

Handweaving on Loom Frames

IN FOUR PARTS

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PART TWO

The Kircher Loom

THE Kircher Loom is the second loom in this group, and devotees of the craft of weaving will welcome with great enthusiasm the introduction of this new loom fitted to the needs of beginners and yet so well constructed as to be far removed from the class of a toy.

The Kircher loom is distinguished by its adaptability to the production of a 2- or 3-yard length of fabric and by mechanical features usually found in more expensive looms. The relatively low cost of this useful little apparatus will recommend it to the use of craft teachers in schools and camps, to mature students making their first efforts in weaving with or without a teacher, and to persons who pursue craft work for its beneficial effects.

Many articles of small or medium size, up to 20 x 48 inches for example, can be practically as well made on the Kircher loom as on larger and more complicated ones. A thorough knowledge of two-harness weaving may be gained by the use of this loom without the aid of other equipment; indeed it answers all the purposes of an inexpensive weaving device.

Most small looms hitherto placed on the market are in the form of a frame, with notches at either end to hold the warp ends. With this type of loom the length of the web is limited to the size of the frame. Few such looms have a beater or an arrangement for raising the sheds.

With the Kircher loom it is possible and practical to put on a 2- or 3-yard warp. After the weaver has become thoroughly familiar with the apparatus she may get good results with a longer warp, but it is not advised in the beginning. Another advantage is the reed that raises both sheds and serves for a beater.

The loom is furnished unassembled. It can be set up by following the accompanying directions. If it is for the use of young children the assistance of an adult may be required in connecting the parts, which are only seven in number. Actual operation of the loom is simple enough to be easily mastered by a child of ten years. It will be found absorbing work for adults who wish to make experimental

first steps in weaving before purchasing more expensive equipment.

The entire loom is constructed of hard wood, very sturdy and is smoothly finished, so there is no danger of splinters for little fingers. It has been used extensively in Germany in schools and in home weaving.

To Assemble and Warp the Kircher Loom

The loom consists of four wooden pieces that fit together to form the frame, the wooden reeds, and two metal brackets to hold the reed in place.

The two narrow wooden strips are the sides of the loom, and they are marked 2 and 4 and 1 and 3 on the diagram. The wider pieces, with the wooden "combs" on the edge, are the back and front of the loom. They are marked 4 and 3 and 2 and 1 on the diagram. The sides and end pieces of the loom are plainly marked with the same numbers that appear on the diagram as an aid to assembling the frame.

First slip one metal bracket on the side piece marked 2-4, and slip it down to the first hole near the end marked "4." When the hole in the side of the loom and the metal bracket coincide, slip the metal pin through to hold it in place. Do the same with the other side, and secure the bracket in place at the first hole near the "3" end of the second side. Now take the end piece marked 4-3 and turn down the little wooden block screwed to the extreme lower left end; slip the end of the side piece marked "4" in the slot of the end piece marked "4." Now turn the block back in place. This will keep the side pieces from being jarred out. Slip aside the block on the right side of the end piece and place the end of the side piece marked "3" in the slot, and turn the block in place.

To Warp the Kircher Loom

The loom at this point is partially assembled. The two side pieces with metal brackets attached are fastened to the end piece marked 4-3. This is actually the front of the loom.

The warp is now made and wound on the back end piece marked 2-1, and the warp threads are threaded through the reed before 2-1 is joined to the rest of the loom.

Linen Weaver makes an excellent warp for experimental purposes, as it is stronger than cotton and not so elastic as wool. One tube of Linen Weaver is required to make a 12-inch warp, 2 yards long.

It is advisable not to start with too wide a warp, as quite a little experience is necessary before a wide warp can be wound on the loom at an even tension; 12 inches is a very convenient size for table mats, bags, scarfs and other small articles.

loop at either end. As our loom measures 20 inches and our warp only 12 inches, we must start fastening the ends of the warp to the back of the loom 4 inches from the right end marked "1." Divide the 12 threads into three groups of 4 threads each. Fasten the first group of 4 threads around one of the little pegs that are set close together across the top edge of the back of the loom. The threads are fastened by pulling 2 of the threads to the right of the peg and 2 threads to the left and tying in a



Illustration No. 1
Kircher Loom

Our 12-inch warp is made in 10 sections of 12 threads. Each section is wound by itself, and no "cross" or "lease" is necessary.

The warp may be conveniently made by winding a single thread around two pegs placed 2 yards apart, or around the backs of two chairs placed back to back, but not too close together, so that an approximate 2-yard length will result.

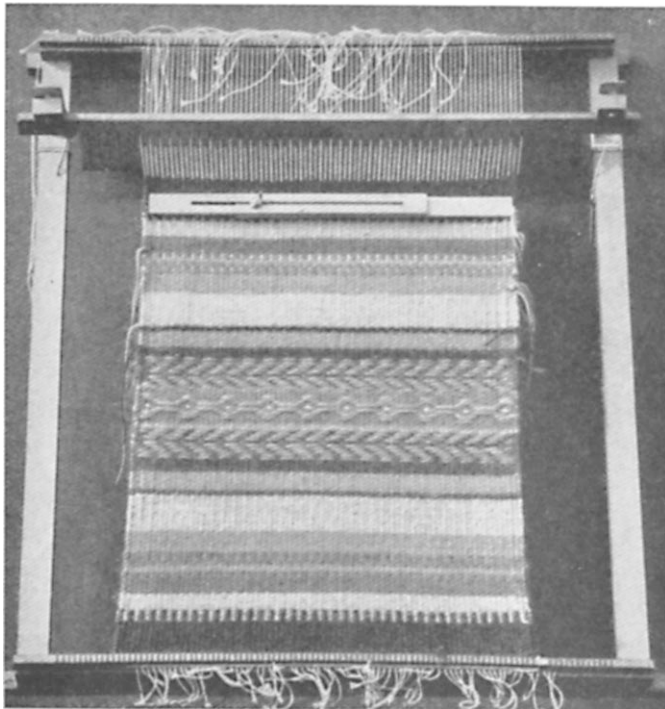
After a little experience some time will be saved by using more than one thread to wind the warp, but this would necessitate a spool rack, and it is a little more confusing than using the single thread.

Wind the first section of 12 threads and cut the

secure knot. Now push the threads down as far as possible with a nail file, or some other pointed instrument, so that it will not slip off the peg.

Take the next group of 4 threads and fasten around the next peg in the same manner. Then go through the same process with the last group of 4 threads in the first section of warp. We now have 12 threads in groups of 4 threads fastened securely around three of the pegs across the back of the loom.

The next step is to thread this section of 12 threads through the reed. It will be noted that this reed is formed by narrow strips of wood set in a wooden frame. There is a small round hole bored



*Illustration No. 2
Another View of the Kircher Loom with Jalrie in Process*

in the center of each strip and a slit between every two strips.

The warp threads must be threaded first through a hole, then a slit, a hole and then a slit. The threads are pulled through by aid of a small wire hook.

Begin to thread the reed by starting 4 inches from the right end, making sure that the long end of the frame marked 7-8 on the diagram will come at the top of the loom.

Pull the first thread of the first group through a hole 4 inches in from the end of the reed, the second thread through the slit next to this hole, the next thread through the next hole, and the next thread through the slit. Continue in this way, alternating with the holes and the slits until the group of 12 threads are pulled through the reed.

Now pull the entire length of this group through the reed so that all the 12 threads are running in a straight line from the back through the reed. Secure this group with a slip knot.

Now wind another section of warp (group of 12 threads), fasten to the back and draw through the reed as before. Continue this until the 10 sections are fastened to the back and drawn through the reed.

Now untie the slip knots and, with the right hand, gather all 10 sections of the warp and pull firmly and evenly, so that all the threads are the same tension. Now hold the warp with the left

hand and comb the threads with the fingers and straighten out all snarls. Make sure all threads have been pulled through evenly. Now with the right hand wrap the warp around 2-1 (the end section) evenly by turning the entire end piece around and around. The first turn must be away from the weaver so that when the winding is completed, the threads will run from the top of the end section 2-1. (See Diagram 5.) It is important that the warp threads be wound on evenly and not in humps or mounds.

Wind until there is just enough warp to stretch across the frame and tie easily in the front. Now join 2-1 to the balance of the loom, and secure in place with the blocks. Place the long ends of the reed 7-8 on the metal brackets. Now tie the threads to the pegs in the front section in the same way as they were fastened to the back section, keeping in mind that in weaving all threads must go in a straight line from the back of the loom, through the reed, and fasten to the front beam.

Now start in the center of the warp and take the center group of threads, pull as tightly and evenly as possible, and tie in a secure knot around the peg, that is in a straight line with this group of threads. Take the next group of threads to the right, pull evenly and tightly, and tie to a peg in a straight line. It does not matter if some of the pegs are skipped over. The important part is to have the threads come to the front beam in a straight line. Now take the group of threads to the left of the center group and tie in a straight line to the front beam. Repeat until the entire warp is tied up and all the threads are taut and even. The loom is now ready for weaving.

The weaver should sit in a comfortably low, straight chair. The loom is held on the lap with the end 4-3 towards the weaver. The opposite end (2-1) is rested against a table at an angle where the reed may be comfortably reached for changing the sheds.

Weaving

The first or "A" shed (as the space for the shuttle to go through is called) is made by placing the reed on the wooden blocks of the metal brackets. It will be noted that half the warp threads (the threads through the round holes in the reed) are raised, forming an opening for the shuttle to go through. The second or the "B" shed is made by lifting the reed down from the metal brackets and depressing it. This raises the threads that were depressed in the "A" shed and depresses the threads that were raised in the other shed.

"Tabby" or Plain Weave

Put the loom in "A" shed by placing reed on the brackets. Wind a shuttle with a length of yarn, and put the shuttle through the shed from the right side to the left. The end is fastened by catching it around the end warp thread and drawing it up under about 3 warp threads. (See Diagram 3.) Now form the "B" shed by depressing the reed and putting the shuttle through from the left side to the right. Bring the reed down firmly to free the two rows close together. Put the loom in "A" shed again, and put the shuttle through from the right side to the left side. Press in place with the reed. Put the loom in the "B" shed, and continue in this manner. It is important to form the habit of making good, even selvages from the beginning. There should not be long loops left on the edges, but a worse and more common fault is to draw in the edges, thereby narrowing the warp. It is a good plan when putting the shuttle through the shed not to draw the thread in a straight line, but to leave it on a slant in the shed.

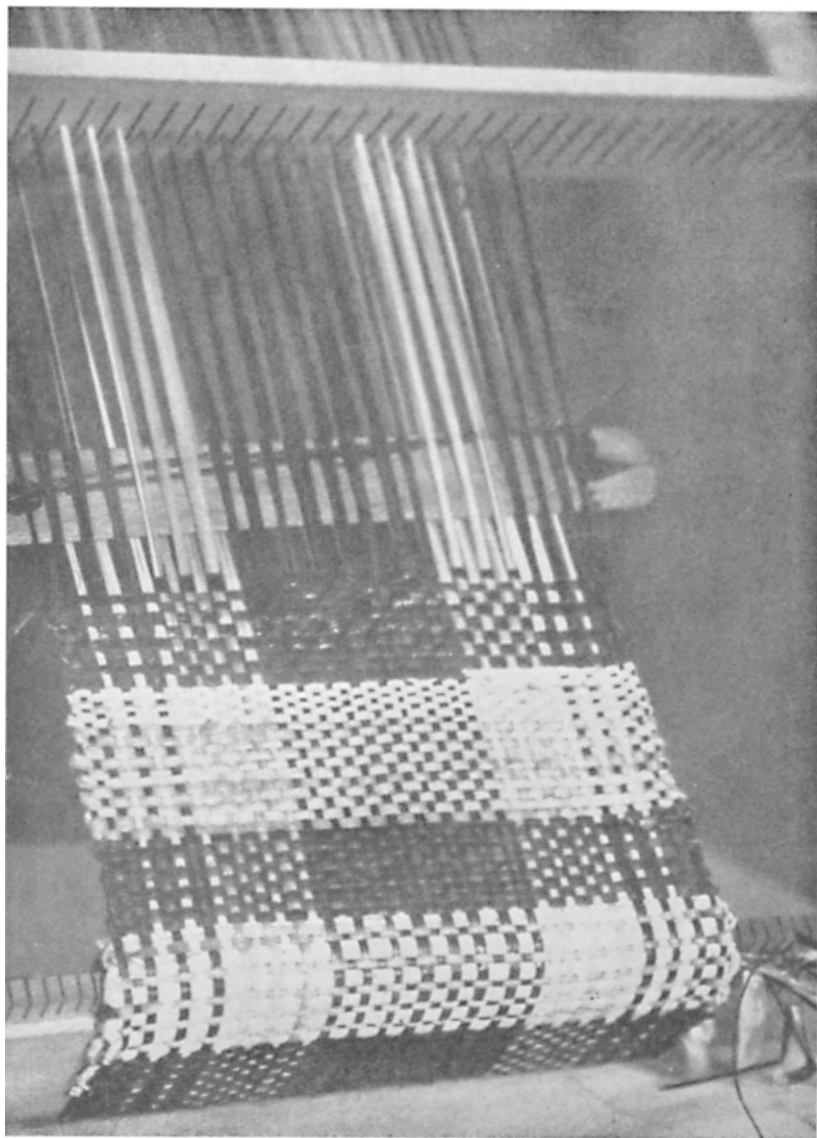
As the loom is warped with linen weaver, a luncheon set will be an excellent first project. For example, suppose we wish to weave a luncheon set consisting of six place mats and possibly a runner. The mats are woven first and then the loom is re-warped for the runner.

Make the first or "A" shed by placing the reed on the metal brackets. In the space thus formed, place a flat thin stick or a strip of cardboard 1 inch wide. Remove the reed from the brackets, and with it push the stick tightly against the front of the loom. Make the second or "B" shed by depressing the reed, and put in a second stick of wood or strip of cardboard and press it firmly against the first with the reed. These two sticks serve the purpose of bringing the warp end closely together and making a firm foundation to beat against.

Now make the "A" shed and put a shuttle wound with

linen floss through the opening from right to left and secure by going around the end thread and bringing the end up under 4 or 5 warp threads. Now lift the reed down from the brackets, bring it forward and beat the first row of linen firmly against the two strips. Next make the "B" shed, and put the shuttle through from left to right and beat in place.

Practice this until the motion of changing the shed, putting the shuttle through, beating in place, change, putting the shuttle through and beat has become thoroughly familiar. Care must be taken not to put two weft threads in the same shed, as an ugly streak will result. When about 2 inches of the tabby or plain weave has been accomplished, the border across the ends of the mat may be commenced.



*Illustration No. 3
Carrying the shuttle through shed in Kircher Loom*

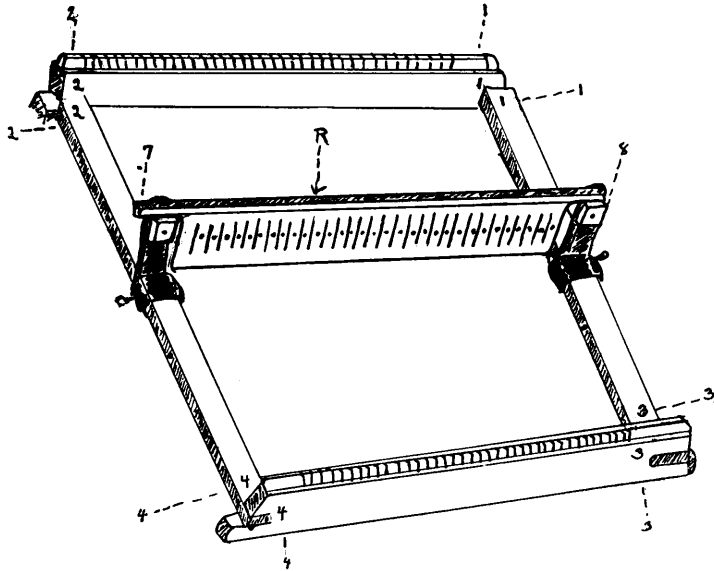


Diagram 4

Take a second shuttle and wind on it several yards of a contrasting color of linen floss. Green was used for the mat in the illustration.

End the white or ground color on the "B" shed, but do not detach it from the loom. Put the loom in the "A" shed, pass the green shuttle through the shed from right to left, and fasten the end around the last warp thread as before. Put the loom in the "B" shed, bring the white shuttle around the green thread and put it through the shed. (See Diagram 4.) Make the "A" shed and put the green shuttle through the shed. Make "B" shed and, after bringing the white shuttle around the green thread, put it through the shed to the left side. Make "A" shed and put the green thread through. Make "B" shed and, after bringing the green thread around the white thread, pass it through again to the right side. Make "A" shed and put in another row of green. (This makes 3 rows of green.) Make "B" shed and put the white shuttle through, going around the green thread. Make "A" shed and put in another row of green. Make "B" shed and put in a row of white. Make the "A" shed and put in another row of white. Make the "B" shed and put in a row of white. This makes 3 rows of white.

We now have a striped border consisting of 2 inches of white tabby weave for the beginning, 1 row of green, 1 row of white, 1 row of green, 1 row of white, 3 rows of green, 1 row of white, 1 row of green and 3 rows of white.

It will be noted, in putting in the stripes, that when the two shuttles are on the same side of the loom, the one that is then being

put through the shed must be brought around the other shed thread and then be put through the shed. This will insure a good selvage.

Now that we have our stripes we will add a center pattern. This little design is formed by alternating the green and white shuttles in the following manner:

- "A" Shed — Green
- "B" " — White
- "A" " — Green
- "B" " — White
- "A" " — Green
- "B" " — Green
- "A" " — White
- "B" " — Green
- "A" " — White
- "B" " — White

Repeat 3 times.

Finish the border by duplicating the stripes in the reverse order.

- "A" Shed — Green
- "B" " — White
- "A" " — Green
- "B" " — Green
- "A" " — Green
- "B" Shed — White
- "A" " — Green
- "B" " — White
- "A" " — Green

Many small all-over patterns and borders may be devised by varying the alternation of two contrasting colors. The two threads must be of the same weight and a decided contrast in color, or the effect will be blurred.

When the weaving approaches the reed so closely that it is difficult to get the shuttle through the shed, remove the metal pins from the brackets and push them down to the second hole. This will give more space. When this is also woven up the

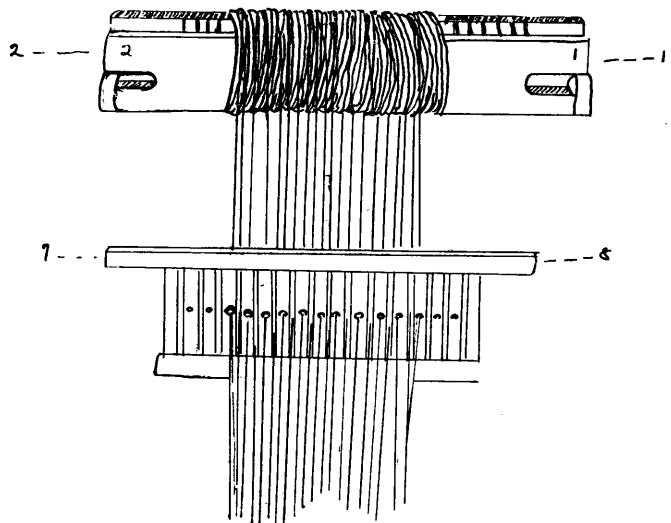


Diagram 5

Warp wound 2-1 and threaded through 7-8

brackets may be moved to the third and last hole.

After this space is woven up it is necessary to release the warp wound on the back beam and wind a portion of the woven material on the front of the loom.

First remove the reed from the brackets and allow it to hang loosely. Then push aside the two wooden blocks at either end of back beam (2-1), and pull the entire section out of the loom. Now unwind two turns of the warp and replace this section in the loom, taking care to match up the "2" with the "2" of the side piece 2-4 and the "1" with the "1" of the side piece 1-3.

Now push aside the two blocks on 4-3, and remove this section from the loom. Now wind the woven cloth carefully around the front beam in the same manner that the warp was wound around the back beam. Replace the front section 4-3 in the loom and put the brackets back in their original position, and put the reed in place. The loom is now ready to continue the weaving of a continuous length of fabric.

Errors

When the regular alternation of over and under, over and under of the tabby weave is interrupted by a vertical streak formed by two warp threads coming together, the trouble is the result of a mistake in threading the reed. An investigation will show that there are either two threads through two holes (without a thread through the adjoining slit), or there are two threads through two slits (without a thread through the hole between them). There is no remedy other than to rethread by starting where the mistake occurs and rethreading to the nearest end.

When there is a horizontal streak in the weaving this is caused by two weft threads going over in the same shed. To correct this it is necessary to "unweave" until the mistake is reached.

The Kircher looms come in three sizes, varying from 14 inches to 30 inches in width, and these looms can take about eight warp threads to the inch. They are suitable for school and hospital work, as well as for the individual.

A Traveling Exhibit of Hand Weaving

OF INTEREST to the weaver are the unusual exhibits of hand weaving that Mrs. Nellie S. Johnson of Detroit is rotating amongst subscribers. Though these exhibits are planned primarily for the bag weaver, craftsmen will find them valuable design and color harmony sources as well as a fund of suggestion.

The exhibits are comprehensive, as they contain finished bags, specimens of unusual weaves, drafts, treadling directions, and an assortment of bag tops. In the weavings Mrs. Johnson has included examples of her work as well as pieces of exceptional merit from other hand weavers.

Any craftsman strengthens her creative background by a study of the work of others; though one does not copy, the design structure and color combinations effected by ca-

pable workers helps in developing one's own. Also there is always the chance to secure ideas on texture structure through clever yarn combinations. As Mrs. Johnson is a weaver with a flair for the original, and has also been making a specialty of fine bag fabrics, the results of her experimenting are bound to be of value to weavers. To make the exhibits of practical value she has been explicit in directions on the fabrics included, giving information on yarns used and set-up of warp, as well as the pattern explanation. At all times revisions are being made

to bring the exhibits abreast with fashions and to show new weaves that are unusually good.

Craftsmen in isolated sections will find the exhibits valuable in their work, as it brings to their studios up-to-date examples of textures that can only be seen as a rule in the large cities.

