

WEAVING

IS

FUN

30
DAYS

SINCE 1943, the *Little Loomhouse Group* has been in charge of a diversional weaving program which we call WEAVING IS FUN. Because weaving is such fun, the choice parts of our program has been carefully screened for use in this instruction manual for new weavers working on small two harness looms.

WEAVING IS FUN does not pretend to be an encyclopedia on all phases of weaving. Rather it is designed to cover comprehensively some dozen successive steps in two harness weaving.

Very deliberately, have I selected the mechanics shown and the basic technics given. I know users of an instruction manual to be intelligent. Also I believe in the democratic principle that the average person is competent. On these two theories, I have chosen:

first, to give the simple mechanics in a concise form to facilitate the easy handling of a simple loom by a new weaver;

second, to give the absolutely basic principles of the key technics which follow each other in successive order, together with methods of designing for each technic;

and third, to show actual applications in fully functional textiles, as well as to suggest some of the infinite tangents.

This, I believe, will take the user of WEAVING IS FUN through the actual thought processes involved in arriving at the basic principles. Thus, not only can the new weaver follow the instructions given and weave fine textiles from the drafts and cartoons given, but he will also be able to make his own creative growth and develop his own style.

Realizing that many users of WEAVING IS FUN are school and weaving groups which have to cover certain phases of weaving within a set class period, I have included more small textiles which can be woven in a class period than I would have, were WEAVING IS FUN only for the home weaver. These, too, are fully functional textiles.

WEAVING IS FUN is an outgrowth of one phase of the *Little Loomhouse Group*. The group, itself, is a weaving cooperative which has grown from an informal group of 27 in 1938 to a membership of some 400 and with an associate membership of over 1,500 throughout the United States and eighteen other countries. The group continues as an informal organization open to anyone interested in our folk art growths in handwoven textiles, and willing to work towards our richer culture.

For 1946-47, two phases of weaving will be stressed by the group—this diversional program WEAVING IS FUN which may be used by any individual or any community on a self-maintaining basis;—and the sponsoring of an annual exhibition assembled in a competition open to all U. S. handweavers. Again the exhibition will be a COUNTRY FAIR to bring out the good folk art textiles, and will be the ninth season of Contemporary American Handwoven Textiles, as distinguishing it from the membership exhibitions of the *Little Loomhouse Group*.

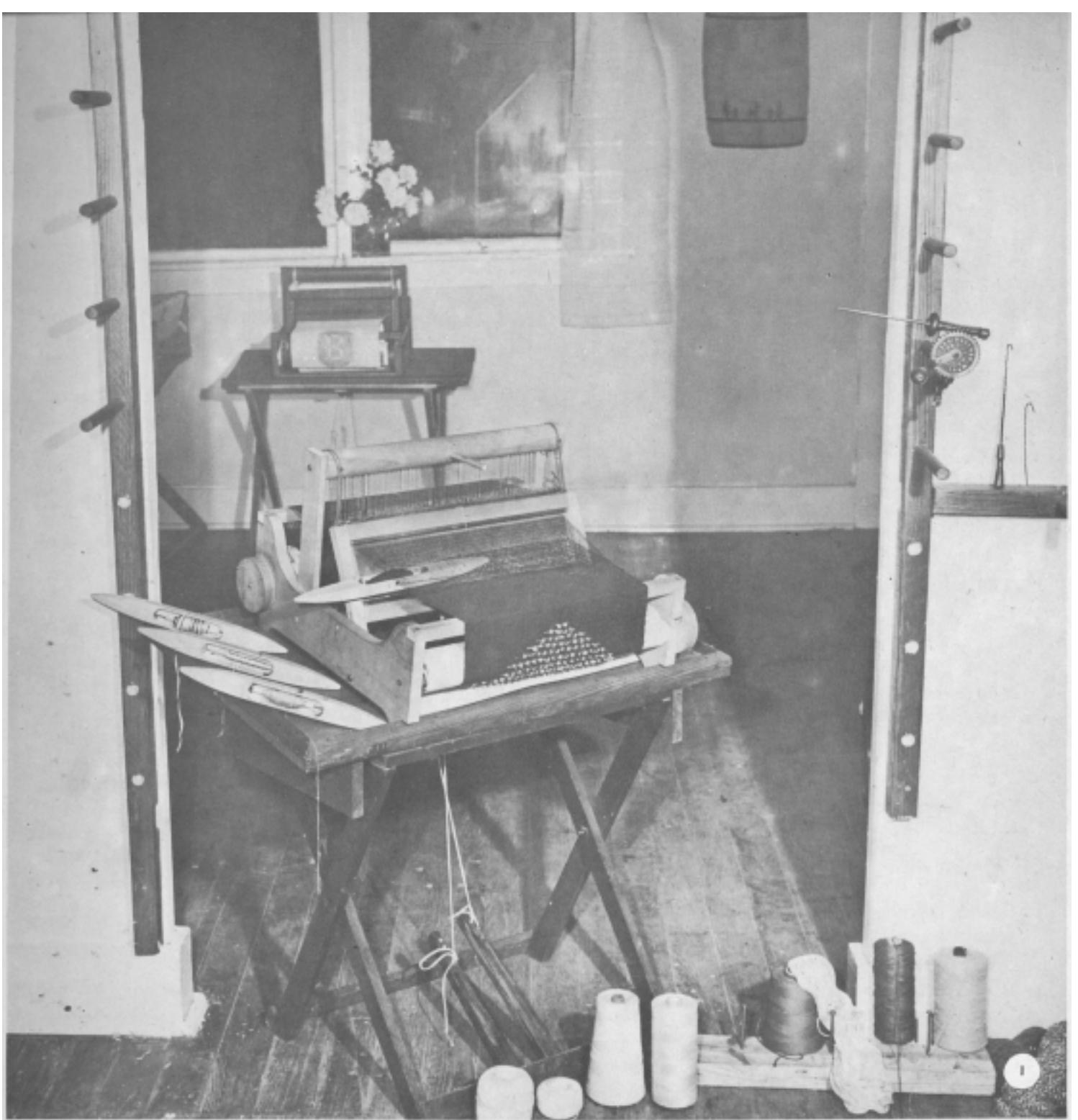
I would like to mention each who has contributed towards the textile growth shown in WEAVING IS FUN. But that would be too long a list—so let it suffice that I express my appreciation here. I do want to credit the major portion of the photography to R. L. Kirkpatrick.

So I hope you will get the zest and relaxation from WEAVING IS FUN that I have and will find that weaving gives you a richer enjoyment of daily living.

Sincerely,

Lou Tate

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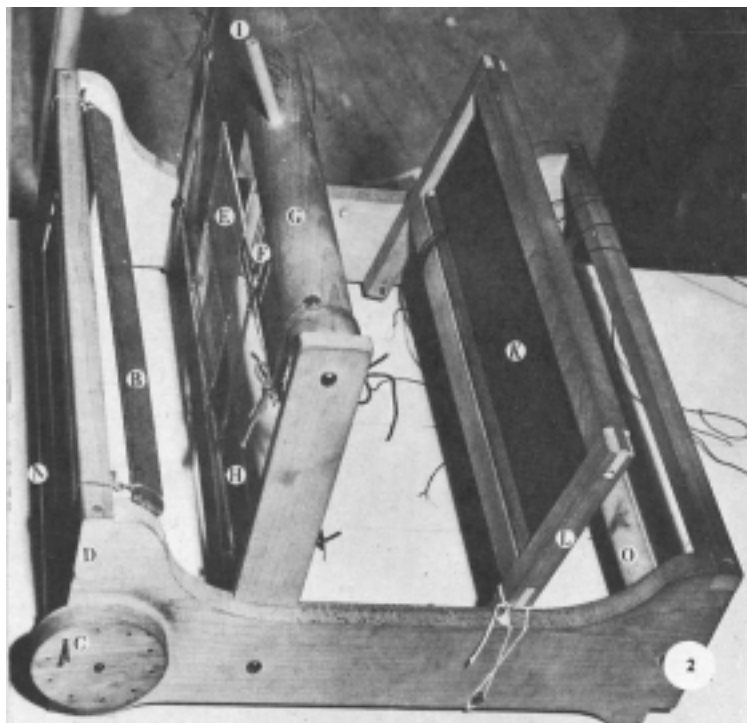


WEAVING IS FUN is written from the viewpoint of the newcomer to weaving. Starting with a small loom, you need little special equipment. Your loom, having an automatic stop, may be used on any table of comfortable height or on the bedframe placed on a stand with treadles.

Your warping equipment may be pegs in a convenient door or in 2x2 standards placed by the side of a doorway. Nails in a block of wood make a simple spool holder. A threading hook may be purchased, or an old-fashioned hair-pin may be bent at one end to form an efficient one. A bobbin winder may be purchased or a spindle may be attached to a small motor.

Shuttles of the efficient type are of such prime import that Sam Kendrick, engineer on the loom, designed special boat shuttles for use with this loom. You will want at least two boat shuttles and will find four to six are advantageous.

Threads are of infinite variety. Start with 10/4 cotton, as the ball from the dime store, or 12/4 cotton as the small ball of "string" from the hardware store. Linens, cottons, wools, and other type threads may be obtained locally or from thread supply houses.



Parts of the loom are few to learn

- A—The warp is wound on a back roller called the warp beam. Actually as the first warp is made, it is tied around rod B which is attached in turn to the warp beam. This requires two 18-inch lengths of cord.
- C—The warp beam has a lock with holes so a lock-pin or nail will hold the warp in place.
- D—The warp is brought over a beam towards the front of the loom.
- E—The warp is threaded through eyes in the heddles. The back set of heddles are on rods. These with the heddles are called the back harness. Usually every other thread is run through a heddle on the back harness.
- F—Likewise the front set of heddles on rods is called the front harness. Each alternate thread is run through a heddle on the front harness.
- G—The roller at the top of the loom is called the harness roller. Top rods of the back and front harness are about 3 inches from the top of the roller and are attached by cords. Four 18-inch lengths are needed.
- H—There is a smaller roller so the end of the lower back harness rod may be attached to the end of the lower front harness. This requires two 18-inch lengths of cord.
- I—A small handle in the harness roller G makes easy turning. The automatic stop will hold the roller in place until it is released. When the handle is turned forward, the back harness is

raised and the front harness is lowered to form a shed or space necessary for running the shuttle.

- J—Likewise when the harness roller is turned back, the front harness is raised and the back harness is lowered to form a second shed such as Martha Ruth is using. (Her skirt pattern is a structural design for two harness.)
- K—The threads are threaded through the reed in exact order. The metal reed has 15 dents or spaces per inch. The reed is removable so that various sizes may be used.
- L—The reed is placed in a beater which is attached to the lower part of the loom. As each thread is woven it may be beaten against the previously woven thread.
- M—The warp which has now become cloth through the interlacing of the weft threads being woven alternately on the two-warp sheds, now passes over the beam at the front of the loom.
- N—The warp is tied to a rod, similar to B in the back, which is tied by two 18-inch lengths of cord to the cloth beam O.
- P—The cloth beam is locked in place by a lock similar to C.

Note in 2, the first warp is being started with the four threads being brought in order through the reed. Usually the beginner starts with two or four threads. These are brought in order through the reed. Then they are threaded through back heddle 1 on the right side (facing the loom); front heddle 1, back heddle 2, front heddle 2, etc., across the warp.





WARPING is exactly what you make it. It may be done accurately and be done simply. Or it may be done carelessly.

Granpappy seems to prefer the later method—with the pup playing with one ball of his thread and with this odd strand around his gun and that odd strand looped over the wrong peg! I fear for his warp and his pleasure in weaving!

If you will go over the various pages on warping until each step is familiar and if you will warp three short warps in fairly quick succession, you will have no trouble warping.

THE harnesses are attached to the tacks at the top of the harness roller by four 18-inch lengths of cord such as the green staging cord used by fishermen. Usually the rods hang 3 inches from the top of the roller. Tie tightly at the tacks and with an adjustable knot at the rods so a final exact adjustment can be made later.

For the first warp, plan a four-yard length having a 12-inch width. Twelve inches with 15 threads per inch will make a total of 180 threads. As each of the 180 threads will be four yards in length, a total of 720 yards will be needed for warp, plus that needed for weft. From the dime store or hardware store, get 8 dime size balls in 10/4 or 12/4 cotton "string". These will have a yardage of 150 to 200 yards. If you get a larger ball or tube, you will need four. 10/4 ply cotton is actually four strands of a size 10 thread and is the equivalent of a size 2½-1 ply. 12/4 ply cotton is four strands of size 12 and is the equivalent of a size 3/1 cotton.

As this first warp is to be 12 inches and the weaving space is 15½ inches, count 26 threads from the right edge, and mark the 27th dent as the starting point for your warp. After you have threaded the 180 threads, you will be about the same distance from the left edge. Have you noticed that most looms are threaded right side to left?

Assuming that you have gone over all the pages on warping thoroughly, I will just mention the necessary steps:

A—Center loom on stand of convenient height.

B—Fasten lockpin in warp beam lock.

C—Use 2 or 4 balls; check to see if thread will come from the inside and that it runs in the same direction.

D—Run each thread in successive order through the holes in a separator—such as a piece of cardboard with holes punched along the edge.

E—Tie the beater in place (illustration 2).

F—Measure to ascertain the distance from the right edge to the first peg is the same as that from the left edge.

G—Thread four threads through the reed, taking them in successive order from the holes in the separator and starting with the 27th dent in the reed. Or you can thread each thread through the reed and then through the proper heddle as shown on page 5.

H—Bring the first back heddle towards the edge and draw the first or end thread through the first back heddle (illustration 6).

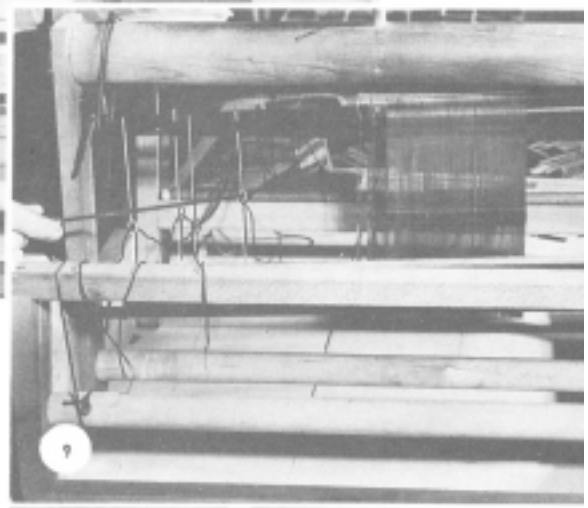
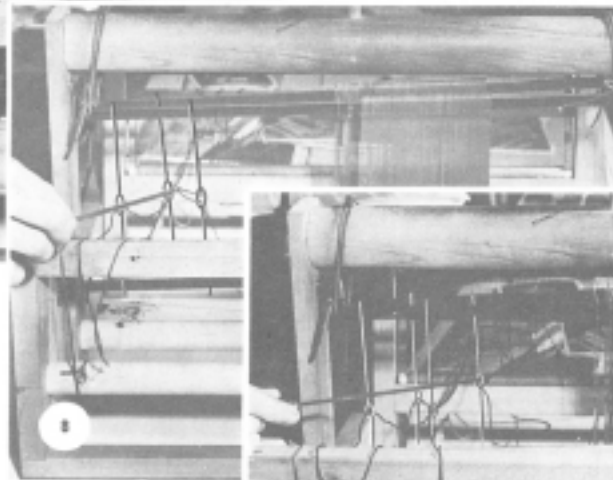
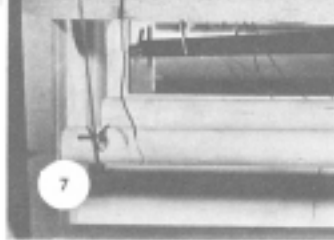
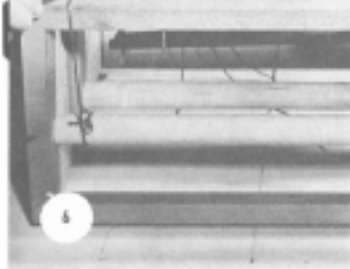
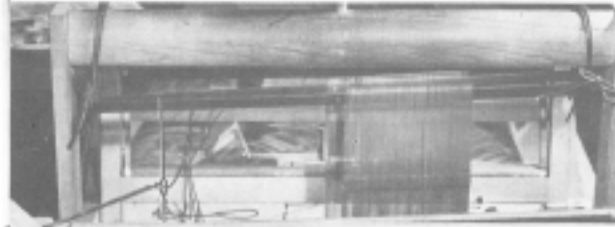
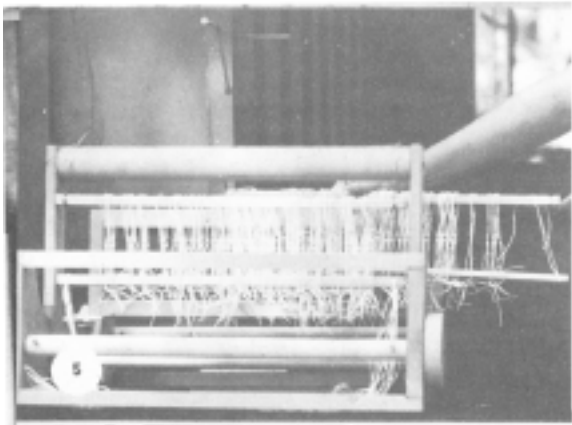
I—Bring the first front heddle over and thread the second thread through the first front heddle (illustration 7).

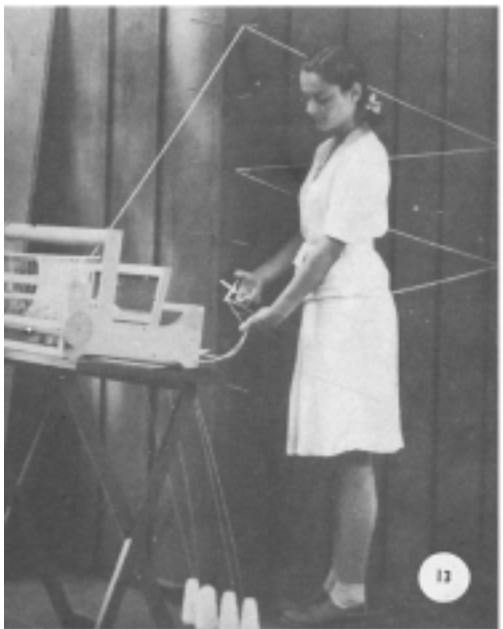
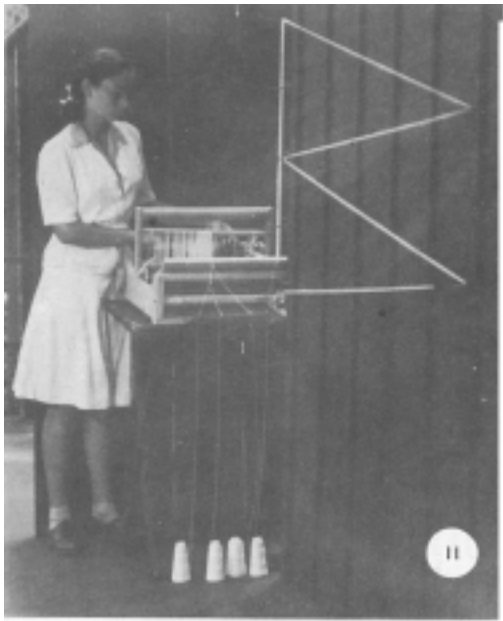
J—Next, bring the second back heddle over, and pull the third thread through the second back heddle (illustration 8).

K—Bring the second front heddle over, and draw the fourth thread through the second front heddle (illustration 9).

L—Tie the four threads with two going under and two over the road attached to the harness roller.

M—Pick up the warp threads just in front of the reed, take them around the first peg, to the top peg, across to the other top peg, and thence to the peg at the four-yard point. Cut the threads, tie, and loop over the end peg. Start four additional strands by repeating G through M, and so across the warp. It is advisable to check about every 16 threads to make sure you have not skipped a dent in the reed or threaded two through the same dent, or threaded two on adjoining heddles.

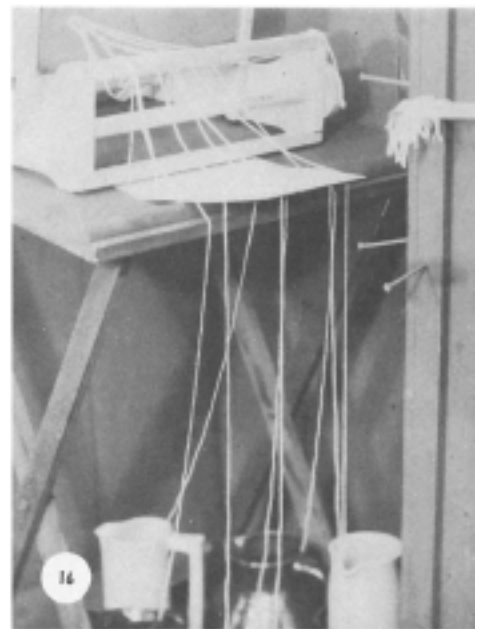
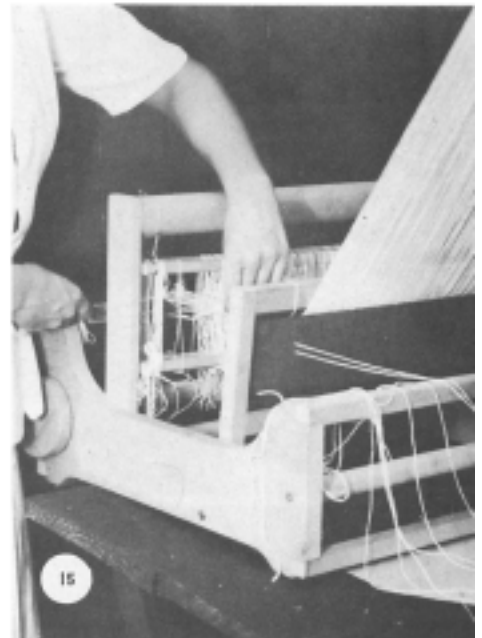
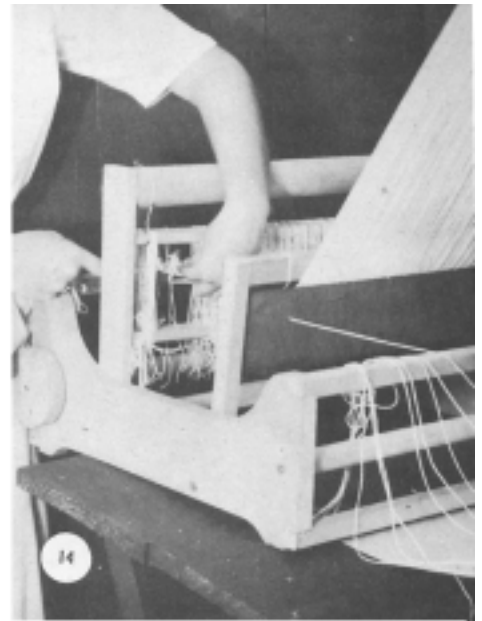


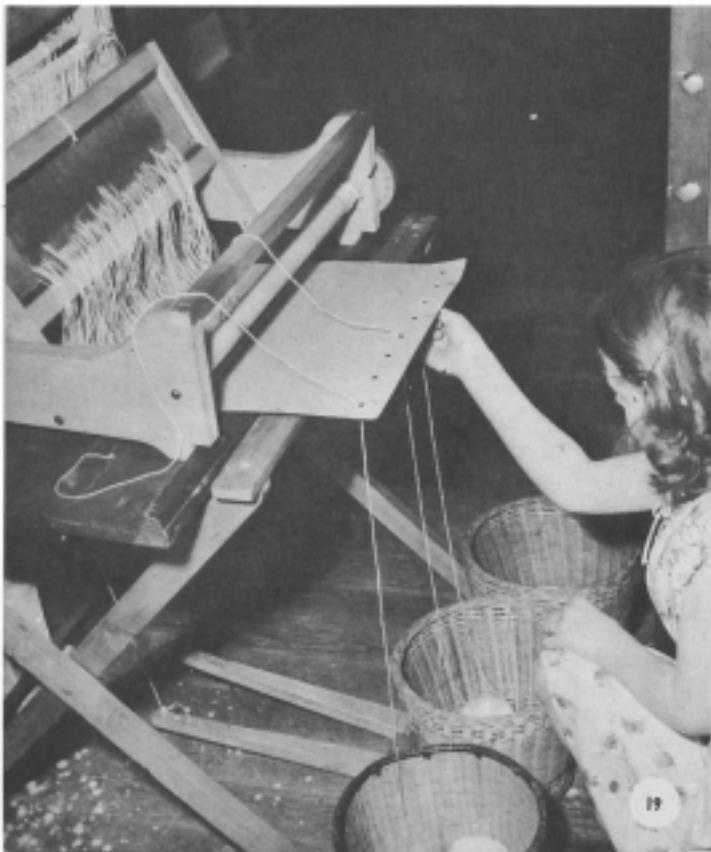
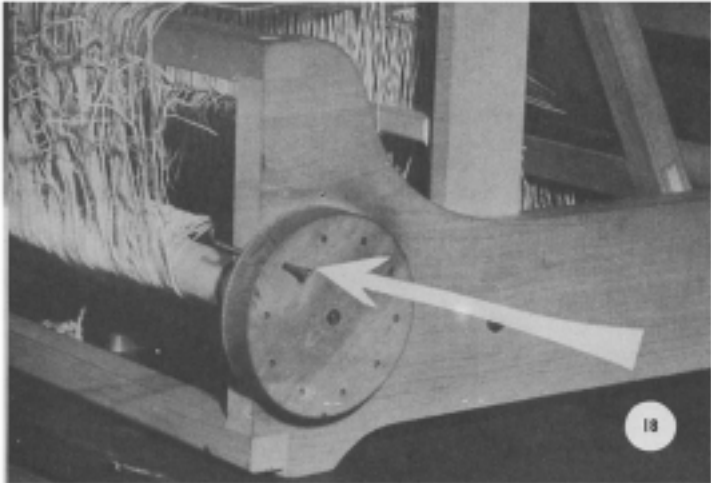
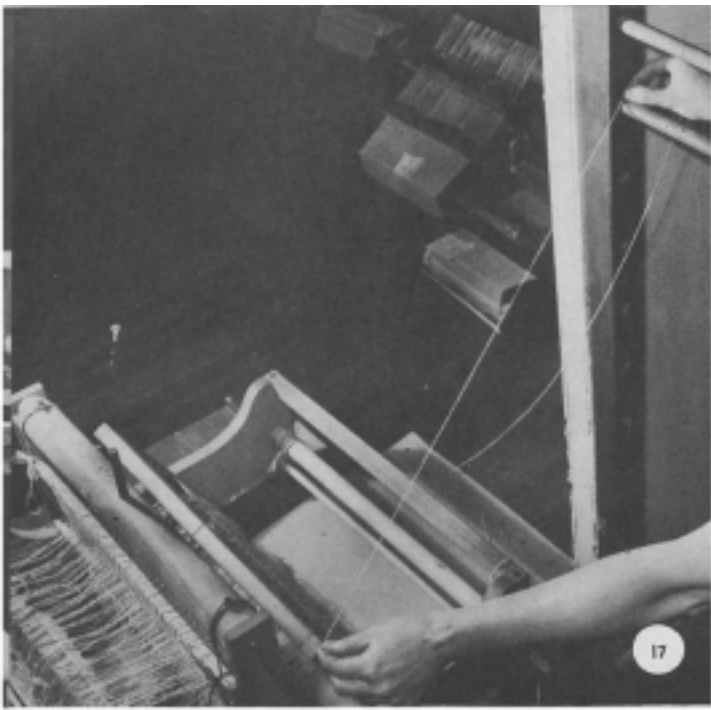


LIFE is too wonderful in the summer to stay indoors so you can improvise warping equipment for the porch by driving large nails or screwing bolts into the walls. Basic principles of warping for the small loom remain the same regardless of the equipment used.

- A—Center loom at a convenient height.
- B—Fasten lockpin in warp beam lock.
- C—Threads on tubes will run the same direction, but check spools to make certain the direction is the same; and place small balls in containers to keep in order (illustration 16).
- D—Run each thread in successive order through the holes of the separator.
- E—Tie the beater in place.
- F—Measure the distance from the right side to the first peg to ascertain it is the same as from the left side.
- G—Thread the first thread through the reed and through a heddle on the back harness (illustration 11).
- H—Thread the second thread through the next dent in the reed and through a heddle on the front harness (illustration 12).
- I—Thread the third thread through the next dent in the reed and through the next heddle on the back harness.
- J—Thread the fourth thread through the next dent in the reed and through the next heddle on the front harness.
- K—Tie the four threads over the rod attached to the warp beam.
- L—Take the threads in front of the reed and wind them over the first peg, etc., to the end peg. It is of major import to hold the threads at an even tension. The tension should not be tight—an even tension is better than a tight one.
- M—Cut at the end peg (illustration 13). Tie and loop over the peg (illustration 16).

Continue across to complete the warp by repeating from G. Anyone who has had no trouble with his first warp, may prefer using 8 balls or tubes of thread. The procedure is the same with the first thread going through the reed and a back heddle (illustration 14) and the second going through the next dent in the reed and a front heddle (illustration 15) etc., until all 8 threads have been threaded and then tied around the rod attached to the warp beam.





THE rewarping of the small loom is much quicker than the first warping. The threading through the reed and through the heddles is eliminated in rewarping as the new warp is tied to the old in front of the reed.

When the first warp is finished, either leave the last piece on the loom, or, preferably, weave a couple of extra inches from scrap thread. This keeps the warp thread from slipping through the reed and makes it easier to tie-on in exact order.

The steps in rewarping are similar to the original warping with the threading through the reed and through the heddles being unnecessary.

A—Center loom at convenient height. Ascertain that the distance from the right edge to the first peg is the same as that from the left edge (illustration 17).

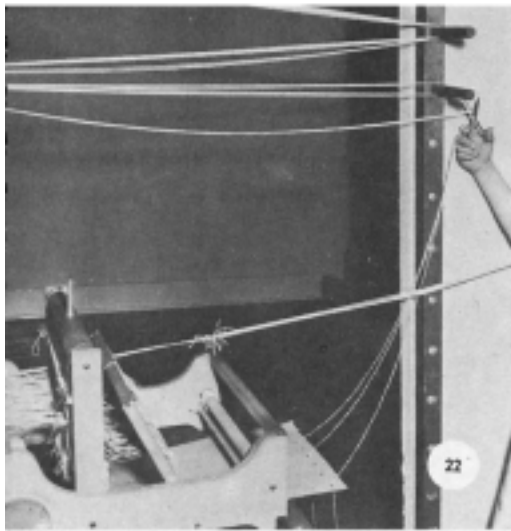
B—Fasten the lockpin in place so the old warps do not pull forward and change tension of the new warp (illustration 18).

C—Run the threads through the holes in the cardboard separator (illustration 19). The eleven-year-old has 12/4 cotton in baskets to prevent tangling. A more experienced warper is using 8 tubes of 20/2 aquamarine linen (illustration 20) held in place by nails driven into a block of wood. All tubes run the same direction—counterclockwise in this case.

You may be interested in the results from timing beginning warpers. The beginner can warp a 5-yard warp with 4 balls of thread faster than he can with 8 balls of thread. After he has gained skill, he can warp faster with 8 balls or tubes.

Although you do not want to rush warping, you do not want to slow yourself down with unnecessary motions. A beginner will find that two hours is average for a five-yard warp of 180-200 threads—tying-on, winding, and having ready to use. A skilled warper will speed the procedure till he can warp a fifteen-yard warp of 232-280 threads in an hour and fifteen minutes. It is fun checking to see how soon you can meet professional standards.





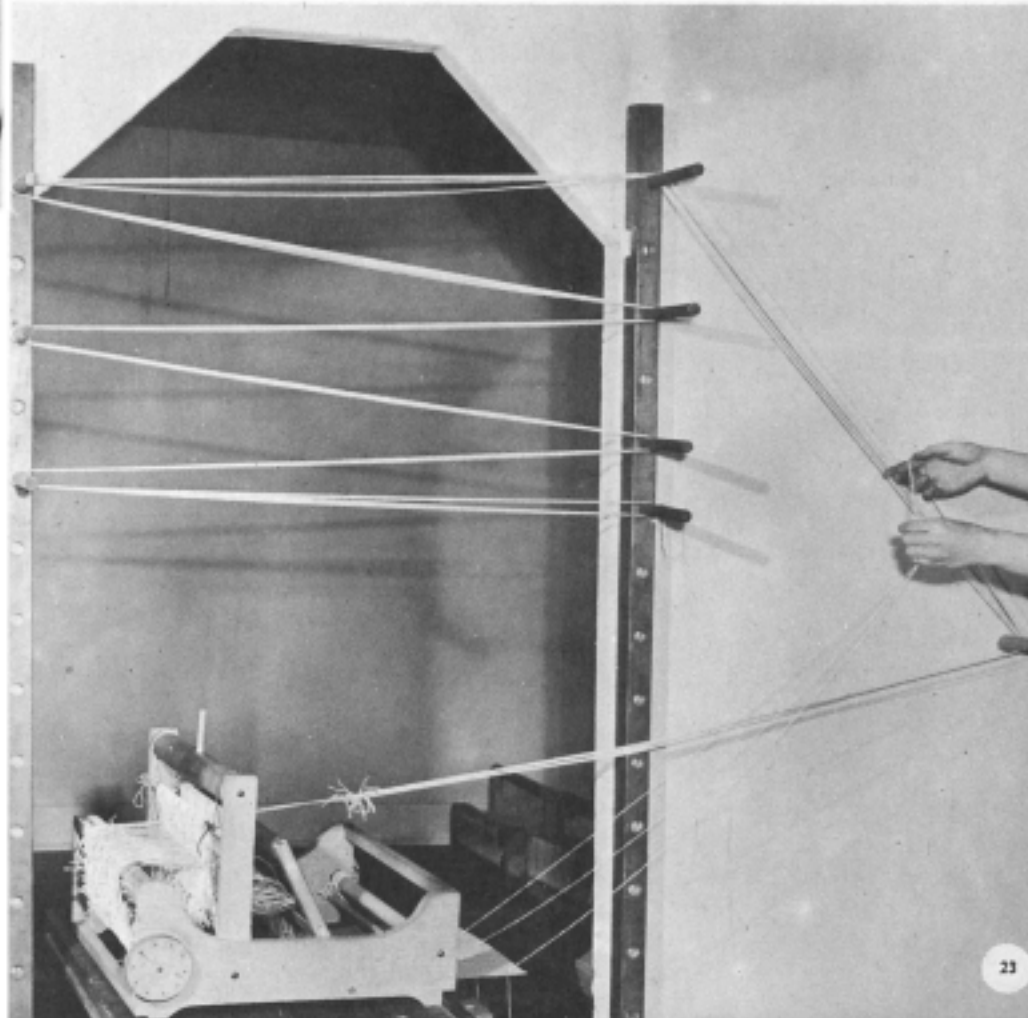
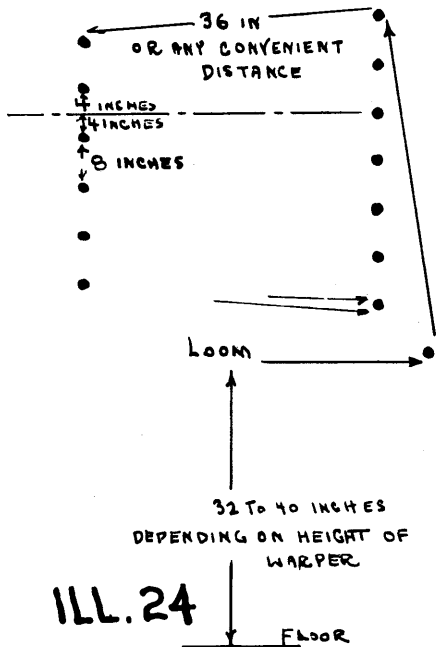
D—Take the first thread from the separator, on your right when facing the loom and tie it to the end thread in the old warp. Then tie the second thread to the second thread of the old warp, etc (illustration 21). After a couple of knots, you can whisk the two ends over your finger in a split second. However, at first distrust your knots and test to see that they will hold.

E—After you have tied the first group, pick up the strands just in front of the reed and take around the first peg, thence to the next, etc., until you have the length warp wanted. The one shown is 8 yards—a little long for the beginner (illustration 22). Cut at the end peg, knot, and loop over the peg. Then you are ready to take the first loose end at the separator and tie to the next unused warp thread from the old warp, and thence till you have used all the old warp.

Too much emphasis cannot be placed on letting the threads slip through your fingers at an even tension (illustration 23). An even tension is much better than a tight one. If the warper holds tightly at first, he gradually relaxes. Then he remembers and tightens. Thus the warp is made at several tensions and may give trouble in winding and weaving.

Personally, I hold the warp loosely with one hand over the separator so that the threads run easily from the spools without pull. Using alternate hands, I run the warp around the pegs with the hand nearest the particular peg. There is a relaxing easy rhythm to this method as the warper takes the warp from peg to peg. In Virginia, I liked to warp out-of-doors on the stable door, and our horse so liked the rhythm and sway of moving from peg to peg that she would lean her head over my shoulder until driven away. See if you do not enjoy getting that easy rhythm.

These dimensions may be used for warping equipment (ill. 24).



AS warping is easy or difficult according to how it is done, the next few pages will show several angles and variations which may develop with different warping equipment.

A—The loom is centered at a convenient height. It may be placed in this position for nails in the porch corner wall or for pegs in the door (illustration 25). The threads come from tubes on the floor, through the separator and are tied to the old warp. They are brought from the loom to the top nail.

B—They are taken to the second nail which is slightly lower (illustration 26).

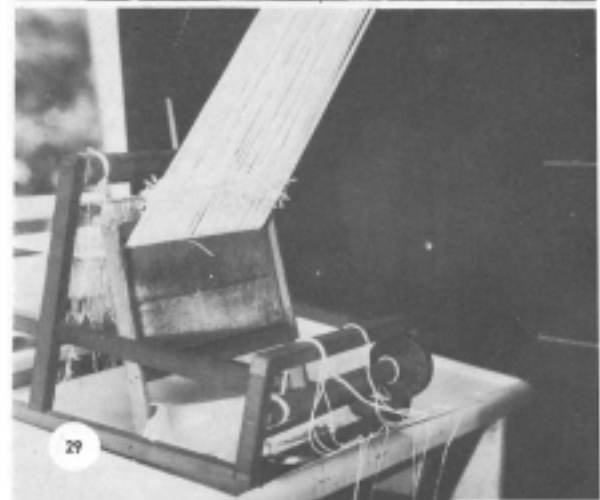
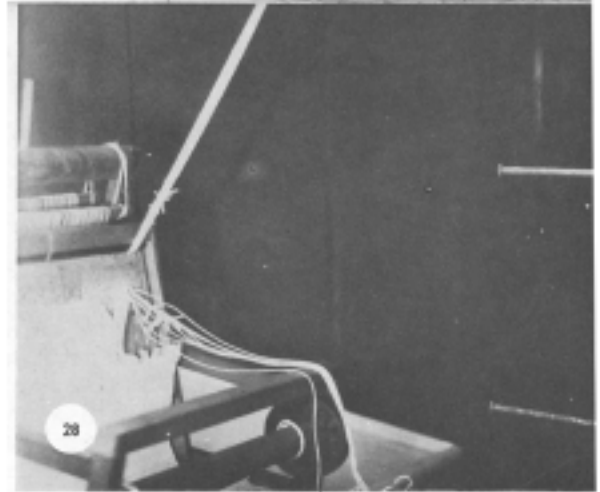
C—At the desired warp length the threads are cut (illustration 27).

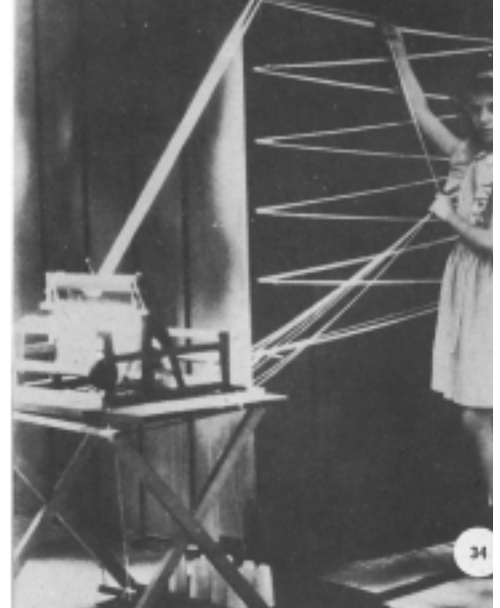
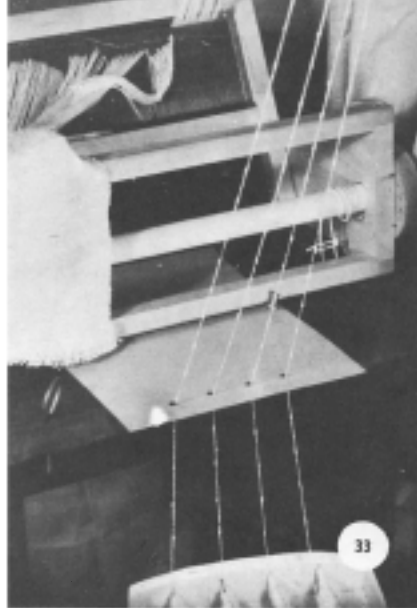
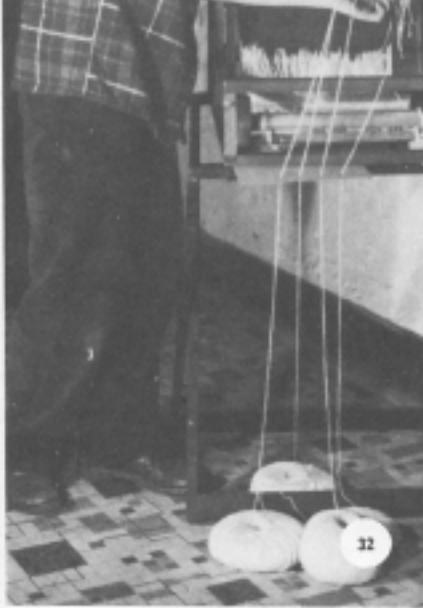
D—After the ends are cut, they are tied and looped around the end nail (illustration 28). The warper continues till a new warp has been tied to the old.

E—Have you wondered what to do, if you skip a dent? If you check carefully each time, you will probably get every thread. However, if you have missed a thread (illustration 29), simply tie another one on and take to the end of the warp.

F—It is of prime import to tie the warp at two places before removing from the warping bars. Tie, with a different color thread, the warp tightly just before the first peg—about a yard from the loom. Also tie the warp about one foot from the end peg. If you wish, tie it also between pegs as a safety measure.

G—After the warp has been tied at the two points mentioned, it is ready to chain preparatory to winding on the warp beam. To chain, remove from the end peg, place your right hand through the loop, and grasp the warp (illustration 30). Pull the warp through the loop with the right hand, and thus make a new loop. Place the left hand through the new loop and draw it back to form a loop. And so continue to the top peg (illustration 31). The warp should be placed in a tray or box. It may be wound at the same time as warped or put away for a more convenient winding time.





As thread is purchased packaged in many forms—balls, skeins, tubes, and spools—it may need some preparation before warping. Some balls need be placed in containers (illustration 19) to prevent tangling whereas others may be started from the center as Wood and Isabelle are doing (illustrations 32, 35)

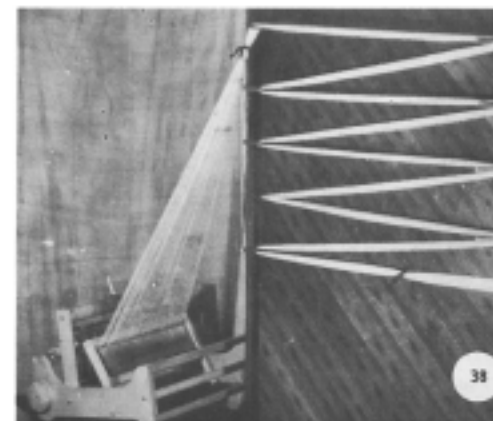
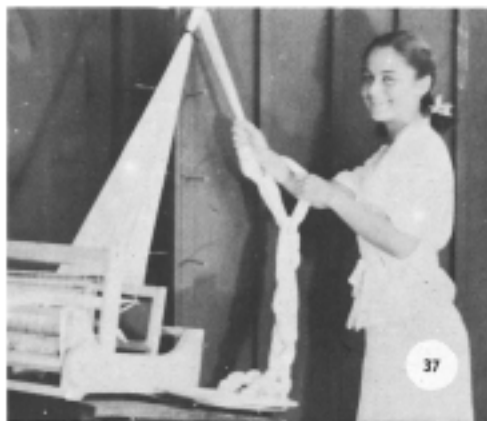
The thread which comes in skeins should be wound into balls or bobbins before use. The bobbins may be placed on knitting needles fastened into a pasteboard box (illustration 33) for easy warping. As more interestingly textured yarns come on the postwar market, you will find yourself using many warps made from bobbins.

Spools need be watched to ascertain all threads come from the spool in the same direction (illustration 20). Tubes are especially easy to handle as the thread comes from the same direction. Even the youngsters sometimes use 8 tubes (illustration 34).

At the *Little Loomhouse*, we like simple convenient warping equipment. We particularly enjoy the convenience of the pegs in the kitchen door (illustration 35) as many a warp has been made in the spare moments between kitchen work.

Regardless of the warping equipment used, the warp is tied at two places—about a yard from the reed and about a foot from the end (illustration 38). Being tied near the end gives a convenient loop for starting the chain. Being tied a yard from the reed gives space for readjusting the even tension after the knots have been wound through the reed and heddles. Did you notice that we always use a different colored thread to tie the warp. Also we tie the knot very tightly so that any pull will not go through the warp.

The chaining is always very similar (illustrations 36, 37). The warp may be chained and wound immediately, or it may be set aside for a more convenient winding time.





WEAVERS are always trying out new ideas. So you will probably be trying out different warping methods. In this WEAVING IS FUN, the most important steps of warping have been reiterated so that you will become familiar with warping before you even warp your first loom.

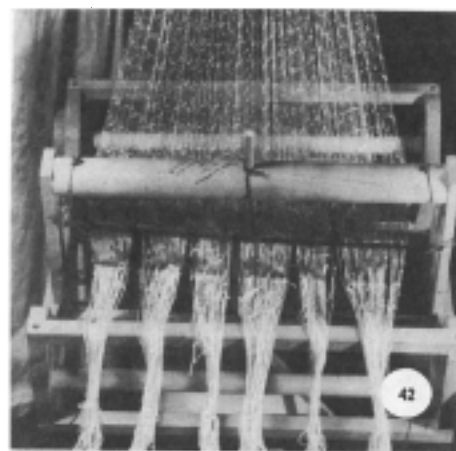
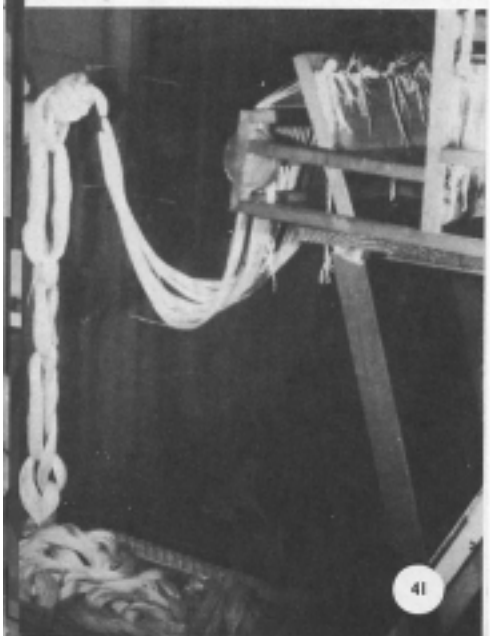
There are a number of warping methods and later you will want to try different ones to see which you like the best or which best suits your purposes in weaving. The ones given here are ones which have proven easy and practical to use whether by an individual weaver or by a group.

After you have gained ease and speed in warping, try any idea which seems good. If you develop a practical idea, share it with the Little Loomhouse.

Among the angles which will come up early in your warping experience is how to put on a new structural design when you are pushed for time and what to do with the ends of warps which accumulate on the warp beam.

For threading a new design, you may like simply threading through the reed and making your warp at one time, and threading the design at your leisure later. The young man has his loom at a convenient height; threads come from the spools through the separator to be threaded in order through the dents in the reed and tied with a slip knot at that point (illustration 39). The warp is taken from peg to peg for the required length in the usual way. This is repeated until the warp is all threaded through the reed (illustration 40). It is then tied and chained in the usual way (illustration 41). The loom warp can be put away until leisure time for threading.

After you have made several warps by tying-on in front of the reed, you will have an accumulation of warp ends at the back of the loom. These with the resulting bulky knots can be removed as soon as you wish, though there is no need to take the extra time to remove them everytime you warp. Make the new warp in the usual manner, tie off, and chain. Then take the knots through the reed and heddles (illustrations 44-45). Either weight the warp at the tied-off place in front of the reed or have someone hold it there. Clip off the old warps (illustration 42). Tie the new warp at the rod attached to the cloth beam (illustration 43). You are then ready to wind as you would a new warp. Hold the warp at an even tension when you are tying the warp to the rod.





THE *Little Loomhouse Group* is built on the idea of cooperation. We believe that each weaver gains by sharing her knowledge with the newcomer in weaving. Margaret Guderian is giving some warping pointers to members of the first group in *Tophouse*. Kathleen Boldt ties on her jade green napkin warp as Belle Hazelwood takes shorthand notes for future use. Little Martha Ruth Kendrick is making sure that the lockpin is pushed in so the old warp won't pull out. You will note the threads are run through the separator and are ready for the next eight to be tied to the old warp in front of the reed.

When the warp was completed, Miss Boldt tied it near the first peg and near the end peg before she started to chain. This is the first group to use *Tophouse* which is to be run as a small self-maintaining unit such as any community or school group may have.





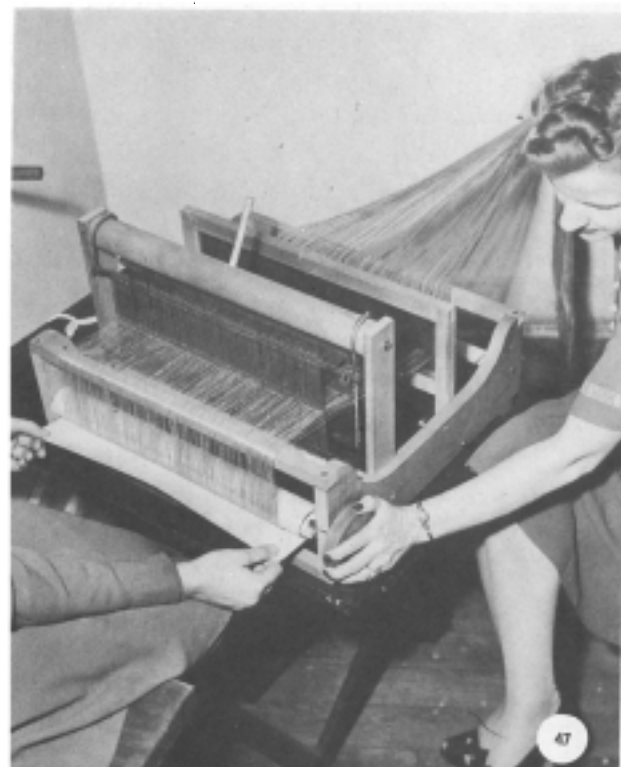
WEAVING is a sociable hobby. When two wind a warp, one holds the knot tied a yard from the reed while the other brings the knots through the reed (illustration 45). The warp knots work through easily unless the knots are very large from heavy warp being used or unless the warper has tied the knots carelessly. Check for errors and retie if any have slipped or add warp if any have been skipped.

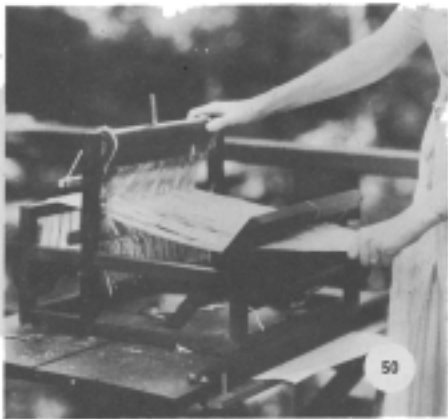
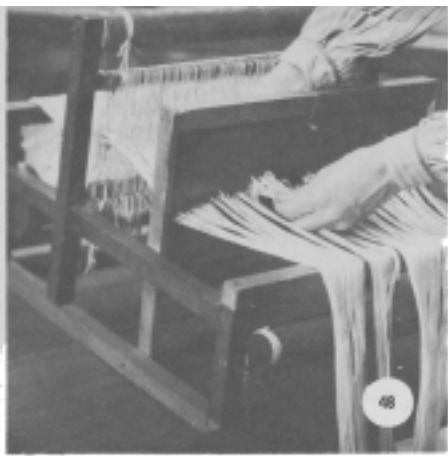
After the knots are through the reed, wind the warp until the knots are against the heddle eyes in the harness. Jiggle the knots through the harness by turning the harness roller slightly (illustration 46).

On the original warping, the steps shown in illustrations 45, 46 do not occur as the warp thread has been carried through the reed and heddle eyes and tied around the rod attached to the harness. On the first warp, you simply begin winding. Hold the warp very tightly and keep it centered in the middle of the reed to maintain an even tension.

As soon as the knots are through the back harness, the warp is held very tightly and started around the warp beam (illustration 47). When the knots have reached the warp beam, run a piece of cardboard—the width of the warp beam—around

the warp beam. It is interesting to note how the warper who has so nonchalantly been relaxed, suddenly goes into action by winding the warp very tightly.





A WELL-WOUND warp makes weaving so easy. But even the skilled weaver cannot enjoy weaving if the warp is poorly wound. So hold the warp very tightly when winding. Keep the warp centered. And run paper or cardboard in with the warp to help maintain an even tension.

With the lockpin still in the warp beam, work the warp through the reed. Illustration 48 shows the front view of the loom whereas illustration 49 shows a side view of the knots being brought through the reed.

As soon as the knots are through the reed, turn the warp around the warp beam until the knots press against the harness (illustration 50). Place the lockpin in to hold the warp in place. Work the harness roller slightly to jiggle the knots through the heddle eyes. Or work the knots through with your fingers.

As soon as the knots are through the harness, wind till they reach the warp beam. Run a piece of cardboard, as wide as the warp beam, in so that it will serve to start the new warp at an even tension (illustration 51)

You are ready to untie the knot at the front of the reed. You cannot hold the warp too tightly or wind it too tightly. Keep the warp in the center of the reed so the tension is the same across the warp.

If the warp threads tend to twist against the reed, turn the harness roller slightly and shake the warp (illustration 52). Do not comb the warp or you will aggravate the unevenness. Before starting to wind again, turn the harness roller so the warp threads are all even.

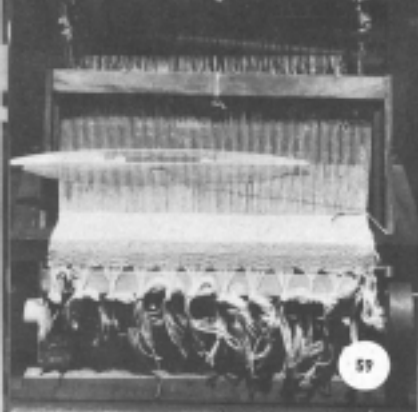
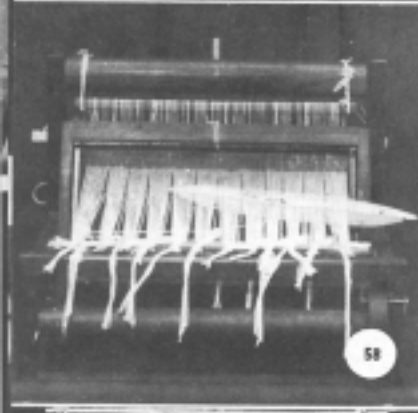
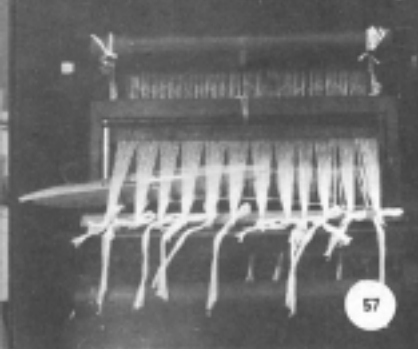
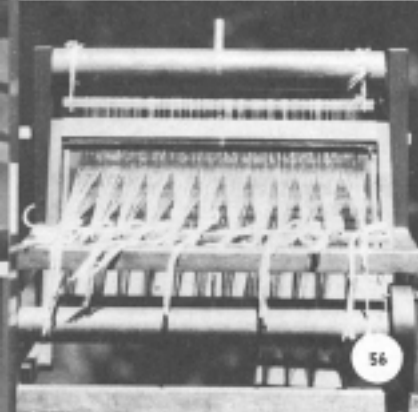
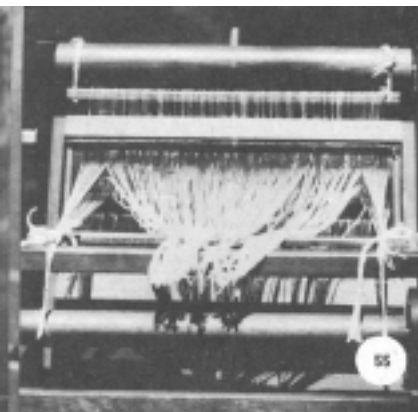
At the *Little Loomhouse*, we run paper or light cardboard such as discarded filing folders in with the warp every few turns in order to maintain a warp of even tension. This paper must be wider than the warp (illustration 53) and should be as wide as the warp beam. A paper too narrow or one carelessly placed does more harm than good.

If the edges of the warp tend to pile over, an occasional edge strip helps keep the edge even (illustration 54).

The warp should be wound until the end is within 12 inches of the reed. All care in winding a warp pays big dividends in ease and pleasure of weaving. If the warp is not wound tightly enough, it folds over.

Such a warp should be rewound—either all at once, or in parts with a heavy piece of cardboard being run in as the rewinding starts to give a better tension. Most new weavers wind a good warp if they use care and if they start with about a 4-yard warp, then warp 6 or 8 yards, and gradually work up to 15 to 20 yards.





About twelve inches of warp was left in front of the reed for tying the warp to the rod attached to the cloth beam.

Place the lock pin in the warp beam lock.

Adjust the pin in the cloth beam lock.

Turn handle roller slightly back to make a shed for easier tying.

Tie the first groups at the edges (illustration 55).

Tie with an even tension rather than with a tight one.

Pick up about an inch of warp each time.

Continue tying from the sides to the center.

Tie with the same even tension.

The top threads go over the rod whereas the ones from the bottom part of the shed go under the rod.

Tie a knot that may be easily untied in case any retying need be done.

The knot is in front of the rod so the warp can even out quickly when weaving begins (illustration 56).

To start weaving, turn the handle roller forward. Check to see that there are no errors. Any errors should be corrected from the center to the edge.

Run the shuttle from right to left (illustration 57).

Fasten the end thread by looping around the edge thread on the right and running back into the warp for about half an inch.

Beat by bringing the beater and reed forward against the thread.

Change shed by turning the handle roller back.

Beat again. The second beat gives a clear shed for running the shuttle.

Run or throw the shuttle from left to right (illustration 58).

The handle roller is still back.

Beat. A quick sharp beat is best for most textiles.

Change shed by bringing the handle roller forward.

Beat again.

Weave about half an inch going from right to left, beat, change shed and beat again; and from left to right, beat, change shed and beat again.

You are ready to start your first piece. Use a thread about the weight of the warp and weave three inches. Note—as soon as the cloth reaches the cloth beam, a cardboard such as was used in winding the warp is wound in with the cloth. This serves to maintain an even tension (illustration 59). Usually the paper that comes from the warp as it is used, may be wound into the cloth beam. The paper prevents the cloth from piling over the edges and makes weaving more fun as good edges may be made easier.

Why not try a small runner or wash cloth for your first piece. Weave about three inches of a weft in the same weight of the warp. With the handle roller forward, start a dark colored weft thread for the border. Note the end is looped around the end warp thread and laid in the warp for several threads.

Weave twelve threads of a dark color.

Weave twelve threads of a medium color.

Weave twelve threads of a light color.

Weave about ten inches in the center.

Repeat the border starting with the light color.

Weave three inches for hem.



WEAIVING is really so easy. There are a few good weaving habits to form. Try the mechanics as shown on page 16 and see if they do not soon become automatic. Then give all your time to creative angles. After you have been weaving a bit, check on yourself just to make sure you have not acquired such involved ones as *Granpappy* has with shuttles between his toes and his whiskers woven into the cloth!



THIS page is a good check page for the exact throwing of the shuttle and the beat. The weaver is using foot treadles but the hand motions are listed.

On the shed with the harness roller forward so the back harness is up, throw the shuttle from the right (illustration 61).

Catch the shuttle in the left hand and beat with the right hand (illustration 62). The shed has not changed.

Change shed (with the right hand if foot treadles are not used) The harness roller is back and the front harness is up. Beat again, with the right hand (illustration 63).

On the shed with the harness roller back so the front harness is up, throw the shuttle from the left (illustration 64).

Catch the shuttle in the right hand and beat with the left hand (illustration 65). The shed has not changed.

Change shed (with the left hand if foot treadles are not used). The harness roller is forward and the back harness is up. Beat again, with the left hand (illustration 66).

It requires a little practice to get an easy throw of the shuttle so that you bring your thread to the exact distance needed, without leaving a loop or without drawing in. But don't get the habit of adjusting the edges by hand—it will take you twice as long to weave.

Avoid drawing the edges in. The drawing in wears the edge threads and causes breakage. It slows down the weaving speed. And cloth with tight edges has a pinched look!

Most textiles require the double beat given above—a quick beat as the thread is woven and a cleancut beat as the shed is changed. Soft wools and some linens require only one beat. You will soon form your own rhythms for whatever textile you are weaving.

A relaxed weaver soon finds that the beat becomes automatic and that he has suddenly developed a rhythm to his weaving. Weaving is such fun then!





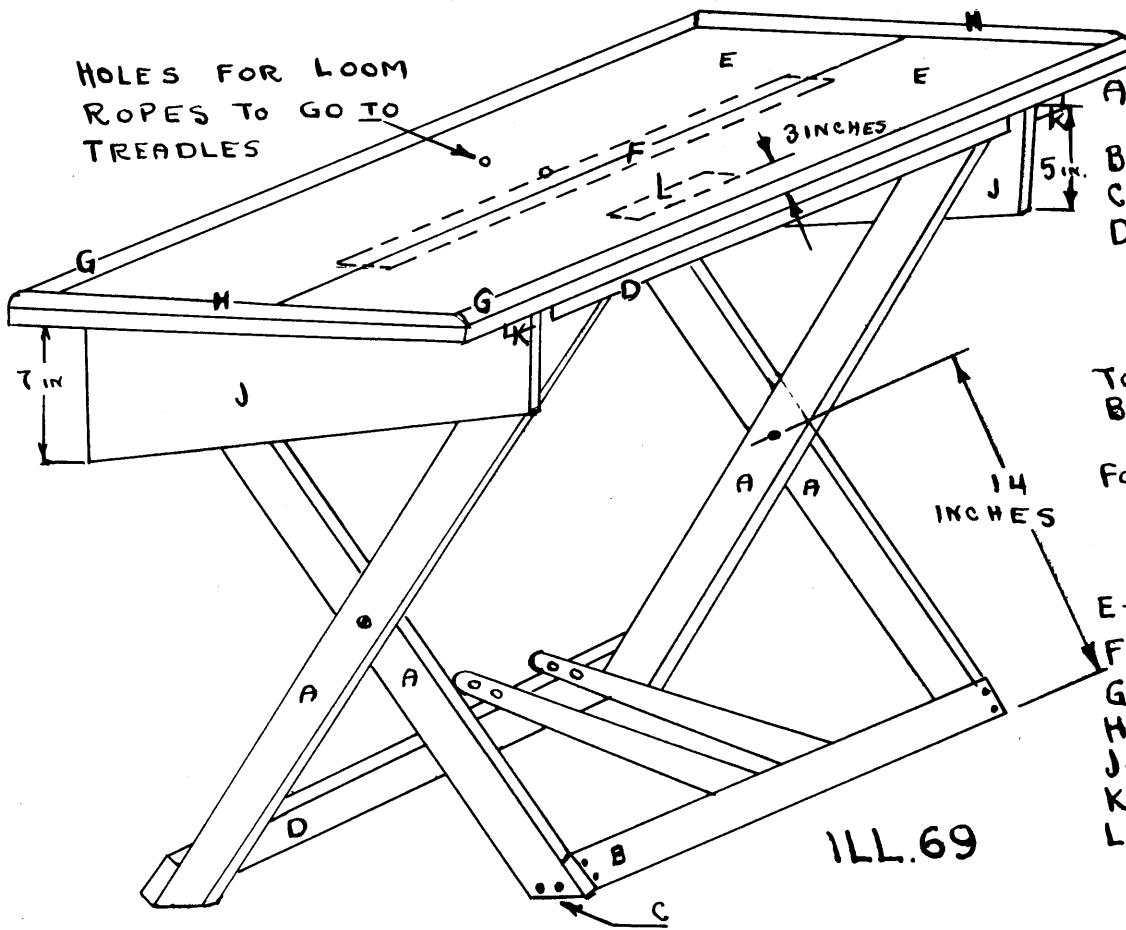
WEAVING is such fun. So prepare yourself for the maximum relaxation and pleasure by arranging a comfortable, well-adjusted weaving place in regards to loom position, chair height, and lighting. The loom may be used on a table or stand. A bridge table or other similar table is suitable. Speedier weaving may be accomplished by converting your loom into a floor loom through the simple expedient of boring a couple of holes and using treadles. For our Lou Tate loom, the holes should be $10\frac{1}{2}$ -11 inches and $13\frac{1}{2}$ -14 inches from the front of the table—or in other words, just before and after the harness roller. Two 42-inch lengths of cord—such as the smallest window cord or the green staging cord used by fishermen—are used to attach the harness roller handle to the treadles. Treadles such as shown in illustrations 68 and 70 are fastened to a board fitted to the two front legs of your table.

Personally, I like using the stand with bedframe since it is so easy to carry anywhere—indoors before the *Little Loomhouse* fireplace for weaving in congenial company, or outdoors on the long summer afternoons when the birds are particularly insistent that everyone share their singing in the woods.

Incidentally two of the loom stands plus a top made from four planks is a wonderful outdoor refectory table for some of the tablecloths given in this WEAVING IS FUN. You may want to make the tapes for the folding stands in one of the Guatemalan belt weaves. *The Little Loomhouse Group* likes the gay ones characteristic of Totonicapan province.

Your chair height will vary according to your table and your size. Make certain the height is well adjusted—too low will tire your arms and back and cut into the amount of pleasure you derive from weaving. Good lighting will make for speed and accuracy.





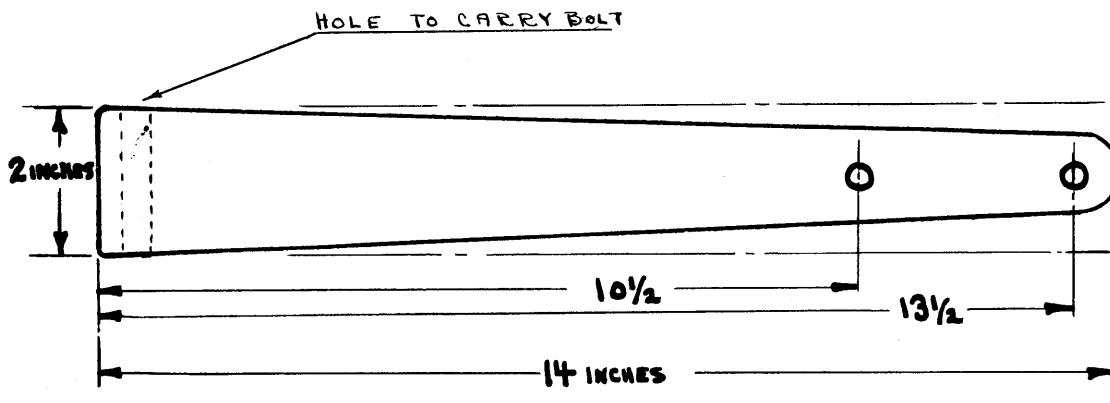
STAND

- A-4 - 3/4 x 2 x 29
CUT AT 60% L
- B-2 - 3/4 x 2 x 18 1/2
- C-1 - 3/4 x 2 x 18
- D-2 - 3/4 x 2 x 20
- 2 - BOLTS
- 20 - WOOD SCREWS
- 2 - SCREWEYES
- TO CARRY TREADLE BOLT
- 1 - 8 INCH BOLT FOR TREADLES
- 2 - 22 INCH TAPES

BED FRAME.

- E-2 - 1 x 9 1/2 x 30
- F-1 - 3/4 x 2 x 22
- G-2 - 1/2 QR x 30
- H-2 - 1/2 QR x 19
- J-2 - 1 x 7 x 18
- K-2 - 3/4 x 2 x 18
- L-1 - 3/4 x 2 x 6

ILL. 69

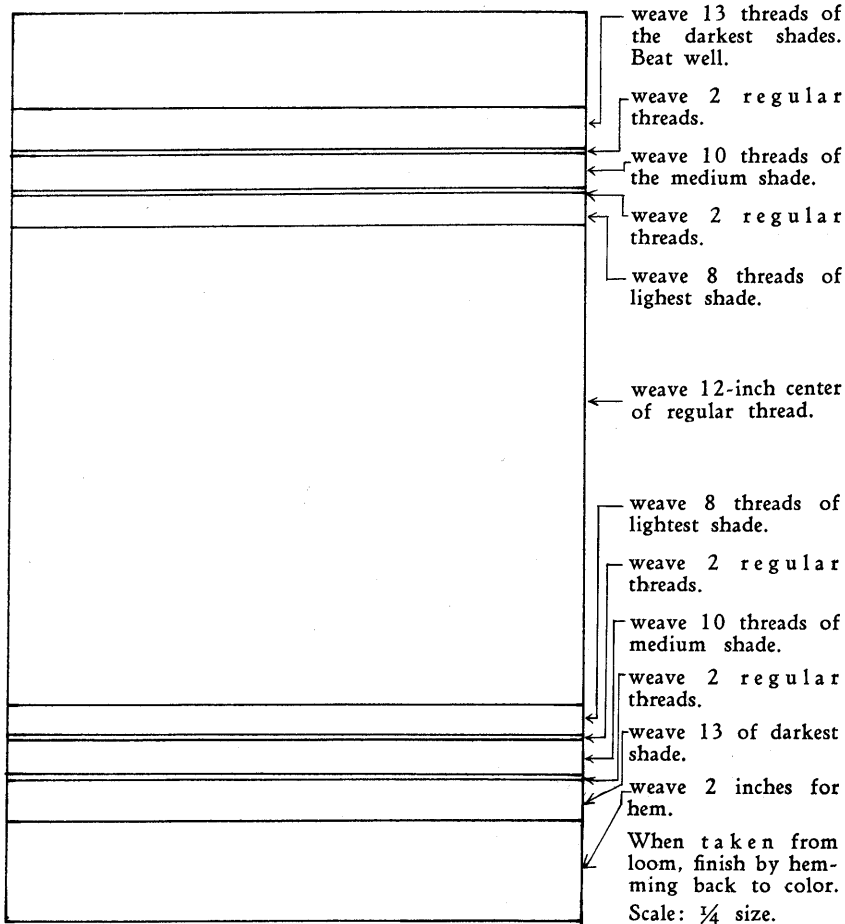


TREADLES - 2 BLOCKS WOOD - 3/4 x 2 x 14
HOLES - 3/16 TO 1/4 INCH SIZE

ILL. 70

BORDERS are an exciting starting point. Take the colors you think you would like to use together and wind them around a piece of cardboard. One old weaver told me she always ascertained her colors and proportions by winding them around a corn-cob. You may like sketching the colors with watercolor pencils or simply trying them on your loom. For a starting piece which may be woven in a short time—such as a class period—weave a runner, a place mat, or a wash cloth to the size and proportions given

in illustration 71. Since your first warp is 10/4 or 12/4 cotton, set 15 threads to the inch, you will use, for the main weft yarn, any light color about the size of the warp and of a type suited to the functional purpose of your textile. For a runner, use a flake or colored noil. For a place mat, a yarn with body is excellent. For washcloths, any rough textured yarn is practical. The yarn should have about 2,000 yards to the pound. You will use 5 to 6 yards per inch, according to how heavily you beat. So you will use 80 to 100 yards for your piece.



For the borders, try three shades of the same color; or two shades and a contrasting color; or three different colors. The "embroidery floss" found in all needlework departments, has a wide range of colors. The 9-yard hanks have the amount necessary for the textile in illustration 71.

Did you like the use of the two light threads to set off each color? You may like to set off the colors by some other method such as a black or very dark color, or a contrasting texture, or several strands woven loosely.

For the *Tophouse*, we used yellow linen with 232 threads set 15 to the inch for a fairly sheer drapery. The borders were in two shades of jade linen with a contrasting orange. The 20/2 linen can be set 20 threads to the inch, for 310 threads, if you prefer a heavier material.

Cotton may be used instead of linen. This should be a weight about 10/4 size or its equivalent.

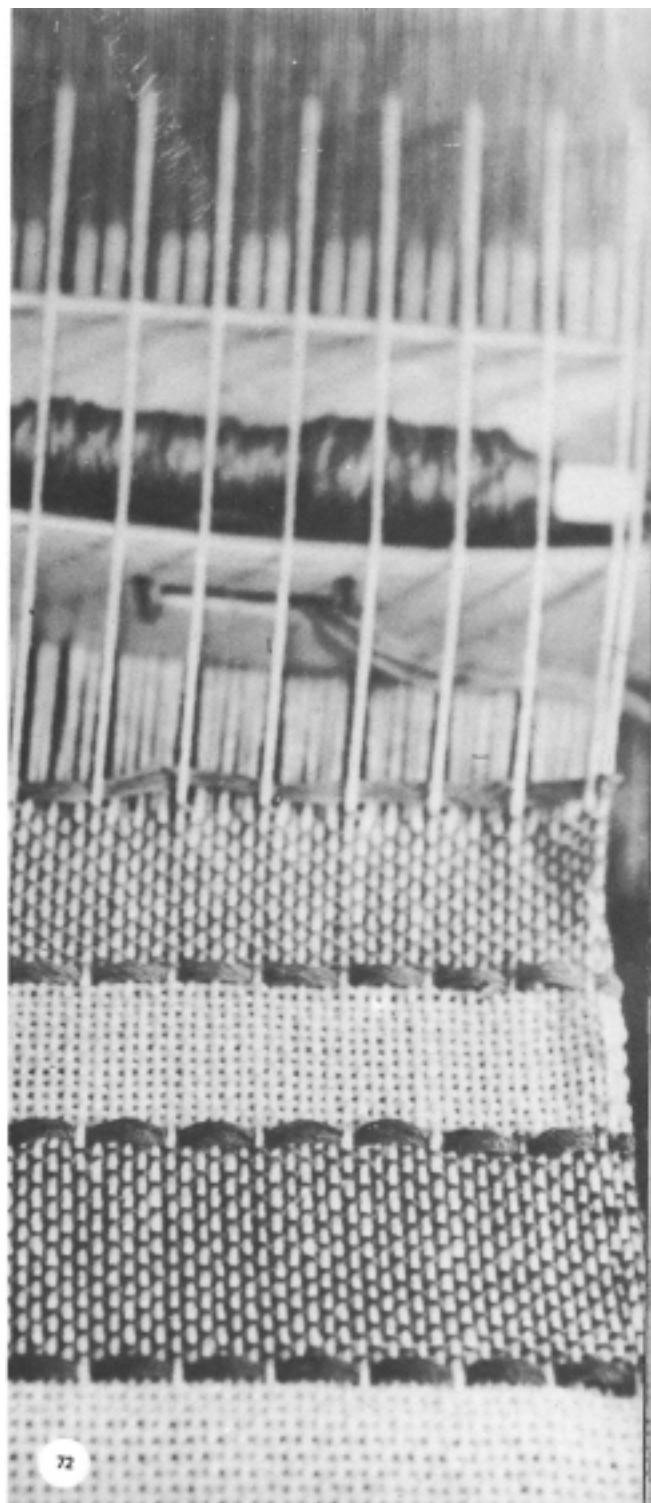
A three-inch border is well suited to the average window and this will break down into 21 darkest color threads:

- 13 contrasting,
- 17 medium.

To separate the colors and set them off, we wound three strands of a color together. The triple strand was woven across by going under one thread and over two threads of the top shed as shown in illustration 72.

When you plan your draperies, you may find it good to make a sketch of the proportions you want. Be sure to allow for ample hems and add 10-15 per cent for shrinkage. We found that seven inches, border, etc., made a pleasing proportion.

WHEN you start weaving, begin at the right side on the shed having the back harness up — the roller handle will be forward, and the first thread will be up. After you weave a thread, beat, change harness — front harness up, roller handle back, and beat a second time. Weave a second thread, beat, change harness, beat a second time, etc. Continue thus till you have woven two inches.



TEXTURE is one of the key angles of weaving. These few pages given to texture place much less emphasis on texture than its importance merits. There is a fourfold reason for this. First, in this part of WEAVING IS FUN, plain warps are being used since they are so much easier for new weavers and since they may be used for more diverse technics.

Second, real work in texture requires a considerable maturity in handling different types of yarns in order to produce functional material which is both durable and attractive. Thus, rather than have the weaver copy blindly, or else weave one of those aimless mixtures which often pass as texture even tho they have little value or durability, the weaver is given several basic steps to follow. These, I feel, will give the weaver the basic principles essential in working out original ideas.

He can then carry his ideas to completion in fully functional materials which have a lasting value as well as being pleasing. Many of the textiles shown in this edition, therefore, are small pieces which may be woven within a class period or by new weavers.

Third, satisfactory work in textures necessitates an accurate knowledge of different types of yarns—their shrinkage, wearing qualities, and cleaning requirements. This, especially with the use of warp yarns, comes as the result of some experience on the part of the weaver. The connection with these first steps in texture to the later work in structural designing illustrate how advanced work in textures can best be handled later.

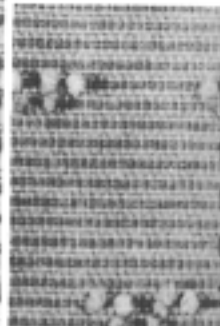
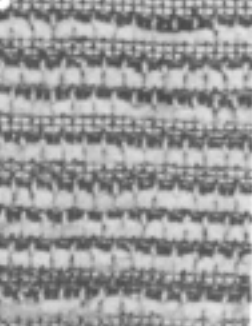
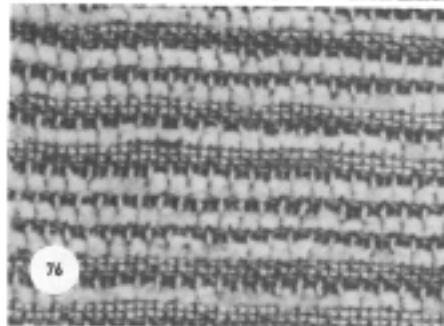
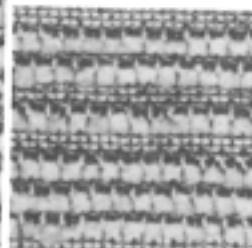
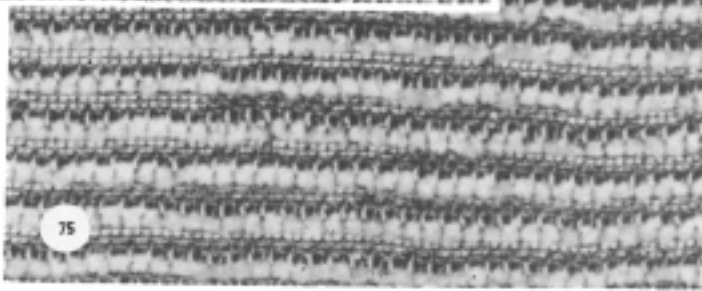
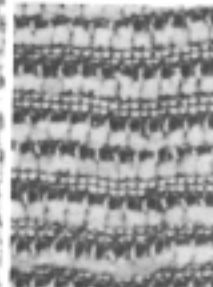
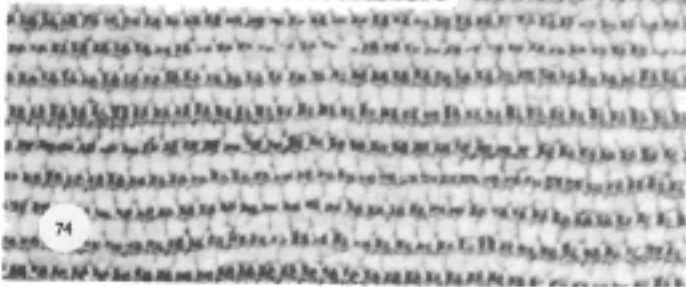
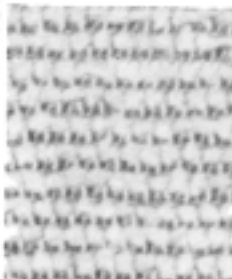
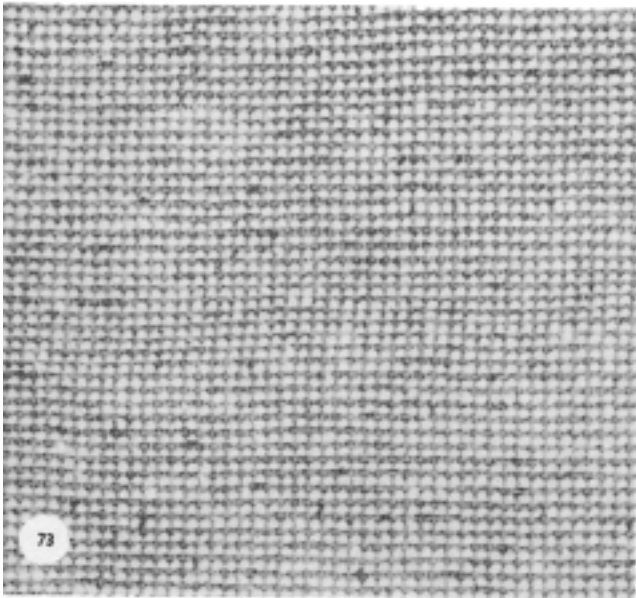
Fourth, an adequate yarn palette is needed for really fine work in textures. A working knowledge of diverse types of yarns and their color ranges is usually acquired gradually. So only a few successful steps are given here.

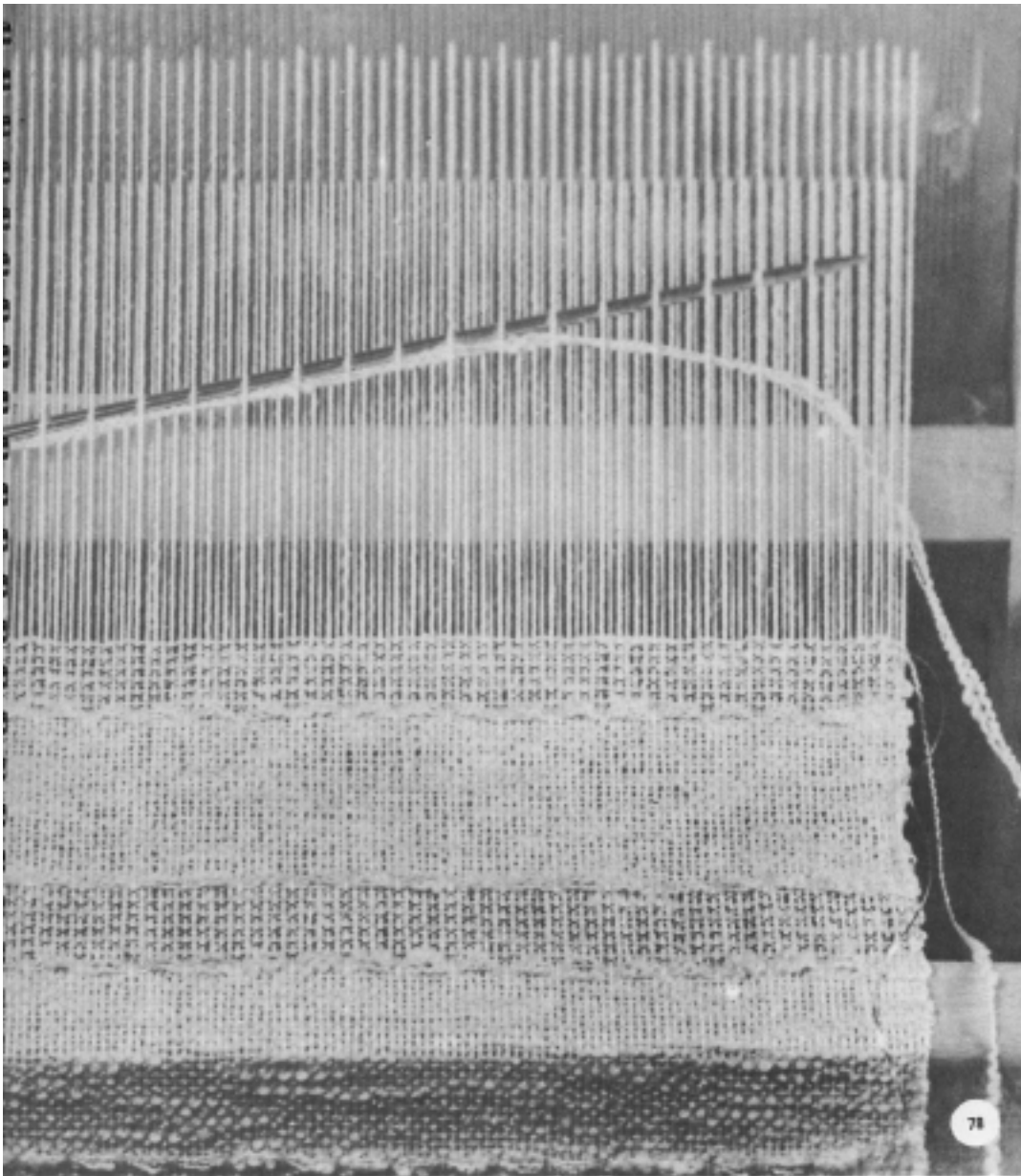
At the *Little Loomhouse*, we usually begin texture weaving with a plain warp. A heavy candlewicking can be alternated with a yarn the size of your 10/4 or 12/4 cotton warp. Ill. 73 shows this step in upholstery material woven on a navy ratine warp having 232 threads set 15 to the inch from thread having 2,000 yards to the pound. A heavy blue silk noil alternates with the navy ratine. The weaver can use the predominating shade of the room for warp.

The upholstery material may vary. Instead of two colors alternating, three may be used in rotation as ill. 74 where a satiny russet rayon follows a lighter tone in chenille, and the third tone is the 20/2 linen also used for the warp. These same three tones may be made into pronounced stripes as in ill. 75, 76 by the repetition of the darker 20/2

linen. One of the most popular drapery materials in the COUNTRY FAIR exhibition of handwoven textiles has use of three colors in rotation, plus the addition of short loops in cerise and green and was designed and woven by Hester Robinson of Ohio State University. It is shown in ill. 77 and reproduced from the 1946 COUNTRY FAIR book.

Altho the first work in textures uses diverse yarns on a plain warp, the more significant work in textures is done on a warp of diverse yarns. You will probably use the alternate colors as shown in ill. 74 as a warp, as shown in ill. 210. The use of three colors has a wide application as in ill. 232. Later, you will find that your warps may not carry repetition of design or color altho the first ones will be alternate threads, third threads, or other simple repetitions as shown on pages 55 thru 64.





Weave four inches of plain weave using a firm even beat. There should be approximately the same number of weft threads as warp threads per inch. Too loose a beat will give sleazy cloth; too heavy a beat will pack the cloth.

With the triple strand, weave across the warp, under 1, over 2, etc.

Alternate the metal on one shed with a regular tabby on the other shed until six metal threads have been woven.

Weave a triple strand.

Weave two inches of regular tabby.

Repeat the band with a triple strand, alternate metal and regular weft for six metal threads, and a triple strand.

Weave four inches. This is sufficient for an evening bag. The bag is lined with taffeta or satin. The seams are whipped together within two inches of the top to give the petals; eight rings are sewed in for a couple of 20-inch cords made from the regular tabby thread. The corners may be left out, or may be tucked in as in illustration 79, and basted in place.

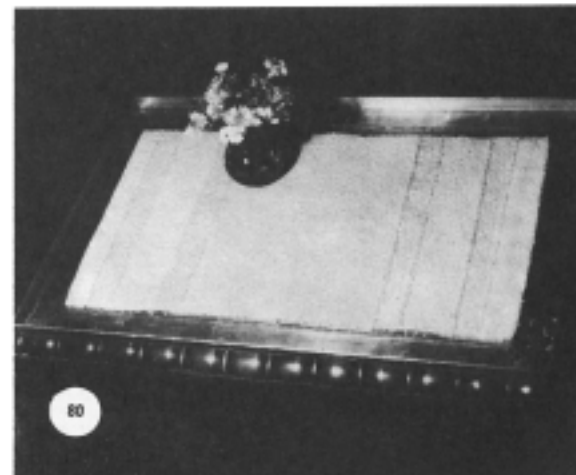
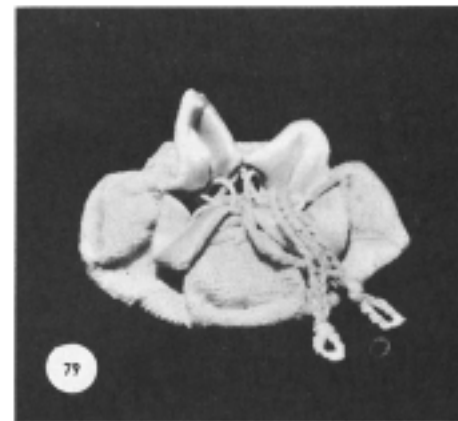
For a place mat as in illustration 80, the bag length is repeated to give a mat with an eight-inch center and a double band of metal on either end. This makes a very smart place mat for any table—especially that of a bride.

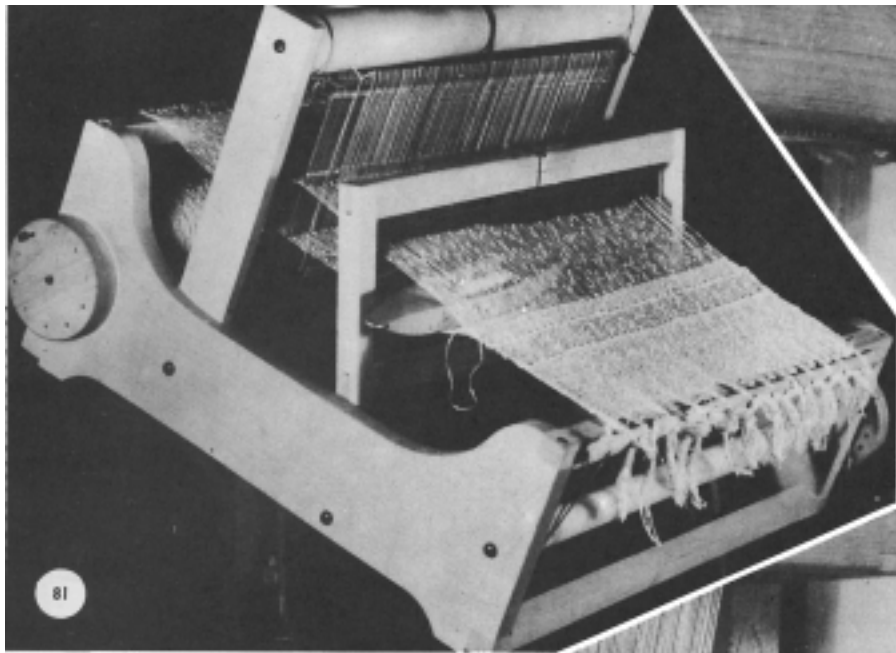
HERE are two textiles suitable for class weaving. They show the use of alternate colors in different types of threads. The instructions may be followed on a 180-thread warp of 10/4 cotton or its equivalent, set 15 threads to the inch. Or each weaver may do as we do at *TOPHOUSE* and redesign to suit his own taste.

For a charming little evening bag as fresh as the dewy petals of a rose at dawn, select a pastel thread of attractive texture and combine with a gold or silver metal of about 1/50 size. The regular weft thread should be about 2,000 yards to the pound or 125 yards to the ounce ball.

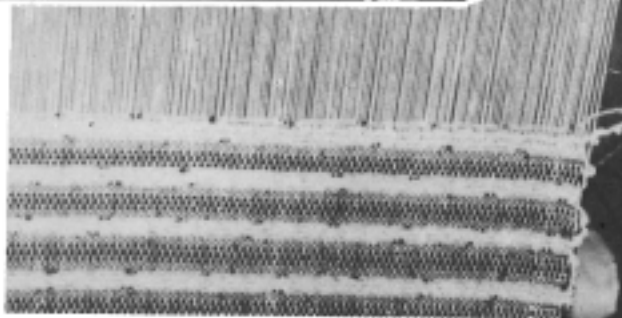
A boucle with a flake added, a spiral thread having a nub, or any other thread of uneven size will give a delightful contrast with the flat surface and gleam of the metal.

The metal is alternated with the regular weft to form bands or borders. To set off the band, you may like using the triple strand of the weft as in illustration 72, with the shuttle or knitting needle, as in 78, going under one on the top shed, over 2, under 1, over 2, etc., across the warp.

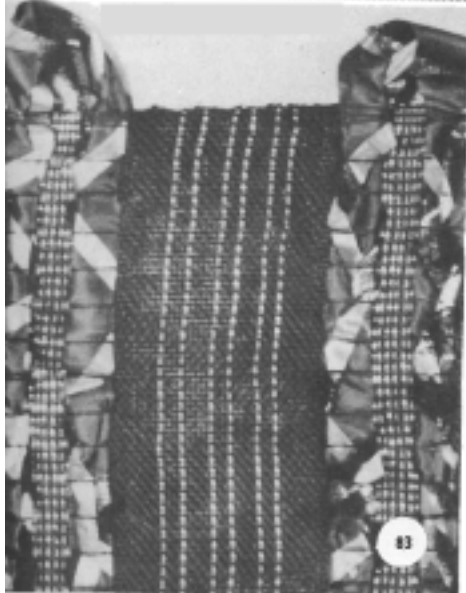
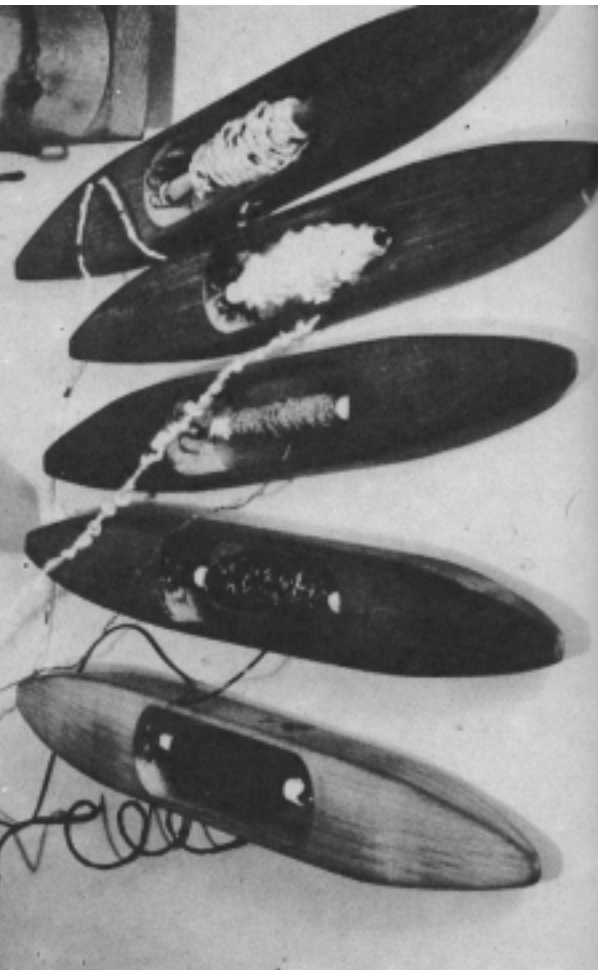




81



82



83



84

BBETTER texture effects can be obtained by using a warp of different texture. But since that requires a certain amount of experience, you will want to try a warp of yarns having the same strength first. If you have no trouble with broken threads on your first warp, you may want a 20/2 linen for your second warp. On the linen warp in illustration 82, upholstery material is being woven of "straw" rayon, plastic, nub cotton and rayon mixture, wool and rayon loop, and wool noil with cotton reinforcement. Of these, only the nub cotton and rayon mixture is easily used as warp. A rayon nub warp is shown on the loom in illustration 81. This is easy to use by anyone who has not had warp trouble with his previous warps.

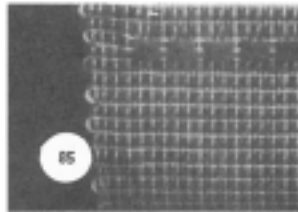
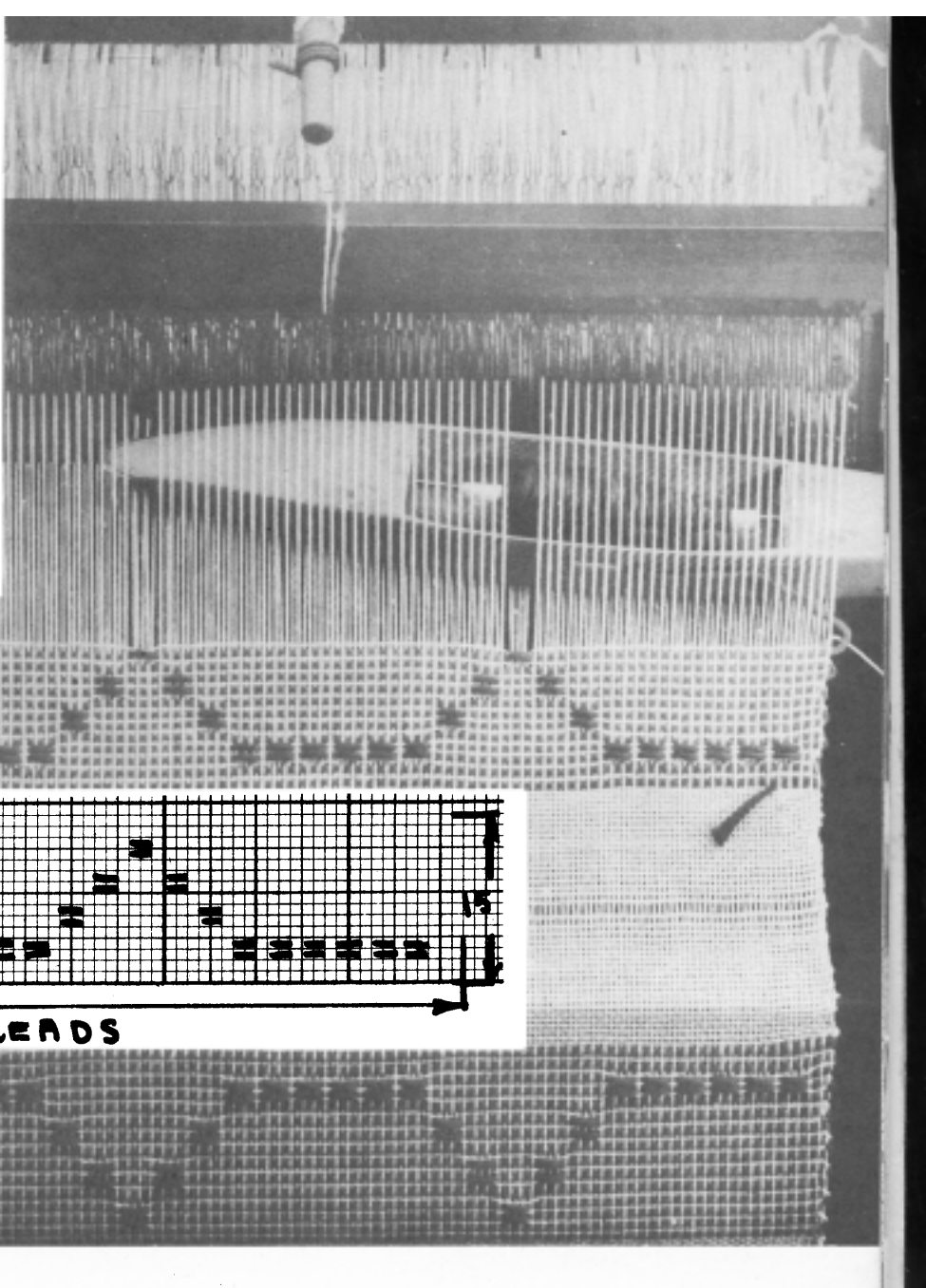
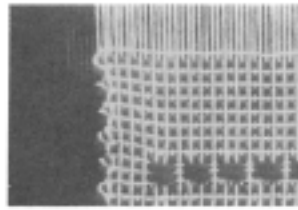
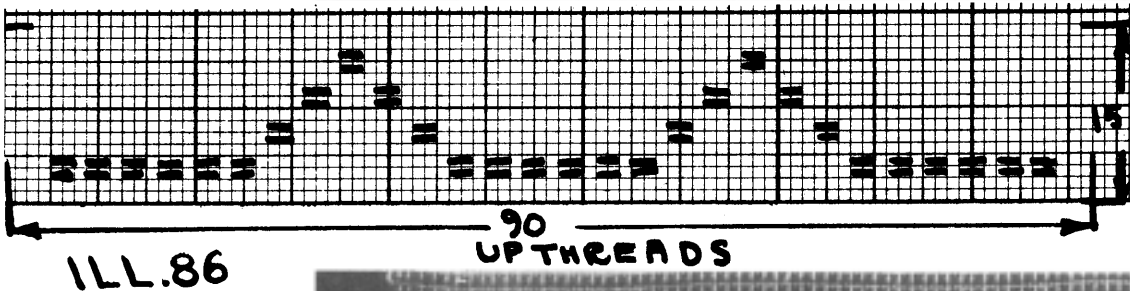
Since starting the experimental work in the 1930's to learn what beginners can do, I have found that every age group had fun planning and weaving frivolous evening bags. The warp for these is sufficiently strong to keep the beginner from having mechanical difficulty but is always of an interesting texture or attractive color. Weft threads are left entirely to the weaver. Popular with the teenagers are evening bags which are made from their first evening dresses as the cerise taffata braided with net and metal coated cellophane in illustration 83. As the bags have a functional use, they make a practical class assignment in texture and color. The ingenuity of the student is challenged in using ribbons, plastics, cellophanes, metals, glass, leather, braid, velvets, etc. Some even add decorations such as the roses added to go with those on the evening dress, as shown in illustration 84.

PICKUP is a weave which you will enjoy. Basically, it is a lace weave with the sixth thread being the binding thread. However, we will use it first with a heavy thread for the design thread.

For **PICKUP** all design is woven on the same harness. Use the harness having the first thread, right side, on the up shed. The harness roller will be forward. Note the positions of the first thread and of the roller in illustration 85.

The design thread is heavy. You may like candlewicking as is shown in the photograph. The other shed is a plain tabby shed. For this shed, use a finer thread about the size of the warp.

Thus, you will alternate a design thread with a plain weave or tabby thread. This may be drawn on squared paper with the spaces being the design threads and the lines being the tabby threads.



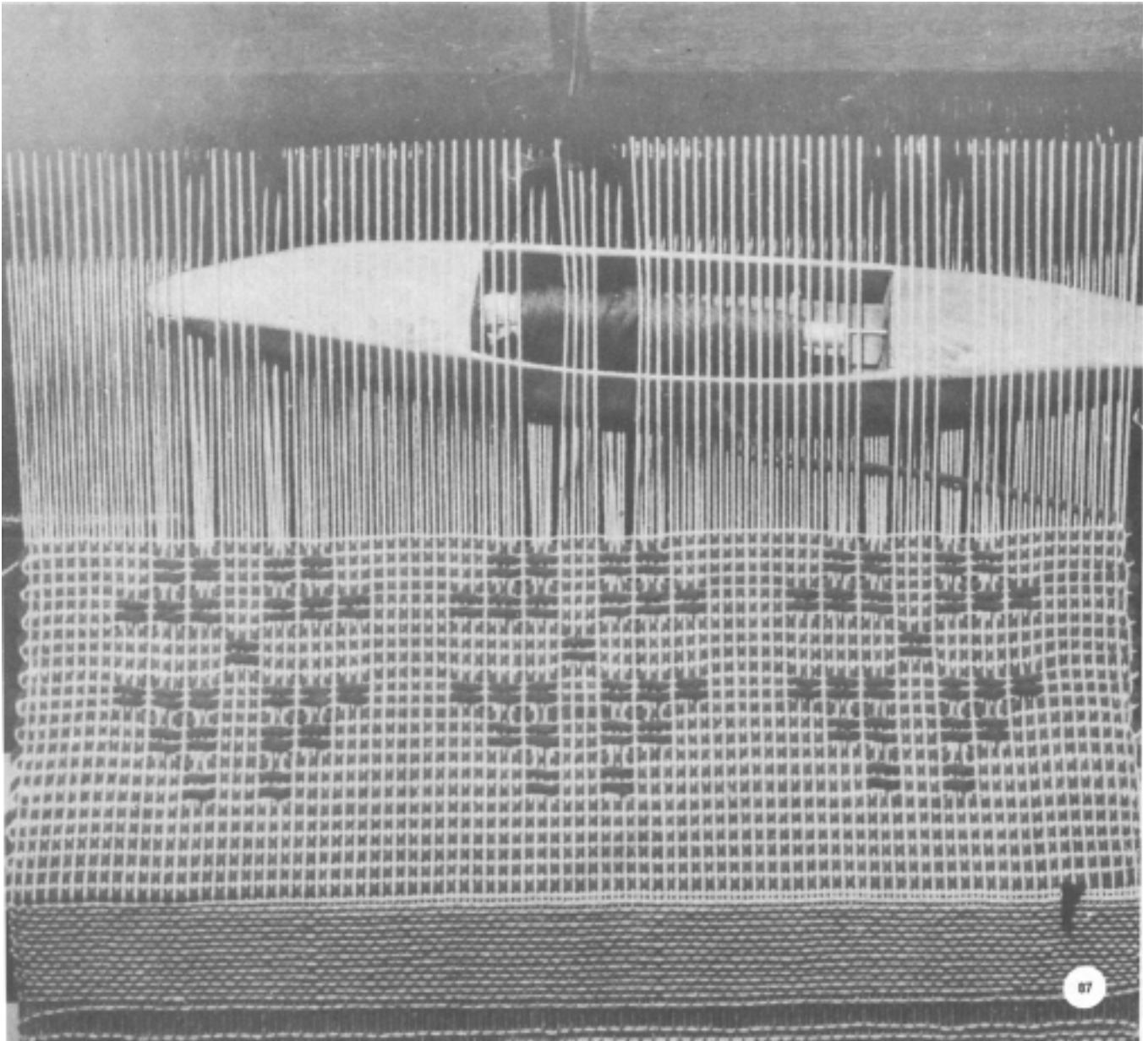
Follow the woven material and compare with the cartoon in illustration 86. The 180-thread warp has the 90 design threads shown on 90 spaces, and the 90 tabby threads on 90 lines. Likewise in weaving, the 15 design threads are shown on 15 spaces with the lines between being the alternating tabby threads.

Weave 2 inches plain weave. Weave a design thread on the design shed; a tabby thread on the tabby shed; a design thread on the design shed; a tabby thread on the tabby shed. (Note—if you follow the piece on the loom, you will place your tabby shuttle in front of the design thread on the left and behind the design thread on the right in order to lock the end thread.) For the first design thread having a **PICKUP**, weave under 3 threads, over 2, under 1, over 2, under 1, over 2, under 1, over 2, under 1, over 2, under 1, over 2, under 16, over 2, under 1, over 2, under 1, over 2, under 1, over 2, under 1, over 2, under 16, over 2, under 1, over 2, under 1, over 2, under 1, over 2, under 1, over 2, under 1, over 2, under 4. Continue according to cartoon through the border of 15 design threads.

Weave about 14 inches between borders.

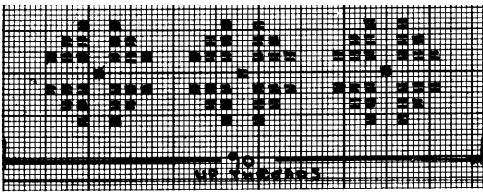
Reverse the border on the other end and finish with two inches of plain weave for the hem.

(Note—just as every third design thread or every sixth warp thread was used to lock the design in place, so is every third design weft thread or every sixth weft thread used to lock the design in place by being wove plain.)



THIS little star pattern was originally used by the *Little Loomhouse Group* as part of an eight-harness drapery material. It may be threaded for a multiple harness loom or used as a PICKUP design for two harness. The design may be used as given for place mats or runners. It has been very popular with bedpatients for doll coverlets. In another form it is part of bag designs—either small ones woven in a class period or large shopping bags.

You may enjoy cartooning any other small star or snowflake design to use in this form of weaving, as shown. The same designs may be used in all linen for curtain material which has each curtain different just as each snowflake has no counterpart.



ILL. 88

PICKUP design is based on a unit of three up threads or a total of six threads. Later you will use the six-thread unit in designing lace for two or more harness.

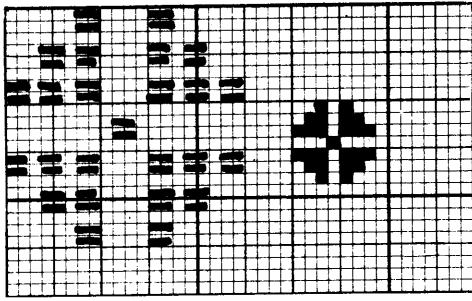
In making the cartoons for PICKUP, every third design thread in warp and in weft is a plain thread used to bind the design in place.

Illustration 89 shows each up thread space by space and the compact form of each block representing a six-thread unit of three up threads and three tabby threads.

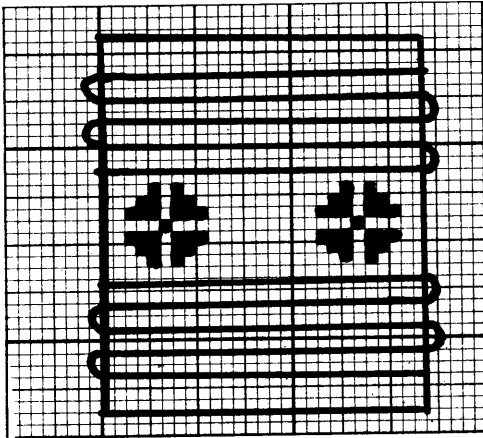
The compact method is utilized in illustration 90 for a bag cartoon. This is a small size which may be woven in a class period. Loops are left on each side for the cord.

Illustration 91 is a larger shopping bag cartooned by the compact method. Each space represents six threads—three up and three down. By being compact, this cartoon may be made in one-third the time required for the half-scale cartoons in illustrations 86 and 88, and may be pinned to the warp for easy following without loss of time.

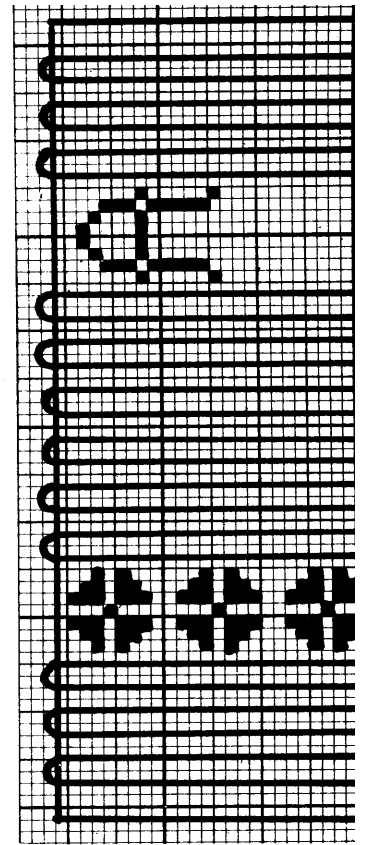
Illustration 92 shows the shopping bags, made up. The loops left on the side of the warp are used for the cord handles.



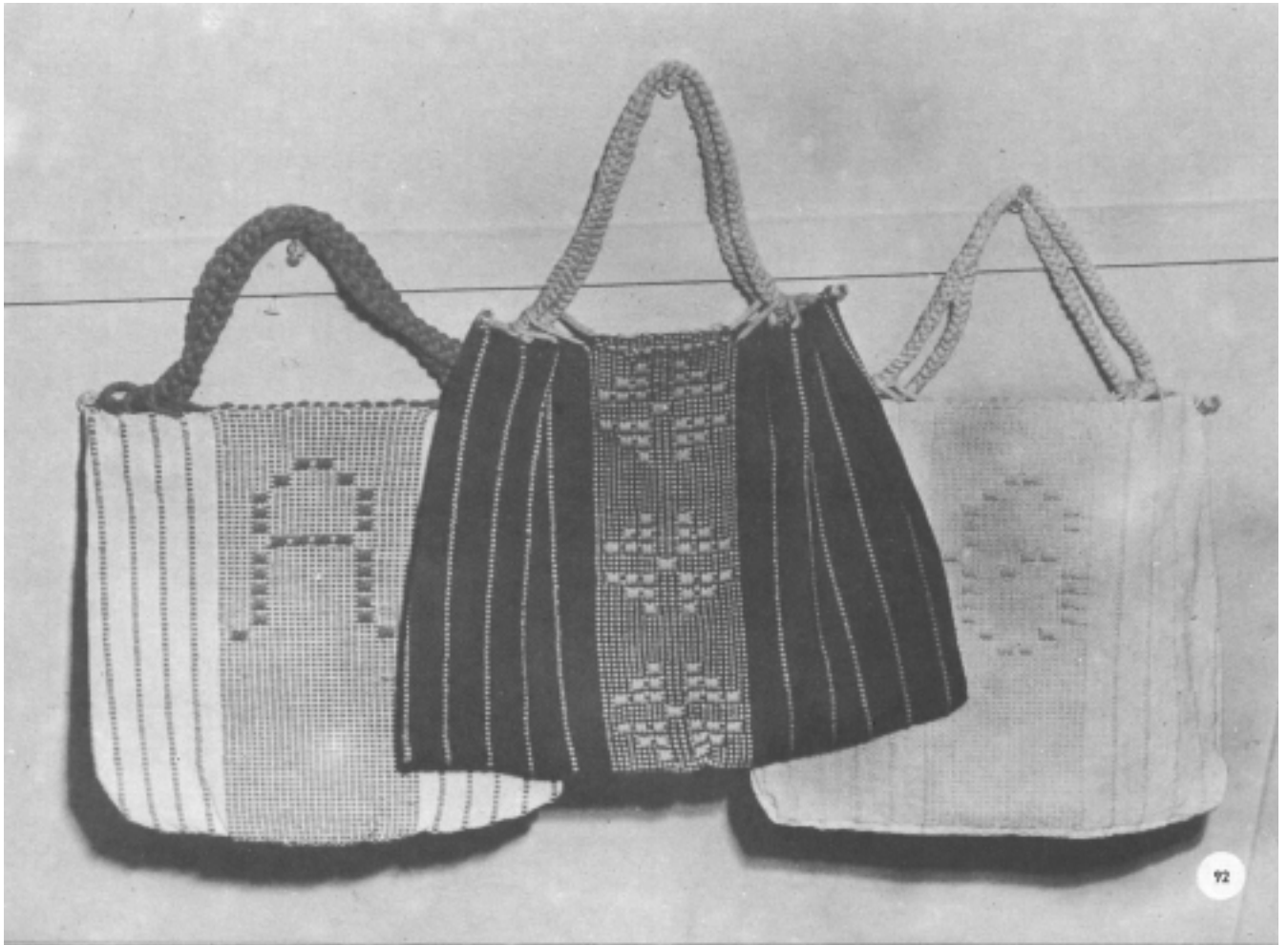
ILL. 89



ILL. 90

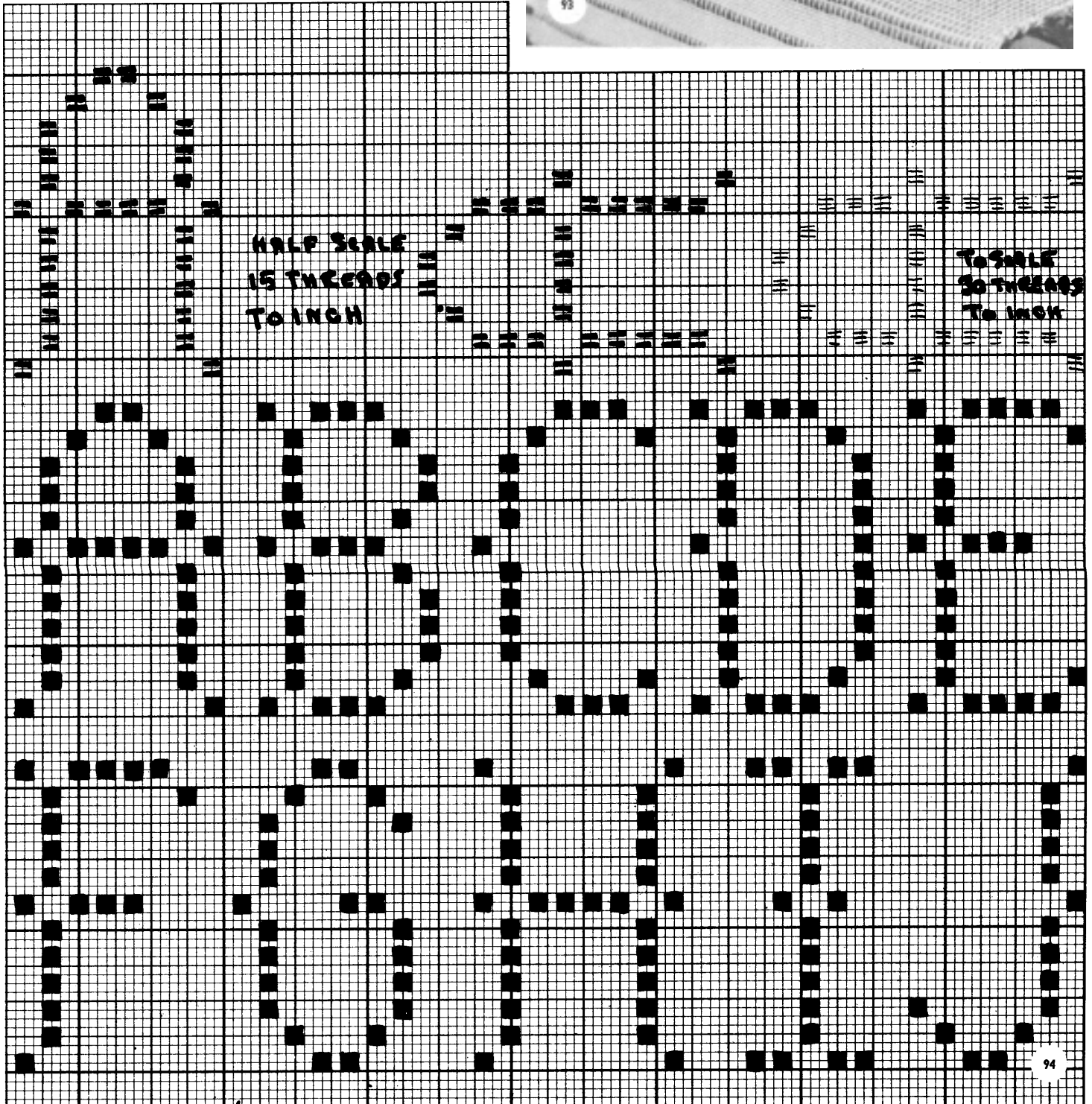
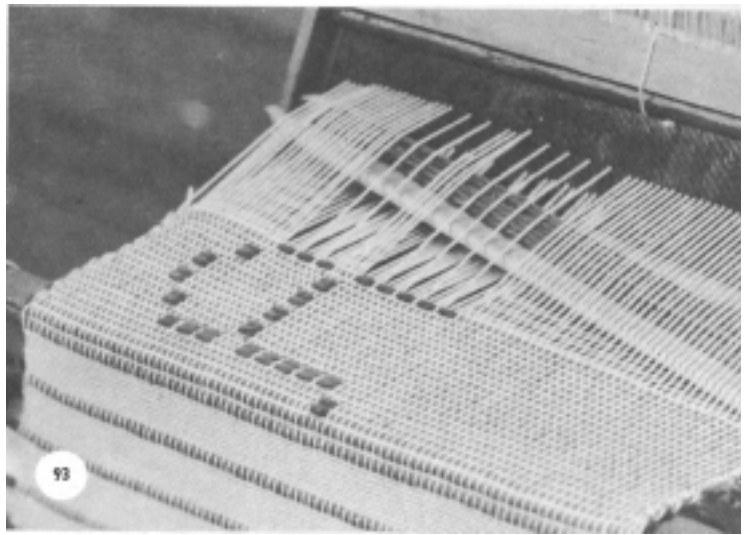


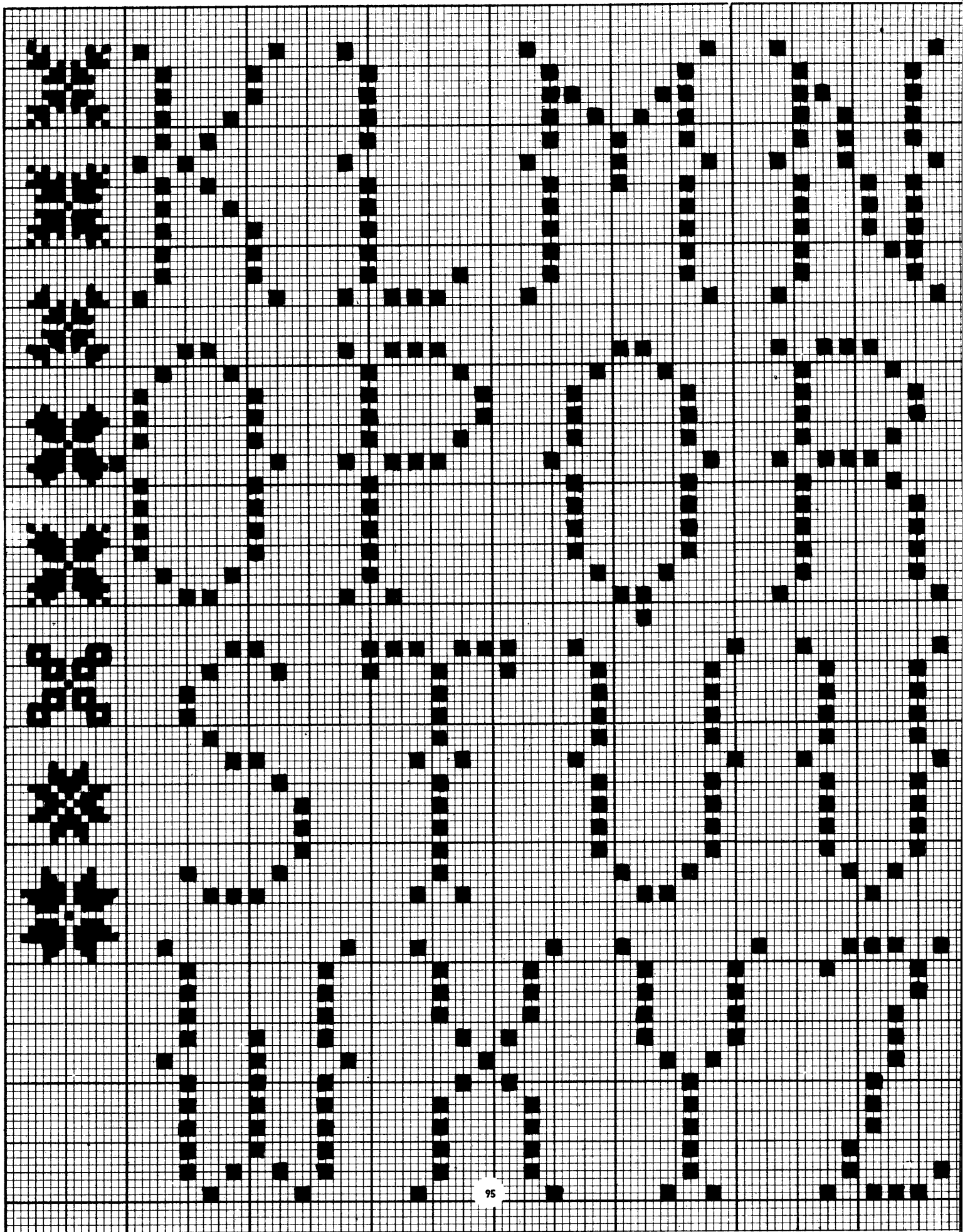
ILL. 91



PICKUP lettering has a number of uses and may be used on a warp of any count. You will make your own application as to the number of threads needed to "square" each block. Ordinarily two design threads are followed by a plain weave thread on the design shed to square the block. If the thread is very fine, you may prefer using three design threads followed by the fourth design thread woven plain. If the thread is exceptionally coarse, you may cut out a block or two in making your letter.

The lettering is the size of the letters on a warp 30 threads to the inch. It is half scale on a warp 15 threads to the inch. Illustration 93 shows a bag being woven with the initial A.





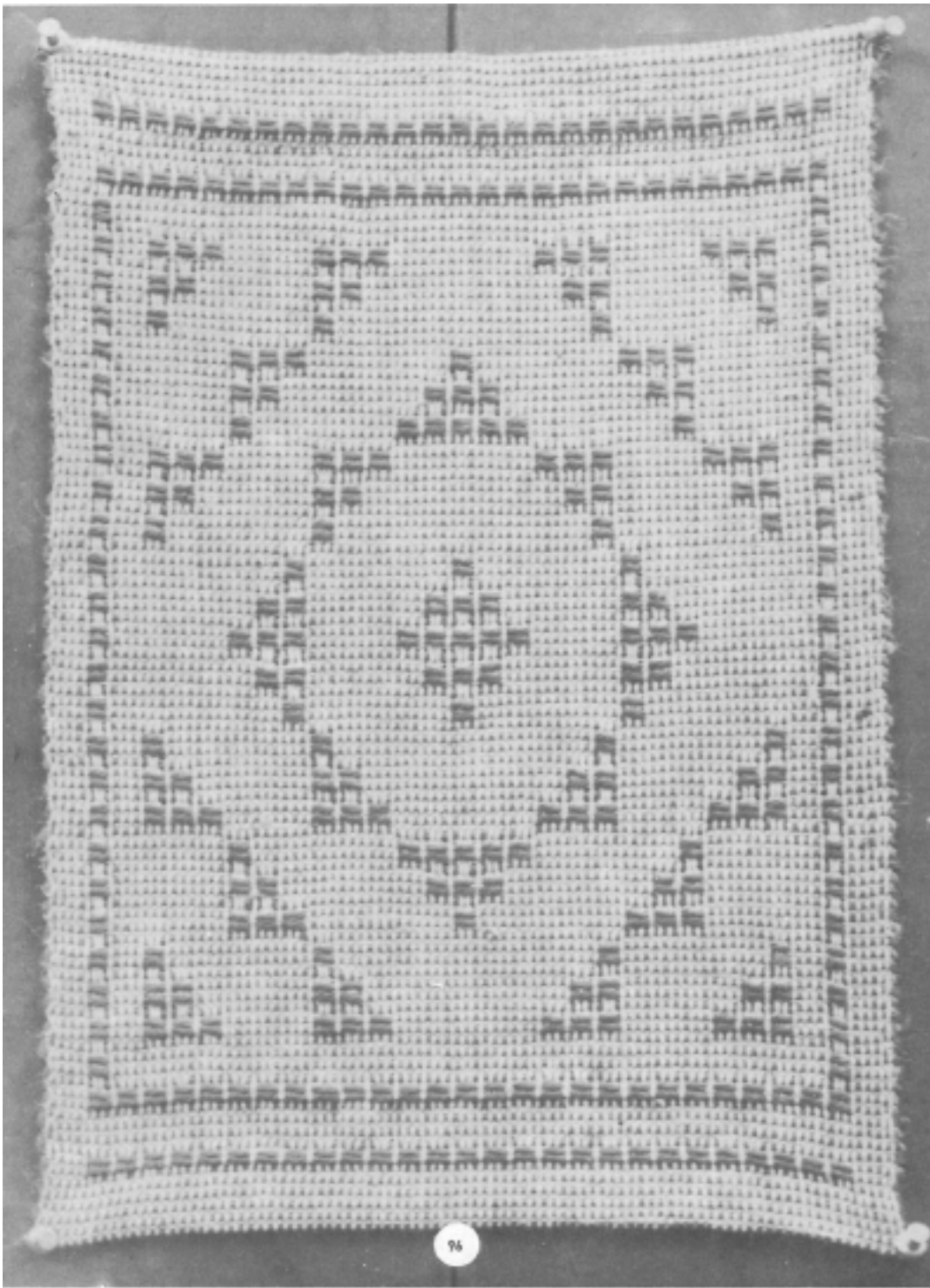


Illustration 98 shows two block designs suitable for place mats as in illustration 96 or redesigned into baby blankets, afghans, and refectory cloths.

If you like PICKUP as well as the average weaver does, you will be interested in afghans, baby blankets, refectory cloths, and other pieces which need be woven in strips and seamed.

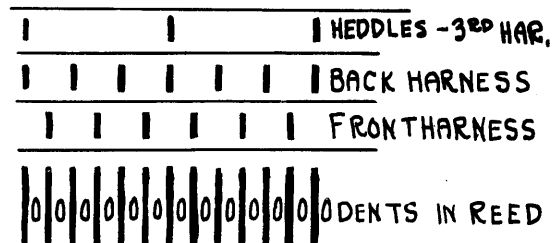
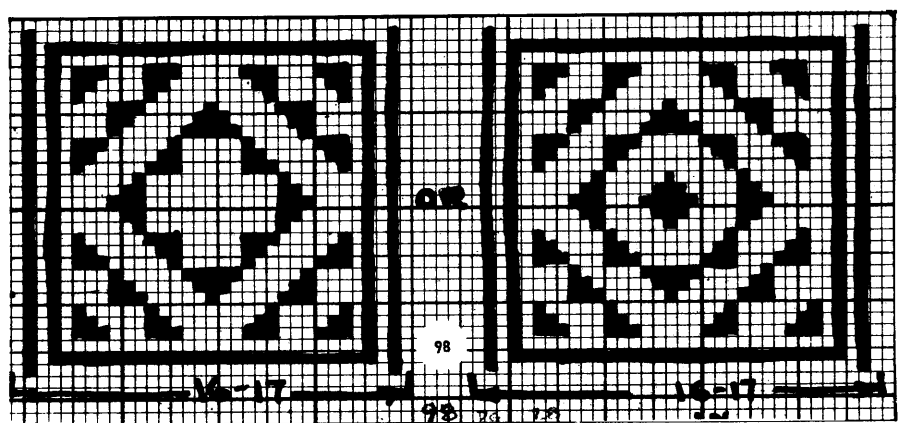
For this you will want to add a third harness to your loom. Since every third thread on the back harness (or sixth thread in the unit of three down and three up threads) binds the design in place, this thread can be run through a special heddle and used as the third harness.

You can make your heddles by making a heddle block as is shown in illustration 99. One nail is driven at the lower end of the heddle; a second at the lower end of the heddle eye; and two at the top of the heddle. Then a heddle is made by tying a square knot at the nail marking the lower part of the heddle eye and by tying two loops at the upper nails.

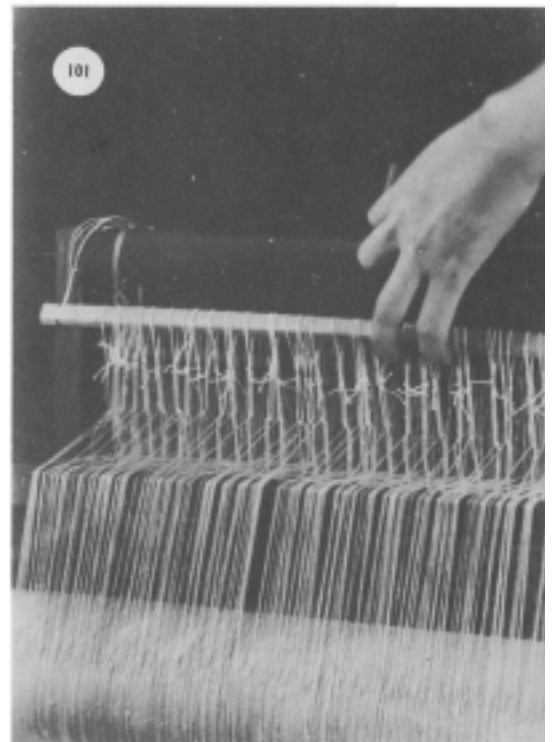
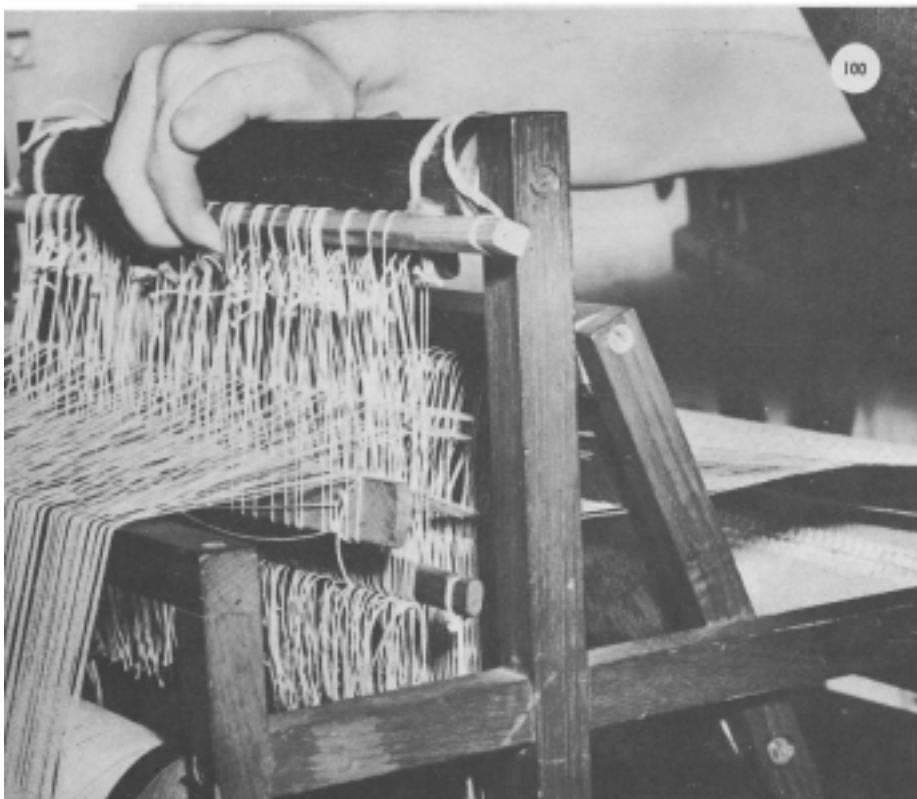
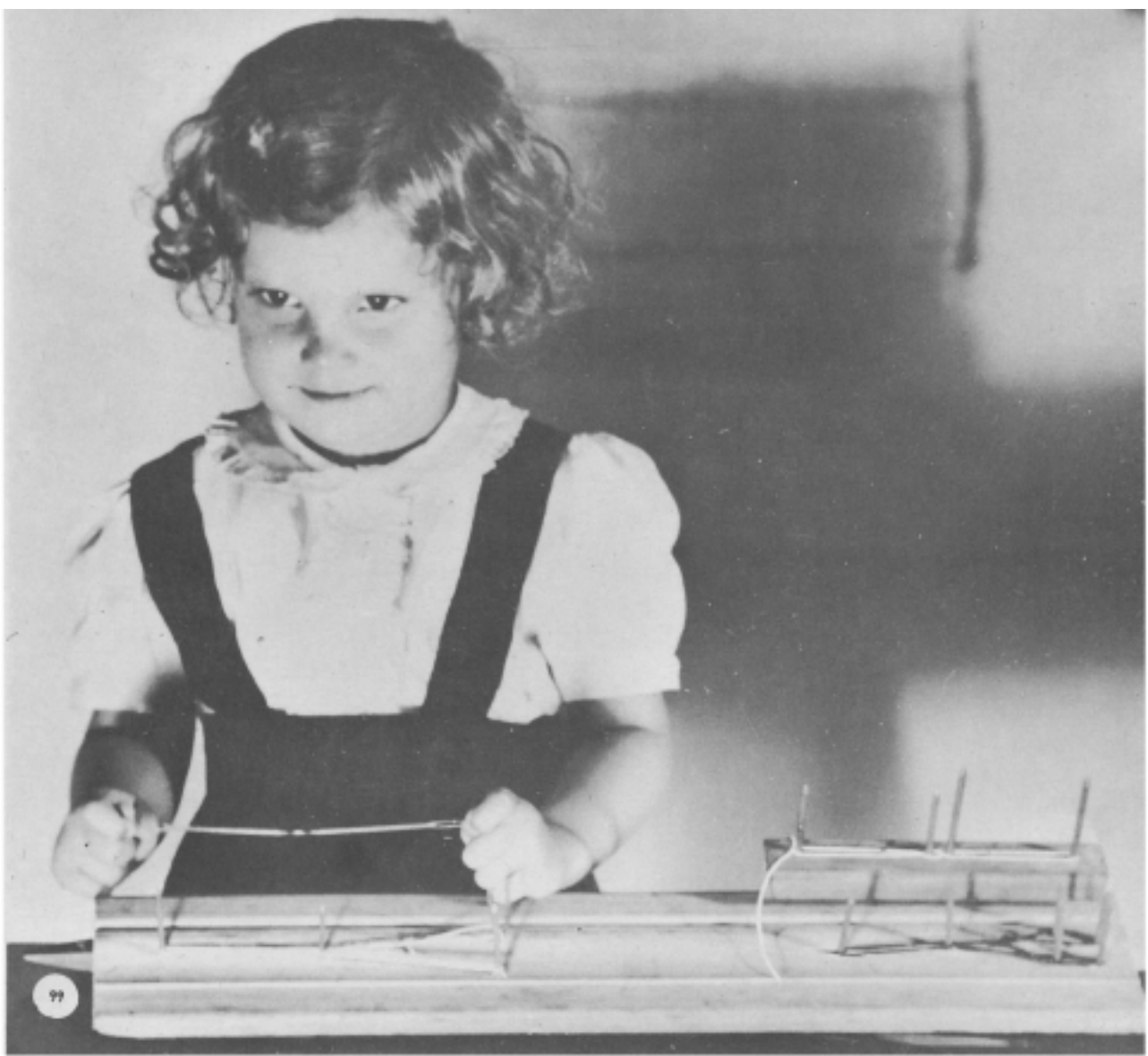
You will need 1/6 as many heddles as you have warp threads plus an extra one for selvage.

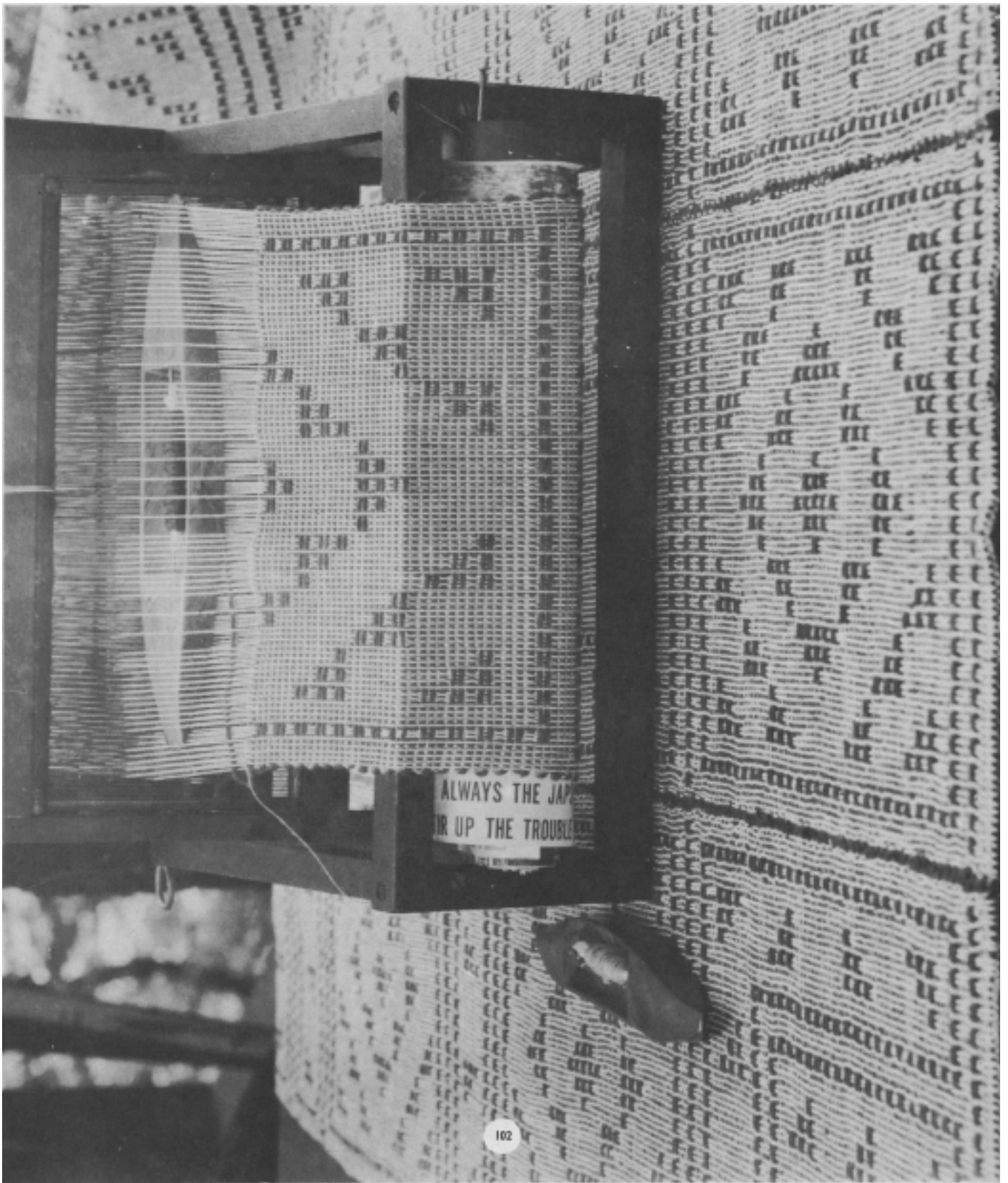
Run the lower part of the heddles on a rod; then thread the upper loops onto a second rod taking care to run the first thread and every third thread on the back harness between the ends of the loops as shown in illustrations 97, 100 and 101.

The third harness is adjusted to turn with the back harness. Then, when design is picked-up the third harness is lifted—illustrations 99, 100. Although this third harness is not as speedy as a pattern threaded into a multiple harness loom, the weaver has the advantage of being able to weave any design which may be drawn off into a block design.



ILL. 97





A strip of refectory cloth is being woven according to the cartoon given in illustration 103. Beneath the loom is a refectory cloth woven from the same design. The warp is 12/4 cotton and the wefts are wine candlewicking for the design and 10/1 natural linen for the tabby.

BEFORE beginning a seamed piece, you may want to weave a set of place mats to make certain that your beat is regular.

Measure each place mat or medallion and if you have the same measurements for each piece of the set, you are ready to start a larger piece.

Your warp can be 10/4, 12/4 cotton or an equivalent size warp. It should have 180 threads, set 15 to the inch.

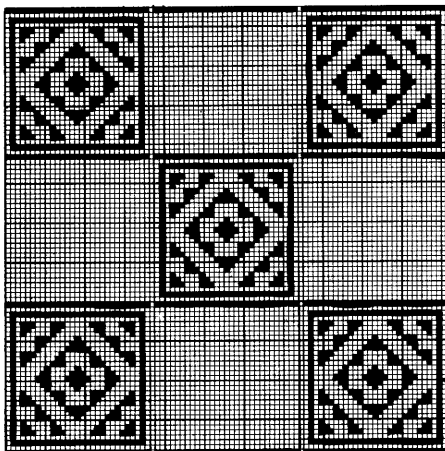
You should start with a new warp of about 11 yards—enough for a test piece, the three strips, plus a margin for error.

The design thread should be as heavy as candlewicking with a tabby about the size of the warp thread.

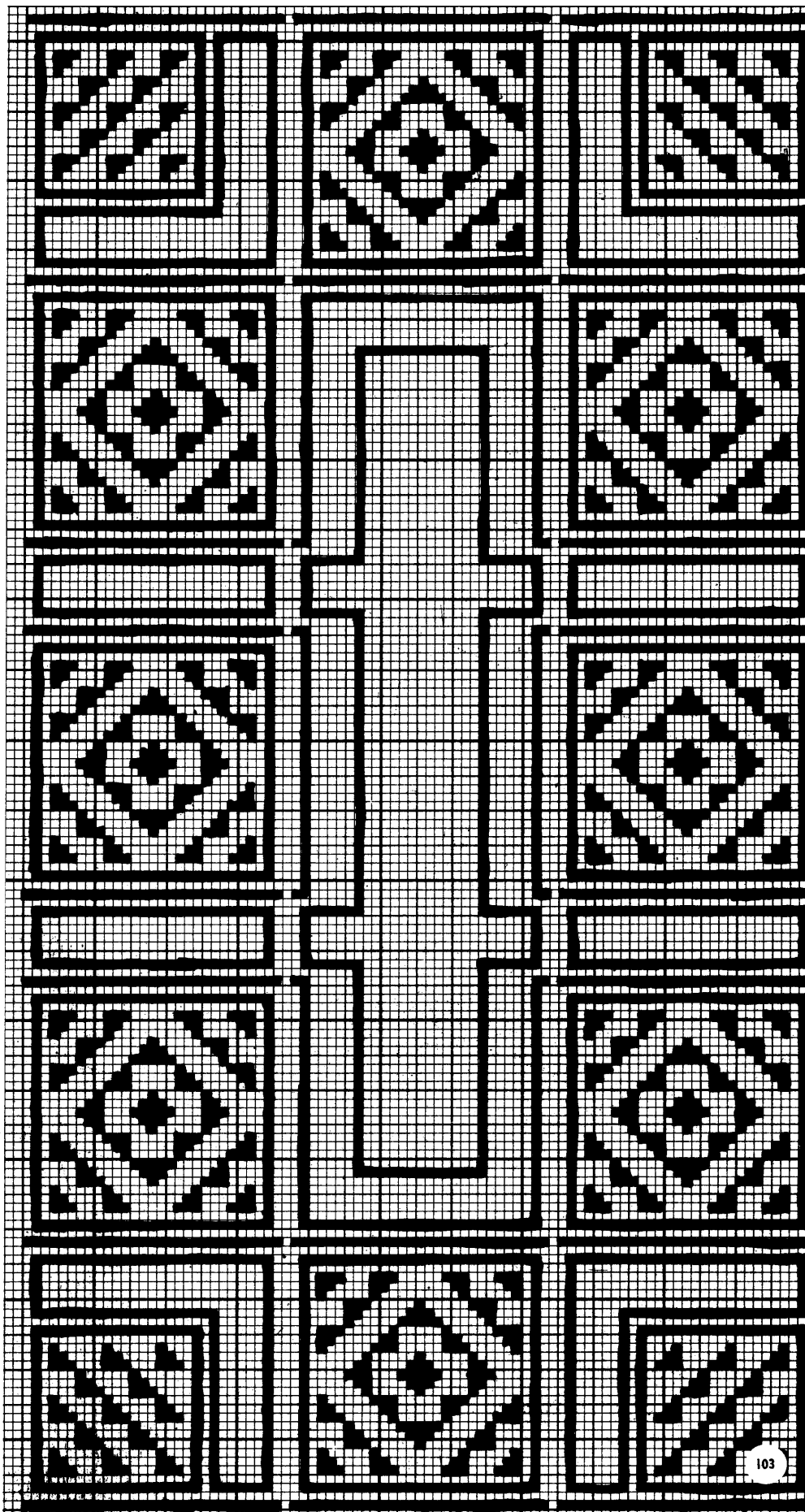
You will need about 600 yards of design thread with slightly more tabby thread.

Personally, I like buying enough so that if an error is made in one strip, an extra strip can be woven. That would mean that you had at least 800 yards of the design thread plus something over 800 yards of tabby.

Each thread should be from the same dye lot as many threads show a difference in fastness of color after several launderings.



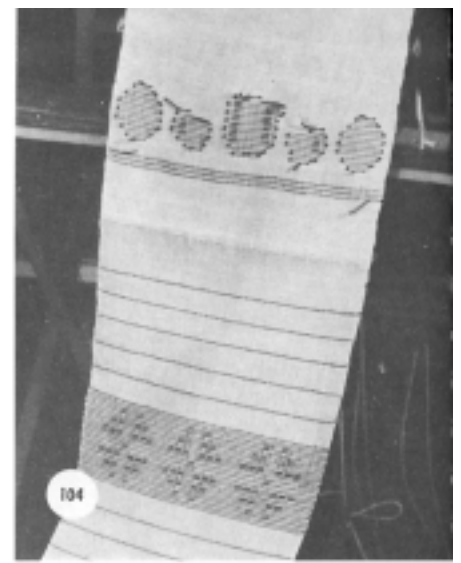
In this form, the design may be used as a small table cloth or a baby blanket woven in three strips.



IT may have been more logical to give all the mechanics needed for weaving in the earlier pages with warping. But then it seems more fun to plunge right into weaving.

However, by this time, your loom probably has a fat cloth beam, you are dying to see the pieces you have already woven, and a half dozen questions concerning mechanics have arisen. So the next few pages will concern themselves with mechanics.

At the *Little Loomhouse*, we seldom waste time and warp by cutting off the cloth at the warp. Instead we wait till two or more pieces have been woven. Then all pieces except the one at the warp are cut off. As in illustrations 104, 105, the weaver has some place mats from illustration 80, a PICKUP bag from illustration 92, and a dish cloth in one-harness tapestry. So the cloth is cut between the bag and the dishcloth. The dishcloth is then pressed tightly against the cloth beam and the material is rewound. The tension, as soon as one round is made, is sufficient to hold the warp tight. However, if you fail to start the cloth evenly, you may find one edge of the warp is looser than the other edge. Such a condition may be corrected by rewinding again.



READ CAREFULLY

You will want to acquire a working knowledge of threads, their yardages and usages. As has been previously stated, a new weaver learns more easily by using simple warps which are easy to handle. As soon as a sureness has been acquired, you will start branching out.

There are very few basic rules to follow. Rather than give long charts, I am listing several of these basic rules. You will soon become familiar with a number of types and will develop a confidence in knowing which yarns to use for warp.

Cottons make an excellent beginners warp. These, on a warp set 15 threads per inch, should have a yardage of 2,000-2,800 yards per pound. So, first, you will want to know the basis of cotton thread.

COTTON IS BASED ON 840 YARDS TO THE POUND OF NUMBER 1 SIZE

A number 2 size will have twice that yardage or 1,680 yards. A number 3 size will have thrice that yardage or 2,520 yards. Most yarns have more than one strand. These are designated as *ply*, *fold*, *twist*, or *cord*. A strand of two or more plys twisted together is stronger, easier to handle, and thus more satisfactory as warp. Hence, 10/4 or 12/4 cotton was selected for the first warp. The 10/4 yardage is determined: size 10 has 8,400 yards to the pound; the four-ply shows the length is divided by four as $\frac{8400}{4}$ or 2,100 yards to the pound.

Likewise the 12/4 yardage: size 12 has 10,080 yards to the pound; the four-ply shows the length is $\frac{10080}{4}$ or 2,520 yards to the pound.

The "embroidery floss" used in your first border is approximately the same size even though it is a six-strand thread. 16/6 is $\frac{13440}{6}$ or 2,240 yards to the pound.

18/6 is $\frac{15120}{6}$ or 2,520 yards to the pound.

20/6 is $\frac{16800}{6}$ or 2,800 yards to the pound.

The above rules also apply for mercerized cottons.

As mixed yarns of different fibers cannot be computed by a chart, you will find it practical to make a note of their yardage per pound and be governed by that yardage. You can usually gage their suitability by ascertaining whether they will fray or break easily. You can combine a heavy yarn with a lighter yarn just so you maintain a good proportion. Towards a good weaving palette, add samples of different yarns with a notation on their yardages.

Linen will be one of your favorite materials.

LINEN IS BASED ON 300 YARDS TO THE POUND OF NUMBER 1 SIZE.

A number 2 size will have twice that amount or 600 yards. For your first linen warps, you will use 15/2, 18/2, or 20/2 linen set 15 or 20 threads to the inch. A 20/2 linen will be $\frac{6000}{2}$ or 3,000 yards to the pound. Later, you will enjoy finer linens set 24 to 30 threads to the inch and will find 40/2, 50/3 and 60/3, with yardages of 4,500 to 7,500 to the pound suitable.

Wool is based on two different counts. BUT MOST OF THE WOOL YOU USE IS BASED ON 560 YARDS TO THE POUND OF NUMBER 1 SIZE. For ties and clothing, you will use 4,000 to 7,500 to the pound set 15 to 30 threads to the inch. Sports wools, usually two- or three-ply yarns, average from 2,000 to 3,200 yards to the pound and are suitable for clothing, afghans, and blankets.

Utility wools in four-ply have 1,000 to 1,600 yards to the pound and are suitable for bags, afghans, and coverlets.

3/2 cotton
1260 yards

5/2 cotton
2100 yards

10/4 cotton
2100 yards

12/4 cotton
2520 yards

16/4 cotton
3280 yards

16/6-2240
18/6-2520
20/6-2800

15/2 linen
2250 yards

18/2 linen
2700 yards

20/2 linen
3000 yards

40/2 linen
6000 yards

50/3 linen
5000 yards

60/3 linen
6000 yards

15/2 wool
4200 yards

12/3 wool
2240 yards

10/4 wool
1400 yards