 shows a block of four with two warp threads up and two down. The Mayan bird was woven by a ten-year-old boy while showing another boy how to weave.

The transparent tapestry technique (105) leaves all warp unused except that needed for the design part. Both the Spanish stitch and the leno weaves offer much to the weaver and are weaves which beginners can use well. The Spanish stitch is blocked off on squared paper; each block represents an opening; 4, 6 or other number (even number to form pairs) may be used between each opening. The utter simplicity of the Spanish stitch towels of Florence Daniels of Chicago in the second exhibition of Contemporary American Handwoven Textiles and her suggestions to the experimental group did much to develop the weave at the Little Loomhouse. If you will follow a thread from the edge, you will see that it comes to the first opening, returns to the edge (on the other shed), passes past the first opening to the second opening (on original shed), returns to the first opening (on other shed), goes past second opening to third opening (on original shed), etc.

Likewise the second exhibition of Contemporary American Handwoven Textiles lead to the Little Loomhouse development in the leno weave. Work in leno moved slowly with tied-in heddles like the professional group used until Berta Frey of New York, who won the divisional award with a leno mat, suggested the experimental group might like to pick up their leno with the shuttle as her group did. In leno, the design is made on squared paper in blocks of 4, 6, etc. Plain woven parts are filled in with four or more extra threads. The leno is woven with the first thread of each pair up. The second thread which is down is picked up in front of the first thread as shown in 109—thus the twist is obtained in weaving right to left. On the return from left to right, the thread is run across in ordinary manner.
In this beginners manual, I planned to cover the weaving on the little looms which would most interest you during your first season weaving. However, several hundred prepublication purchasers wrote to ask the inclusion of four harness floor loom weaving. As all the preliminary work which has gone into this manual was for the purpose of giving you basic weaving information, of answering your queries, and of giving you the cumulative researches of the loom houses, I have tried to fulfill your requests in these additional pages on floor loom weaving. I regret there is not space to go into fuller detail or to devote full pages to some hundred choice early American drafts—but then that would be another book.

There are several excellent four harness looms. If you already have your floor loom, you will want to check that the methods shown here will operate easily on your loom. If you are planning to buy a floor loom, study each floor loom carefully to ascertain which is best suited to your needs. Floor looms range in price from $25.00 up, and usually you will need additional equipment. At the Loomhouse we need looms which will give heavy service and usually have them made to specification. At the Hillside Loomhouse each loom comes from a different maker—both to suit different purposes and to give advanced students an opportunity to study the merits of different good looms. At the Little Loomhouse, which is really for the little homemade table looms, are four looms—from as many makers—that are suitable for amateur weaving. You may want to purchase an eight harness loom to take care of your later weaving developments.

Many of the early American looms have an upper batten. Mr. Edward Worst designed the one of this type, shown in 110. Berea College and the Highland Institution make looms similar to the one shown in 111. This has had frames with steel bobbins added. Many four harness table looms have limitations. Part of these have been overcome in the Bernat loom shown in 112. The local weavers have now six treadles to this loom so that only one foot is needed for weaving. Altho this lacks the weight preferred by many weavers, it has the advantage of being collapsible.

You have probably noted that we use cord, steel and wire heddles. Many such differences in looms are simply matters of personal taste or are determined by the purpose of the loom.

The majority of our weavers—professional, amateur, student, and apprentice—prefer warping similar to the method shown on pages 24-27. A few, especially handicapped persons, prefer the ready warped spools. Several use the sectional warping beam. Here again, the best method is determined by your interests in handweaving.

Accurate drafting and warping is of prime importance. Thru your experiences on the little loom you can warp a loom carefully. On the floor loom you will handle longer warps, more threads and will find several differences in method.

There is no short cut to drafting. At the Loomhouse we require continual drafting until the student is facile. At the Loomhouse, drafting is optional, but the students who draft well, have fewer difficulties with their weaving. Altho it is not necessary for every weaver—who weaves only a few pieces, the handicapped, etc.—to learn drafting, it is an essential for the real weaver. So I firmly believe you will profit by drafting every good textile you see, by redesigning these drafts, and by trying some original drafting.

Altho we use drafts continually to study characteristic units and to ascertain subtle improvements, we seldom think of a draft as being for a given number of threads. For this reason I am giving you a few of the basic units most often found in overshot patterns and am leaving them for you to work out according to your needs. In handling some five thousand drafts from early American sources, we seldom find two identical threadings.

You will probably also prefer to learn to weave by the warp or diagonal. If you will thoroly master drafting and weaving by the warp, you will find that all patterns are easy. Just as if you were a local member of the Little Loomhouse group, we will be glad to check over your draft, the amount of thread to be used, etc. Write your details carefully and send with a self-addressed stamped envelope. As there is no charge for this service—it is part of the cooperative idea—we cannot always answer by return mail as all these letters are answered in spare time at the Little Loomhouse.
You will enjoy your weaving much more if you learn to estimate warps and to handle easily the essential details to good weaving. This includes your estimates, warping, winding onto the loom, drafting, threading, and tie-up. If you will spend some time in the study of yarn sizes, textures, drafting, redesigning drafts, testing yarns for strength, color fastness, etc., you will find that you can weave finer textiles. As most of our hand-woven materials are individually designed, we—both at the Loomhouse and at the Kenwood Hill Loomhouses—often make little test samples. Many of these may be only a few inches square and may be done with a needle over a piece of cardboard. Here at the Loomhouse we cannot afford to risk errors so find it advisable to make test pieces and to estimate all warps carefully. Likewise amateur weavers will find it poor economy to waste time and yarns due to inadequate estimates. We allow for extra yardage always. As yet we have never gotten to the end of a warp without wishing we had more to try out a new experimental piece. Any extra yarns may be used in other weavings and will aid in giving you a good "palette" of colors and yarns of various textures. By following the outline given at the left, you can estimate the needed yardages.

<table>
<thead>
<tr>
<th>CHARIOT WHEEL</th>
<th>WHIG ROSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>pillows</td>
<td>luncheon mats</td>
</tr>
<tr>
<td>18 inches</td>
<td>16 inches</td>
</tr>
<tr>
<td>30 to inch</td>
<td>40 to inch</td>
</tr>
<tr>
<td>540 threads</td>
<td>640 threads</td>
</tr>
<tr>
<td>about 594</td>
<td>about 704</td>
</tr>
</tbody>
</table>

Next you will fit your draft to this number of threads:

Reserve enough for selvages (8-24).
Reserve enough for borders, completion of unit.
Ascertain the number of times the draft will go into the remaining threads after selvages, borders.
If a small remainder, it can often be added to border.

If not quite enough, a few threads may be taken from border or may be added to warp.

Check pattern to make certain the balance is maintained.

Thus you have the number for warp.

Now you are ready to determine length of your warp.

As on the little loom you allow for loss at ends of warp—here we allow from 1½ to 2 yards.
Allow for length of each piece plus hem, plus 10% shrinkage.
Allow for extra piece or two or warp to do experimental work.

This gives the total length.

To ascertain the total yardage, multiply the number of threads by the number of yards in length.

The size for your warp will vary according to number of threads per inch and your personal taste.

The amount of weft yarn will differ according to your beat, the size of yarn used, etc. By checking thru your drafts, other textiles, and your previous weaving, you can decide upon the best size of yarn and the approximate beat. Watch the proportions of your yarn sizes to see that you are using suitable sizes. Usually in single shuttle patterns as the M's and O's a weft yarn the size of the warp is good. For 30 threads to the inch in overshot weave, you will probably use a heavier pattern yarn than you will with 40 threads to the inch. Multiply the number of threads per inch by the number in the width and you will have the yardage per yard. We find that it is better economy to purchase too much yarn than to run short and ruin a fine textile.

Mabel Palmer Waitman
designed and wove her wedding dress.

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Many of the principles of warping your little loom also apply to a floor loom. You will need study the method shown and ascertain that each step will apply to your loom. For warping you may prefer the warping bar or frame, the mill, a sectional warping beam, or the spools already prepared. For our professional use, we prefer the type of mill shown in the photographs. The type you use is determined by your purpose in weaving. As our work is custom weaving, it usually requires very fine special warps. An improvised frame is satisfactory for home or group use but should be carefully made.

Mrs. Ford shows the method used when she was a child in the 1850's. Note that she has four strands of thread and keeps them from twisting by running them thru an unused reed. For most warps not threaded directly onto the loom, you will want to have a "cross" to keep every group of threads in order. Mrs. Ford makes her cross by taking over and under the second and third peg.

Here is a detail of the way Mrs. Ford forms her cross. In starting, she took her warp under the second peg and over the third peg. Now she is coming back and takes her warp under the third peg and over the second peg. She will then be ready to go around the first peg to come back under the second and over the third. In this way each group of threads is separate.

Anne Wolfe Bousman prefers to use the warping mill. She, too, runs her threads thru an unused reed to keep them from twisting. Starting at the bottom of this mill, she turns the mill till she has the required number of yards. Then looping her warp around the peg, she reverses the direction of her mill and winds the thread around till she reaches the "cross" at the bottom.

This "cross" is just as important when warping on the mill. The group of warp threads is taken from the back peg, across in front of the front peg, and then on up the mill. In coming down the warp is taken back of the front peg, across and around the back peg as shown in the photograph.
You will notice that the “cross” is a convenient place to count threads. If each group has 4 threads, you will find that 25 groups (making a total of 100) is a good number to count off and tie.

When the warp is finished, you will tie your warp at five places. First, all the groups are tied together at the “cross”; next, the cross is tied-in by tying one side of the warp at the back peg and at the front peg; following these, the warp is tied about a yard from the cross, and finally the warp is tied about 18 inches from the top end.

The close-up of the cross shows how the warp is tied in the three places at the “cross”. You can notice that in the center tie the number of hundreds can be counted easily.

The warp is now ready to be “chained”. You will need be careful to prevent your warp slipping off too quickly. Remove the warp from the end peg. Run your hand thru the loop and draw the warp thru as you would in the chain stitch of crocheting. Then after you have pulled the warp thru the loop, you have a new loop. Then by using first one hand and then the other, you can soon chain off your warp. If you let the mill turn too rapidly, the warp may drop down and become tangled.

For warping on the frame or bar, you tie-off the same way and chain-off the same way as you see done on the mill.
121. When you are ready to warp your loom, place your chained warp on a table and weigh it at the tied-place about one yard from the cross (A). Place shed sticks thru the cross (B, C) and tie to prevent losing the cross. Untie the first group of warp threads and hook thru the reed (D) in the proportion to be woven. Thus, if you have warped four threads, you will have eight threads in the loop. Then if you plan to have two threads to each dent, you will take your loops thru every fourth dent.

The loops should be placed over a pole (E) or on a pin so that they will not slip off. You of course will take care to pick up each loop in consecutive order.

122. Your pole will need to be attached to the warp beam. The reed may be slipped into the beater. The pole should be attached to the warp beam so that the warp is spread evenly.

123. After your warp is attached to the warp beam (by means of rod and apron on this Highland loom), you are ready to shift your cross to the back part of the loom. Lift the shed stick nearest the reed and the same separation will show back of the reed.

124. When this separation is made, you can then run a shed stick thru the back separation, and remove the matching stick from the front.

125. Now your other front stick may be brought closer to the reed. As the cross is still in front of the reed, you may need to shake your warp gently to cause it to move thru the reed. Note that the second separation shows and that Barbra is ready to run her second shed stick in the back and then to move the second front stick.

126. After the cross is changed, be sure to tie your shed sticks together. Many weavers like also to tie them to the uprights so they will be stationary while the warp is being wound. You will again shake your warp gently to even the tension. You will avoid any unnecessary handling of the warp or of “combing”.

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127. If two people wind the warp, one turns at the back while the other takes the warp hand-over-hand as it is wound. If you let it slide thru your hands you will soon have tangles. You will also keep an eye on the reed and cross to make certain there are no threads to catch. If you have been careful, you will have no trouble. However, if you made an error in any previous point, you will have this same error staying with you to watch.

128. Often at the Loomhouse, the weavers do their warping alone. For this, the warp is carried under the cloth beam and to the back. Make certain there is nothing for the warp to catch on. The weaver can keep an accurate check on how tightly the warp is being wound. Nearly all warps should be wound very tightly as any loose place will show up later in a bad spot in the weaving.

129. In order to keep your warp tension even, you may like using both sheets of paper and warp sticks.

130. When your warp is wound, you will find that the reed holds the loops. These may be cut a few at a time as you thread. Most of the weavers thread and tie-off in groups of 8 to 16 so that the groups are ready for taking thru the reed. In order to have no mistakes, check each unit of the pattern both at the harness for pattern, and on the shed sticks at the cross at the back for correct number of threads. You will note that the threads come in exact order from the back and thru the wire heddles just as they did on the little looms on pages 15, 17.

131. For convenience in threading thru the reed, you may want to make it stationary. Each small group may be picked up and run in order thru your fingers preparatory to hooking thru the reed, just as Leon is doing. Again, you will have each thread in exact order. The tie-on to the cloth beam is like that on the little loom as shown in 34.

132. An even tie-up of your harness to lamms and lamms to treadles is essential to easy weaving. There are many variations and, again, the exact method is a matter of personal taste. Either cords or chains may be used. The harnesses should hang evenly so no undue stress is placed on the warp. The lower harness sticks may be tied to the lamms so that the lamms hang evenly or with the unattached end very slightly higher.

At the Loomhouses, we let each weaver use his own method of making the knot tho all four harness looms have six treadles and a uniform arrangement of plain weave. The six treadles are desirable as you will then need but one foot each throw and can weave easier and faster. With four harness, you can combine the harness in twos as 1-2, 1-3, 1-4, 2-3, 2-4, and 3-4. For many four harness patterns, you will use four of these for the pattern and two for the plain weave. The loomhouses here usually use the 1-3 and the 2-4 combinations for plain weave and tie them to the third and the fourth treadles. Thus by using the same tie-up of combinations, no time need be spent in checking the loom to learn the tie-up. You may like trying several tie-ups to ascertain which you prefer. Or you may like tying combination 1-2 to treadle 1, 2-3 to treadle 2, 1-3 (plain weave) to 3, 2-4 (plain weave) to 4, 3-4 to 5, and 1-4 to 6.
There are several methods of recording drafts. Most early American drafts were written similar to those in this beginner's manual. You will want to draft until you are very adept. Also you will want to try the various methods. As none of the other methods seem an improvement, most of our weavers have gone back to the compact early American form. I hope you will let me know which method you find best that I may so advise other beginners. Also if you are interested in our early folk arts, I hope you will aid immeasurably in the research by recording your local early textiles with data on draft, yarns, colors, weavers, and any other folk angles.

For your first warp on your four harness loom, you may like to try a short warp in one of the delightful early one-shuttle linen weaves—the M's and O's pattern. This is found in every early draft collection under various names and threadings. Some of the names are Ams and Oes, French Ens and Ows, English Ens and Oes, etc. Others include, Dewdrop, Raindrop, Snowdrop, and Teardrop. In Bars and Squares, the squares rhyme with bars and the pattern will include repeats of half of the pattern.

If you like fine lines, you will prefer 40 threads to the inch (20 reed, 2 per dent) in 20/2 or 26/2 cotton. If your reed is a 15, you will thread 30 threads to the inch in 16/2, 20/2, or 24/3 cotton. The experimenters tried a double roller loom and threaded the M's and O's in 10/4 cottons, 15 threads to the inch. Threads in 134 are enlarged 4 times actual size.

The drafting of four harness patterns follow after two harness patterns. Each mark represents a thread. Most old drafts begin at the right so the drafts in this manual will do likewise. First, we will write the draft out thread by thread:

```
on staff
1 2 3 4 5 begin

on squared paper
X X X X X X X

This may be shortened:

1 1 begin

or as:
```

Have you noted that the threads are grouped? On a four harness loom, pairs of harness are often combined as 1-2, 1-3, 1-4, 2-3, 2-4, 3-4. For the M's and O's you may have noted that the combinations used are 1-3, 2-4 and 1-2, 3-4. If you examine the cloth in 134, you will see how these groupings of harness combinations form the pattern. Have you counted the number of threads needed for the pattern. One form of writing the pattern and tie-up is:

```
Selvage x to a (12 threads for beginners) 12
Repeat ab, bc (16 threads) necessary
number of times as 43 repeats..................688
ab is repeated to finish other edge..............8
xa, other selvage..................................12
```

If you check your numbers, you will find that this draft will fit into any repeat of 16. For a convenient warp, 40 threads to the inch, you can warp 720 threads. This, when fully shrunk, is a good size for mats, napkins, towels, or runners. The selvage is thread 1, 2, 3, 4, 1, 2, 3, 4, 1, 2, 3, 4.

The same combinations are used for the tie-up. The harness are tied to the lamms and the lamms are tied to the treadles in the same combinations—1-2 to 1 treadle; 3-4 to 2; 1-3 to 3; 2-4 to 4. Also you will tie 2-3 to 5 and 1-4 to 6 to try some pattern variations later.

In weaving, you might try using a weft thread of the same size of the warp. If threaded 30 to the inch, try weaving 1, 2, 1, 2, 1, 2, 3, 4, 3, 4, 3, 4, 3, 4, 3, 4, and if threaded 40 to the inch, try 1, 2, 1, 2, 1, 2, 3, 4, 3, 4, 3, 4, 3, 4, 3, 4. Each weaver beats differently and uses different sizes of yarns, so you can best judge the weaving. You will enjoy experimenting with various sizes, colors, and types of yarns. You may also like trying an occasional thread on 5, 6 to give a different effect.
In your weaving on the little loom, you have had pleasure working with texture effects. On the four harness loom, you will enjoy continuing this texture designing in combination with pattern weaves. One of the basic weaves is the twill. Starting with three harnesses, the twill goes into multiple harnesses. Most handweavers work with four harnesses for some use as many as twenty. The twill proper is threaded 1, 2, 3, 4. To obtain a birdseye or herringbone, the reverse is also used—4, 3, 2, 1. You will want to do considerable experimental work in twills so you may like warping a short cotton warp to test out some of the many possibilities. Sometimes the twill is woven without a plain weave or binder thread. Sometimes a pattern thread is woven followed by a plain weave thread to lock it in place as on tie-up A. You may want to let your warp show more and will use tie-up B; or you may want to emphasize your weft and use tie-up C.

Most weavers feel that suitings in twill should reflect the character of the wearer. The heavy vegetable-dyed handspun wool is threaded 15 threads to the inch. The finer wool for a woman's suit is threaded 20 to the inch, and very fine wools will be threaded 30-40 to the inch. The soft silk-and-wool dress material in birdseye is loosely woven for summer wear and has but 15 threads to the inch. The other birdseye in linen is 30 threads to the inch and is woven without a plain weave thread between the pattern threads. For finer linens, you may prefer 40-60 threads to the inch.

The twill proper is repeats of 1, 2, 3, 4; 4, 3, 2, 1 (repeated as desired) added to the 1, 2, 3, 4—repeats will give the herringbone or birdseye pattern. You may like using the two units in equal number or may like to have an occasional break as shown in 137. You may like an inexpensive experimental cotton warp to try-out some of the possibilities. Also before weaving suitings, you may like trying a small cardboard test sample.

The Honeysuckle is another of the patterns which offer much to the beginning weaver. You will probably first try this pattern 30 threads to the inch. With 26 threads in each repeat of the pattern, you have a fine pattern. At the Little Loomhouse, the pattern is usually threaded an odd number of times so a good center is obtained. After you have tried the effects to be obtained from variations of patterns and colors, you may like to try a medallion or to design a colored warp. One way of designing a medallion is to outline on the back side of a finished piece, the part which you wish to weave. Then after your plain weave thread goes all the way across the warp, you will "lay-in" only the part of the pattern thread included in the medallion.

The tie-up of this overshot pattern is standard. Usually, you will use a plain weave thread between each pattern thread. You may like to experiment with some borders using only the pattern treadles.

For the Honeysuckle, Twill, and other overshot weaves, a plain weave or binder thread is used between pattern threads. For example in the twill, with the standard tie-up, you will weave 3 and 4 as the plain weave so that the treading will be 1, 3, 2, 4, 5, 3, 6, 4. For example in the Honeysuckle shown in 140, the ring will be woven 4, 5, 3, 5, 4, 2, 3, 2, 4, 1, 3, 1, 4, 6, 3, 6, 4, 1, 3, 1, 4, 6, 3, 6, 4, 1, 3, 1, 4, 2, 3, 2, 4, 5, 3, 5.
Our early American folk art growth in handwoven textiles is typified by the coverlet. France is probably the first country to recognize the American folk growths in hand-weaving, tho modern American research dates as early as 1684, and there are today a number of groups recording and preserving early and nineteenth century American handwoven textiles. The researcher is impressed by the number of variants to be found of favorite patterns. If he is a weaver, he can understand the urge to recreate a pattern instead of weaving a slavish copy. Hence, most of the drafts in this beginner’s manual give the basic units so that you may redesign and make your own final draft.

Many of the basic units go back centuries. Many of the final forms represent American growth. You may want to aid—and you can aid immeasurably—by recording your local early weaving developments by recording drafts, colorings, weavers, and other data. The M's and O's drafts in 133 date to three periods in the 19th century and you may be able to locate even earlier ones. The Bachelors Button in 142 was taken from a dated "Bachelors Button 1775".

The Bachelors Button is an overshot weave, as are the coverlet patterns given on the following pages. This weave is sometimes called single weave or float weave. The photograph is nearly double the size of the actual textile in order to make the draft easier to read.

The overshot weave is written in pairs of harness or in combinations. With the four harness, we have six possible pairs. If we use 1-2, 2-3 (actually threaded 3, 2 to prevent having two adjoining threads on the same harness), 3-4, 1-4 for the pattern, we will have 1-3 and 2-4 left for the plain weave. If you will check the drafts, you will find that every other thread is on 1-3 while the balance are on 2-4 so that the plain weave is provided automatically.

Suppose we start in the lower right corner of the Bachelors Button. We can write the draft either by writing each thread in order or by writing each group of threads. Personally, being lazy, I like the short form. The first block will be threaded 1, 2, 1, 2. Moving diagonally to the left, we can see that the second block uses half of the same threads as the first block so we know that it is on the next combination. We can write it 3, 2, 3, 2. The third block is evidently written on the same combination as the first but has fewer threads, so we will write it 1, 2. The fourth block is a repeat of the second—3, 2, 3, 2; and the fifth is a repeat of the first—1, 2, 1, 2. Have you noted that this seems a natural division of the pattern and is written on two combinations? Next, we have a new block and can see that it has some of the same threads as the first block. We know the second block (2-3) used the 2 harness of the first combinations so we may come to the conclusion that this new block will use the 1 harness. 1-3 is a plain weave combination, so 1-4 is the only possible combination. Then the next combination is 1, 4, 1, 4. In like manner it follows that the next combination is also new and must be 3, 4, 3, 4. These two combinations 1-4 and 3-4 may be considered a joining unit. Still following the diagonal, if we look at the next group of threads we will note that that unit is very like the first unit—yet there are differences. The same combinations are used, but in reverse order. Note the effect on the other unit—this reversing causes a “flower”, as weavers say, to be woven. In the compact form of the draft, look at the flower unit—ab or cd, and then see if you can locate it in any of the other patterns. If you look at your patterns by natural units, you will find drafting much easier.

Most weavers like borders on their patterns. Two additional units are given in rs and mno and either may be used for a border. Just as we copied the draft from the cloth so we may make a drawing of the draft starting in a corner and moving diagonally across the paper, filling in the blocks both vertically and horizontally. I have drafted part of border rs, but you may like making full drafts of each border with several repeats of the pattern. We like large sheets of 20 or 16 square paper so as to draft to scale.

Later when you weave your overshot patterns, if you will follow the threading or diagonal, you will find it easy to weave any overshot pattern whether you have ever seen the draft or not. A plain weave thread holds each pattern thread in place.
If you will look at your textiles and drafts as patterns composed of different units, you will soon begin seeing the same units used in various arrangements and combined with other units. Then you will start classifying patterns according to broad “family” groups. We have started students with certain units and they have developed designs which are original to them. Usually these have been like early patterns. A simple early pattern is shown in 143 with the two units both having 2-3 in the same position.

One of the favorite coverlet patterns is Gentleman’s Fancy. At first glance, this looks like a different pattern. When you look the second time, you are going to see the ab, bc, cd units. In Gentleman’s Fancy the ab, bc units are used to combine cd, de, cd. The de unit is the only new unit in the pattern.

Many weavers liked this pattern so it is natural to find pattern variants. In the Gentleman’s Fancy in 146, the ab unit has been changed and the pattern looks much the same, the difference is visible.

The Tennessee Flower shown in 144 has the same units, arranged differently and combined with a double square. Actually you have the ab, bc, cd, bc, cd, bc, ab used with the double square. Another form of the Tennessee Flower uses only one cd so the pattern has ab, bc, cd, bc, ab, plus the square. You might like to try drafting both on graph paper for practice. When you start experimenting with color, you might like to try the effect of a second color on the 2-3 combination. Later you may work out the use of four harmonizing colors.

In the unnamed draft shown in 147, the pattern is developed at a wide tangent and may suggest possibilities for you to work from.
One of the five favorite early patterns is often known as the Double Bowknot. (148)

The Flourishing Wave developed from the Double Bowknot. See if you can locate the difference in the draft and in the textile. (149)

Another of the favorites is the Chariot Wheel. Note the wide variations in the four chariot wheels drafted here. The one in 150 is a choice one, and introduces a new factor. Note the sharp contrast. This is obtained by using opposite combinations—if 1-2 is used, the opposite one 3-4 is next used; if 2-3, then 1-4 is next used.

Another type of Chariot Wheel is shown in the old coverlet in 151 with error removed.

The Chariot Wheel in 152 is known as Sixteen Chariot Wheels. You will find the pattern single, double, nine, or twenty-five. In fact, you can change the pattern to another number. In making such changes, be careful to watch the proportions and to keep the balance.

A pleasing but very different Chariot Wheel is shown in 153. The border may suggest possible developments in other borders.
Many of the patterns called "early American" actually date to an even earlier era than their present form may be due to an American pattern growth. Among the frequently found patterns are the "snowball" designs. Favorite of these is the Snail Trail and Cat Track. Reprinted from Kentucky Coverlets is an eighteenth century variant from a German pattern book. Our present form usually has three trails as shown in 155.

This pattern, like many of the other snowball patterns, is woven by a second draft or is woven "reversis" as the old weavers say. Usually each unit of the pattern is made of two pairs of harnesses. The weaving draft reverses the threading order within each unit. You will note this in the effect obtained in 142, 156, 157, 158, 159. In 155, ab is composed of blocks on combinations 1 (harness 1-2) and 2 (harness 3-2). It is threaded combinations 1, 2, 1, 2, 1, 2 and in reversed weaving will be woven 2, 1, 2, 1, 2. The bc is threaded on combinations 4, 3, 4, 3, 4 and is woven reverse 3, 4, 3, 4, 3. The trail in cd is threaded 1, 2, 3, 4, and is woven 2, 1, 4, 3, 2, 1, 4, 3, 2, 1, 4, 3.

An angle of weaving which you will consider later will be the "balancing" of your drafts. If you will look at early coverlets, you may note that one block of a unit is slightly larger than the other blocks. This is due to the fact that some combinations "borrow" a thread from neighboring combinations. This is shown in your overlapping threads. In some patterns, this is undesirable and should be overcome by either adding to the smaller block or taking from the larger block. Sometimes unbalanced patterns are desirable as some correctly balanced patterns become stiff the geometrically accurate.

Two snowball patterns frequently found are the double snowball and the nine snowball variants. A very early form of the double snowball is the Dogwood Blossom as shown in 156. The de unit may be repeated (with ef joining each snowball) to form 9, 16, 25, 96, or 49 snowballs. The square (ab, be) may be made a size proportionate to the number of snowballs used.

The early pattern Crowns and Pillars is a snowball in a circle. One of the Loomhouse students designed a Nine Snowball variant of the Crowns and Pillars for a book cover. Note the the snowball units in each draft de are similar. But note the ef in 156 simply connects the snowballs while ef in 157 makes a long joining unit, which, when woven reversed, makes circle about the snowball.
The Whig Rose is a favorite pattern. It is usually woven by a second draft. In 158 are two textiles woven on the same threading. At the right is the pattern as threaded; at the left is the textile woven by the second draft. When you look at the threading draft and the weaving draft of the Whig Rose, you may think, as have thought many other weavers thru the centuries, that the two drafts may combine well. In 159 is the combination of the threading and weaving drafts to form a Whig Rose and Chariot Wheel pattern. Your border may be a square, a repeat of ab, or your own design.

**Whig and Chariot Wheel draft.**

The Whig Rose may be combined with innumerable other patterns. Often these other patterns belong to the same "family" as the Whig Rose and Twenty-five Snowballs shown in 160. A different wheel and snowball pattern is the Eastern Wheels which shows a fine American pattern growth. As shown in 161, Eastern Wheels uses a large wheel, the bachelors button, and a fine square.

**ab** - joining unit
**bc** - Whig Rose
**cd** - snow ball and joining unit
**cd** - to complete.
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Yarns and supplies—You will want to make a list of supply sources and to accumulate various types yarns. Below is a start on sources.
If you cannot locate certain yarns, let us know. The Loomhouses do not sell yarns except when they may not be obtained otherwise. We ask that any orders which come to us be prepaid or be ordered C. O. D., as we do no bookkeeping at the Little Loomhouse. As many of the companies do not regularly supply small orders, it is often good to prepay the order, or order C. O. D.
Atkins Pearce, Cincinnati, Ohio, cotton.
Emile Bernat and Sons, Jamaica Plain, Mass., yarns, looms.
Fry Brothers, Cincinnati, Ohio, 8/4 waxed heddle cord, $2.80 spool.
O. N. T. yarns at dime stores, etc.
Reed Loom Company, Springfield, Ohio, reeds. 5-2 mercerized cotton
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Usually a two or three ply linen is better for warps whereas a single ply is often used for weft. There are also some delightful rough linens, slub, and mercerized linens.
The Hillside Loomhouse

You are invited to visit the Loomhouses of Lou Tate Louisville in old Kentucky

The Little Loomhouse

1725 Third Street

4 miles Southern Parkway

The Loomhouse

To A. W. B. . . . . .

whose encouragement to youthful visionary ideas oft actuated their realization