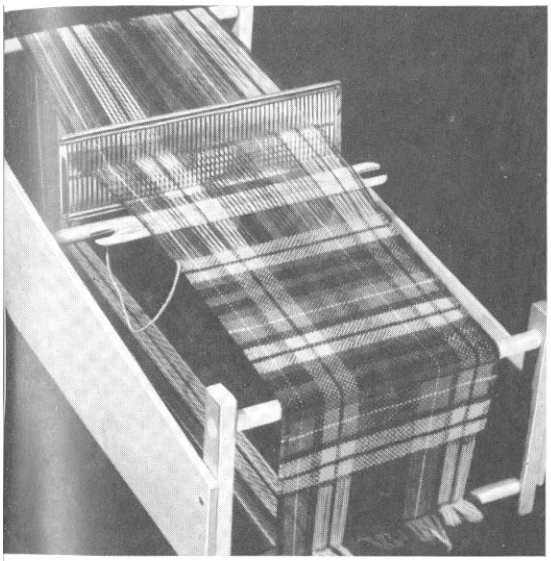
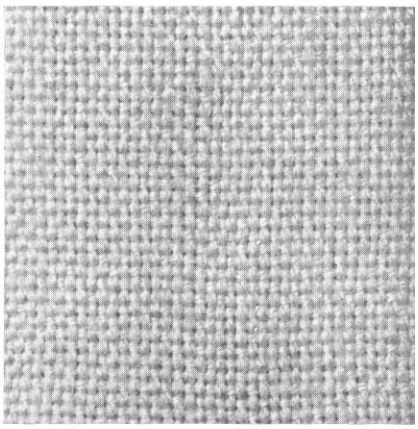
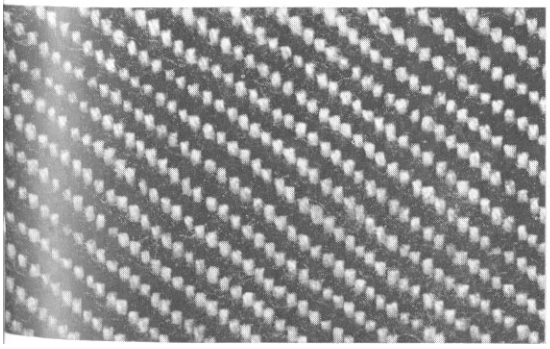
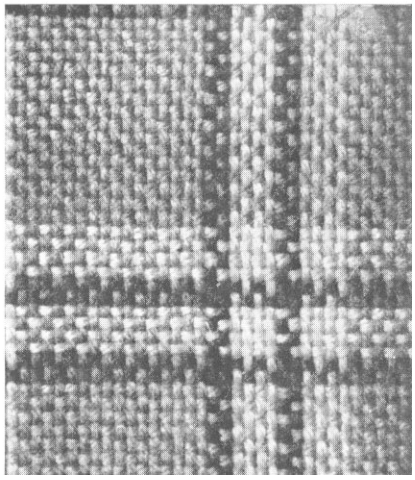
DRYAD LEAFLET No. 91

HAND-WEAVING
ON TWO-WAY LOOMS









DRYAD HANDICRAFTS
LEICESTER

HAND-WEAVING

ON TWO-WAY LOOMS

THE fine old craft of hand-weaving will hold its place, even in an increasingly mechanical age, as long as there exists appreciation of individuality as opposed to mass-production.

The different types of loom available are apt to confuse the would-be weaver. Broadly speaking, these can be divided into two categories, two-way looms and four-way looms. This leaflet deals with the first type.

The Weaving Process

The first job in weaving on any loom is to mount the threads running lengthways (known as the warp); on their way across a two-way loom, these warp threads pass through alternate holes and spaces in what is known as a heddle (marked A in the photograph on page 5). The holes and spaces are so arranged that when you pull the heddle up the threads passed through the holes come up with it, leaving the threads passed through the spaces, so that the warp becomes separated into two layers between which the shuttle bearing the widthways (or weft) threads can pass. This separating of the warp threads is known as "making a shed." By pushing the heddle down, the threads passed through the holes are taken down with it, making a second shed, hence the name "two-way loom."

Plain or "Tabby" Weave

It will be seen that the standard weave produced on a two-way loom by simply passing the shuttle first through the shed produced by raising the heddle, then through the shed produced by lowering it will be a one-and-one pattern—i.e. the weft thread passing over one warp thread, under one warp thread, right across. This is known as plain weaving, or sometimes as "tabby" weave. You see it illustrated to the right of the loom on the cover.

These attractive table mats are of white coarse mercerised cotton bordered with blue, and you can copy them on the simple braid loom

Patterns in Colour

It is obviously a simple matter to produce lengthways stripes in "tabby" pattern by introducing contrasting threads into the warp, or widthways stripes by using contrasting threads for portions of the weft. By combining both methods, an inexhaustible variety of checks and plaids can be evolved.

Patterns in the Weave

There are texture possibilities even in the ordinary tabby weave. You can, for instance, thread your warp so that at intervals you get two threads passing through a single space in the heddle ; this produces a thicker line running down the length of the fabric. Combine this with the taking of two weft strands through one shed at similar intervals, and you get your weave marked into

squares by thickened lines. Further experiments in texture can be made by combining different threads in the weft; i.e., with a warp of very fine wool you might alternate the same fine wool with a thicker one for the weft. The introduction of strips of rag or irregularly spun yarns offers possibilities too.

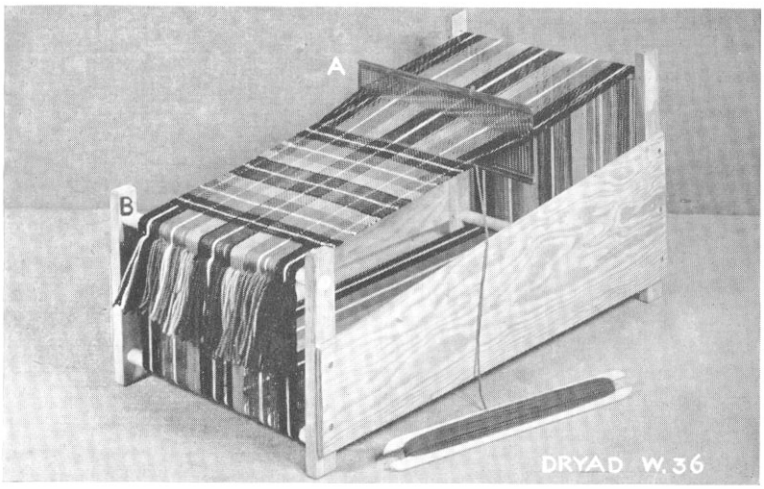
Picked-out Patterns

If any more elaborate pattern is required in the weave, it cannot be produced on a two-way loom by use of the heddle, but must be picked out on each row. The best way to do this is to use a ruler to pick up the strands required and then turn it on edge to raise the strands you have picked out to form a shed. In this manner you can produce some extremely attractive patterns, and though it would obviously be a tedious business to weave a whole length of fabric in a pattern requiring to be picked out thus for each row, effective use can be made of narrow bands of such patterns with the main part of the fabric in the quickly worked tabby weave. The twill pattern shown on the front page of this leaflet was picked out on a two-way loom; the light thread was used for the warp, the dark thread for the weft, and the picking up for the weft took up two and left two right across, every row moving one "step" along.

Suitable Yarns

Beginners will find wool much easier to handle than cotton or silk. 3-ply is the right thickness for the warp on all the looms described in this leaflet; the weft can be 3-ply also or slightly thicker (it is rarely advisable for the weft to be thinner than the warp). These all-wool fabrics are suitable in narrow widths for ties and braids, or wider for scarves or to join up into blouses, coverlets, etc.

Attractive table mats, cushions, etc., can be made with mercerised cotton for both warp and weft (W194 is a suitable thickness, or W94 used double). Combinations of wool and cotton can also be effective and interesting use can be made of thick yarns in the weft, always with a plain warp (*cf.* the cushion on page 14, where strips of rag are introduced).



HOW TO USE A SIMPLE BRAID LOOM, W36

THE simple little loom illustrated above is supplied to weave widths 3½″ or 9″. The warp threads are wound straight on to the loom, being taken right round it so that the maximum length that can be woven is about 46″ (the measurement all round the loom minus a few inches for beginning and end). The scarf on page 6 was woven on a loom of this type.

The loom comes to you packed flat, and a glance at the illustration will show you how to assemble it, using the screws supplied to fasten together the sections, which have holes already bored. To make sure you get it right, the sloped sides are numbered and the end pieces are numbered to correspond.

Having assembled your loom place the heddle A inside it, thread a piece of string through each outside hole, pass round the loom and tie securely. The string is removed when the time comes to thread wool through these two holes. You will see that in threading through the heddle you can pass through either a space or a hole. Begin with the centre warp thread. Starting from rod B, take it all round the loom, passing en route through the centre hole in the heddle (a fine hook to help in threading through the heddle is provided with the loom). Tie the ends of the thread firmly at rod B, making the thread quite taut. Add a strand each side of the first, passing through the spaces at each side of the centre hole in the heddle. Continue adding threads at each side thus, passing them alternately through holes and spaces, till you have the width required (it is necessary to allow a little extra width for shrinkage; the amount varies with the individual worker, but say ½″ on a 9″ width). See that you end at each side through a hole in the heddle rather than a space, and thread either the edge hole and space or just the edge hole double to give a good selvedge.

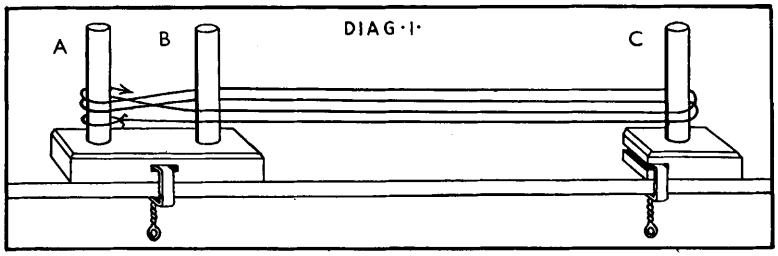
The Actual Weaving

First wind the weft thread evenly on to a shuttle (if you are using more than one colour you will need a shuttle for each). Lift the heddle to form the first shed and place in this shed a flat strip of wood (a warp stick is obtainable for this purpose, but is not supplied with this particular loom ; a ruler does very well instead). Depress the heddle with the left hand to change the shed. Pass your ready-wound shuttle through this shed with the right hand and leave about an inch of the weft free of the warp ; twist this weft end round the end warp strand and lay it along inside the shed. Bring the heddle forward and use it to press the first weft strand into position (this action is generally known as "beating"). Take back the heddle to its previous position and raise it to form the next shed, using the right hand ; pass the shuttle through with the left hand, and beat with the heddle as before. Continue thus, alternately raising and depressing the heddle and passing the shuttle to and fro to form the weft. Be careful to keep the width of the fabric uniform and the edges even ; the tendency of the beginner is to get the weft too tight, and so draw in the edges, but a little practice corrects this.

As the weaving progresses and nears the second rod, the fabric must be moved round the loom. To do this, take hold of the warp strands firmly and pull round towards rod B. Repeat this from time to time as required. If during weaving the warp strands seem to stretch and become loose, they can be tightened by inserting a flat piece of wood, such as a ruler, between them and the uprights of the taller end of the loom.

If a warp strand should break, tie a new length to the broken strand as far as possible to the back of the loom ; thread this new strand through the heddle, pull it to the same tension as the rest of the warp and secure to the fabric by inserting a pin and winding it round.

White 3-ply wool is used for this scarf, with royal blue for the simple border. The ends are knotted and trimmed into a fringe



Continue weaving as before. When the length of fabric is taken from the loom, darn in the ends neatly.

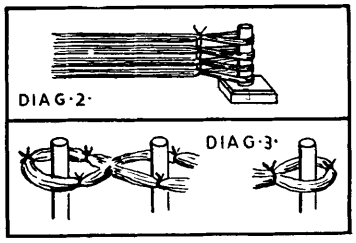
When the weaving is finished remove from the loom by cutting across the warp through the knots. Finish off the ends by oversewing or hem-stitching. (You may find this easier to do before removing the weaving from the loom.)

MAKING A WARP FOR A ROLLER LOOM

TO prepare a warp it is necessary to make use of apparatus on which to wind the wool; choice can be made between the following :— a warping frame, which is, in effect, a board made to hang upon the wall; or warping posts which are pegs made to clamp on to any convenient edge such as a desk or table might provide (these posts being supplied either singly or in pairs). The directions for warping which follow have reference to the use of warping posts, one single and one double, this being a convenient and inexpensive arrangement for preparing a warp of moderate length such as would be required for the roller looms dealt with in this leaflet. The diagram above illustrates this set of warping posts with the warping process just begun.

How to start the Warping

First decide on the length of material required; add to this 9″ for wastage in tying on, and 3″ in every yard for shrinkage in weaving. This gives you the length for the warp. Fix your warping posts to a table, the full length of the warp apart, placing the double one on the left (see diagram 1). Wind the thread you are using for the warp into balls and put into a receptacle such as a jam jar so that the thread unwinds freely. Now count up on the heddle the number of holes and spaces required to give the width you want, remembering to allow for shrinkage (about ½″ on widths up to 9″ and proportionately more on wider fabrics). Remember also to end at a hole each side. Add two extra to allow for doubling the edge strand each side for selvedges, or four extra to allow for doubling the two edge strands.



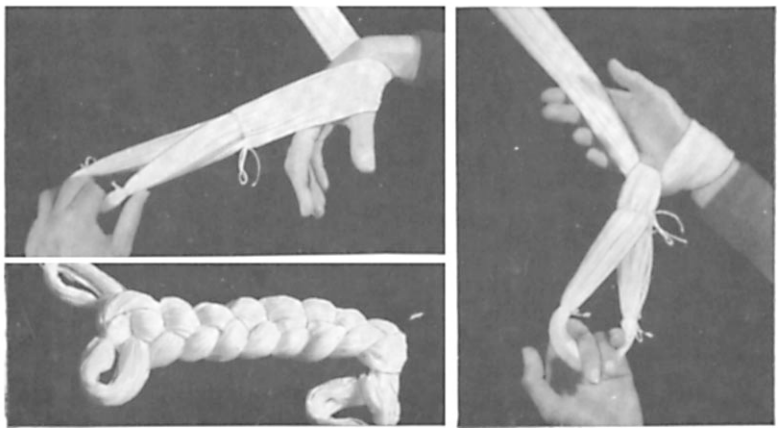
Double-thread Warping

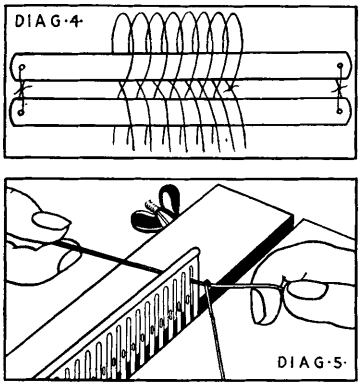
Beginners will find it easier to warp with a single thread, and the instructions that follow apply to this, but when a little experience has been gained, warping may be done double, taking the thread simultaneously from two balls. As the number of threads required for a warp is always odd, however, it is necessary to finish double-warping with a half-round done with a single strand leaving the other strand tied to the extreme end.

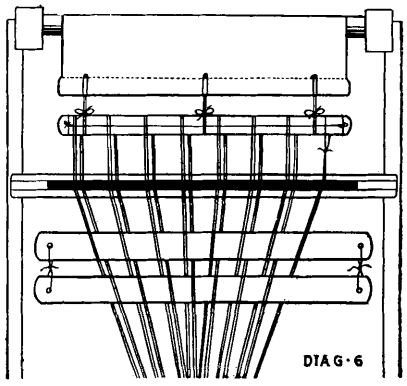
Start by tying a loop and slipping it over the left-hand peg of the set of two (A in diagram 1). Take the thread in front of the adjacent peg (B) and along to the single peg (C), passing in front of this and round it back to the double pegs ; pass behind B, then bring to the front between B and A and take in front of A and round it. Repeat this process. It will be seen that the threads always cross between the double posts A and B. It is important to press the threads down well at the posts each end. If a join has to be made, arrange for it to come at the end by the single post, as this simplifies the threading of the heddle later.

To keep easy count of the threads during the warping process, tie them into groups of say twenty, on the inside of the single post C, using one long piece of string to secure them all (diagram 2).

Before taking off the warp, the cross in the strands between A and B must be secured by tying the warp at each side of it *i.e.*, in four places, as seen in diagram 3. Tie the warp also at each end (outside post A and both sides of post C).







Chaining the Warp

The final job in preparing the warp is to make it into a chain, for convenience in handling. This is done just like a crochet chain, using your right hand as a crochet hook. Slip the end of the warp off the single post and grasp it with your left hand, twist the warp round the right hand, grasp with the same hand the portion of warp just above and draw through the loop on the wrist; repeat this till the whole of the warp is taken into the chain.

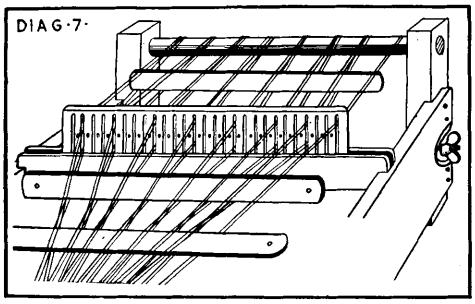
MOUNTING THE WARP

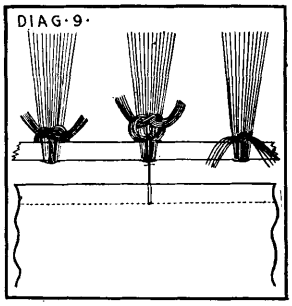
ACCESSORIES needed for this process are as follows:—two shed sticks (like rulers with a hole each end); a heddle rest, or a heddle holder (an appliance, not supplied with the loom, which clamps the heddle into a slot, holding it rigidly upright); a threading hook; a number of warp sticks (like narrow shed sticks, minus the holes).

First of all, slip a shed stick through the warp each side of the cross, and join the two sticks together with a string taken through the holes each end, allowing them to be about $\frac{1}{2}''$ apart (see diagram 4). Cut the ties at each side of the cross, this being held now by the shed sticks, and cut also the string which is holding the loops beyond the cross; these loops are now to be threaded through the heddle from front to back (see diagram 5) and held in position by slipping a warp stick through them on the other side. Use the hook supplied with the loom for threading, and put two loops through every alternate space (this is only a temporary threading to distribute the warp evenly across the width in readiness for winding on to the back roller). When complete, arrange the loops evenly across the warp stick which is holding them beyond the heddle, and to obviate the risk of their slipping off this warp stick, tie a piece of string to the stick at one end, take the string to the other end and tie there also.

Now this warp stick has to be attached to the calico on the back roller of the loom ; you will find holes for the purpose provided in the calico. Double a piece of string, pass the loop through the hole in the calico and the ends through the loop, and pull tight ; take the two ends together over and round the warp stick, divide them, bringing up one each side of the double strand leading to the calico, and tie on top, allowing a space of about ½" between the stick and the calico (see diagram 6). Loosen the thumb-screw and proceed to wind the warp on to the back roller, getting someone to hold the chained end of the warp taut while you wind. It is essential that all threads should be kept at the same tension during this process, and the fingers should be used as a comb frequently, combing any tangles towards the ends of the warp and away from the loom. (The chain will undo itself automatically as required.) Warp sticks must be used to keep the layers separate ; put the first one in after the first round has gone on, placing it along the roller so that it covers the knots attaching the warp to the calico; insert a further warp stick for every complete round. Wind till the warp will rather more than reach the front roller, then tighten the thumb-screw of the back one.

Now the cross in the warp has to be transferred to the back of the heddle. Holding the free end of the warp taut, turn the shed stick nearest the heddle on its edge. This will split the warp threads into two layers, with a space between, and this space will extend to the back of the heddle. Take a temporary stick similar in size to a shed stick, slip it along the space *behind* the heddle and turn it on edge (see diagram 7). Cut the ties holding the two shed sticks together,


DIAG·7·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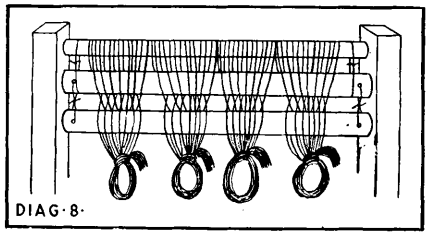
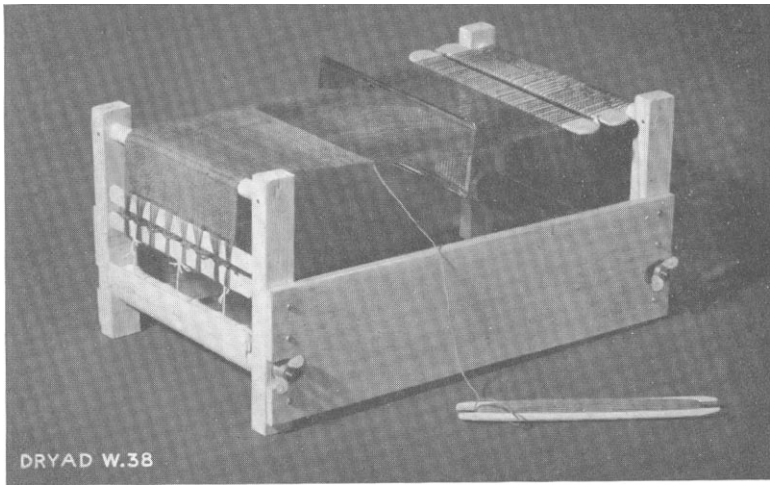

DIAG·8·

Mounting the warp will be found quite an easy job if you follow the directions with an eye to the diagrams above and on page 9.

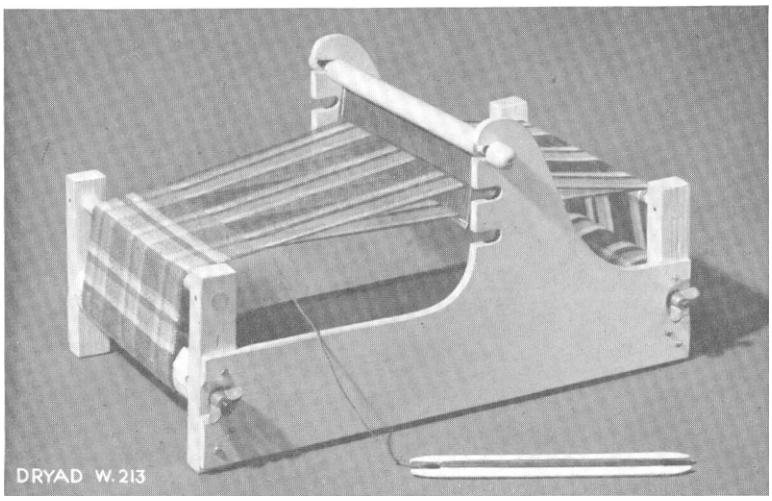


remove the one nearest the heddle and replace it alongside the temporary stick, which can then be taken away. Repeat this process with the second shed stick—i.e. turn it on edge, slip the temporary stick along the space thus formed *behind* the heddle, remove the shed stick and place beside the temporary stick and finally take out the temporary stick. The cross will now be behind the heddle; tie the two shed sticks together as they were before.

Now cut the ties securing the free end of the warp and cut the loops. Slip the threads from the heddle and tie in bunches (see diagram 8) to keep the shed sticks in position while you are threading the heddle. Thread the heddle, through holes and spaces alternately, not forgetting that when you made your warp you allowed for double threading of the edge hole, or the edge hole and space each side. Tie your remaining warp stick to the calico on the front roller, using the same method of tying as you did in securing the other warp stick to the back roller, and fasten off your warp strands as seen in diagram 9—i.e. divide the strands into groups of approximately twelve, pass each group over the warp stick, divide in half and cross underneath, bring up one half on the left, and one on the right and tie on top in a single knot; test the tension of the warp with the hand and regulate any loose threads, then finish off the knot holding each group of threads, and tighten the warp in readiness for weaving by loosening the thumb-screw of the front roller, turning it a little as required and then tightening the screw again.

A SIMPLE ROLLER LOOM, W.38

THIS useful little loom is supplied in widths 9″, 15″, and 20″. It comes to you packed flat, with the pieces numbered for assembling.



Included with it are a Metlyx heddle, a hook for threading, 2 shed sticks, 12 warp sticks and 2 shuttles.

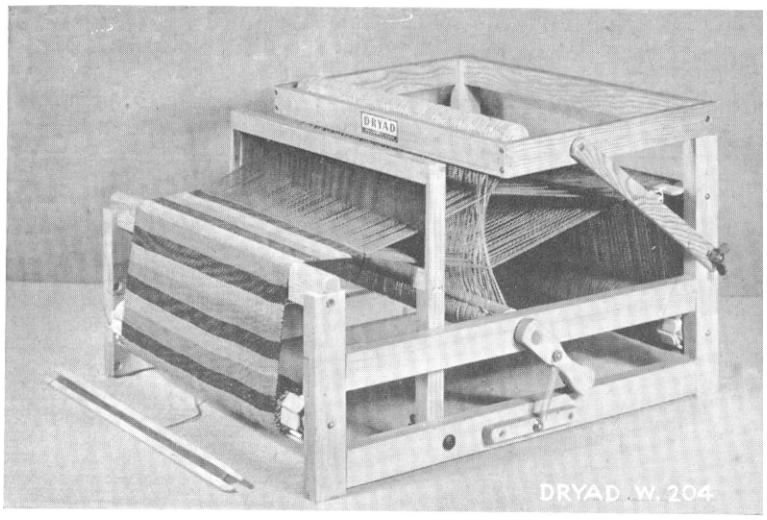
Make and mount the warp as explained on the previous pages. Weave just as described for the braid loom on page 5, winding the fabric on to the front roller as it grows. When leaving the work unfinished, loosen the warp strands a little by unscrewing the back roller, thus taking the strain off the threads.

A LOOM WITH A SPECIAL HEDDLE HOLDER (TABBY ROLLER LOOM, W213)

THIS loom is available in widths 9″, 15″ and 20″, and includes a Metlyx heddle, a hook for threading, two shed sticks, 12 warp sticks and two shuttles.

The heddle is mounted into a holder, which fits into the slots on the side frames. The sheds are made by placing the heddle in the top and bottom slots alternately. This action leaves both hands free for the weaving, which is a decided advantage for special cases, such as bedridden patients.

The warp is made and mounted exactly as described for the Roller Loom, W38, the heddle resting in the middle slot during the process.



A LOOM ON A MORE ADVANCED PRINCIPLE

(TWO-WAY LOOM, W204)

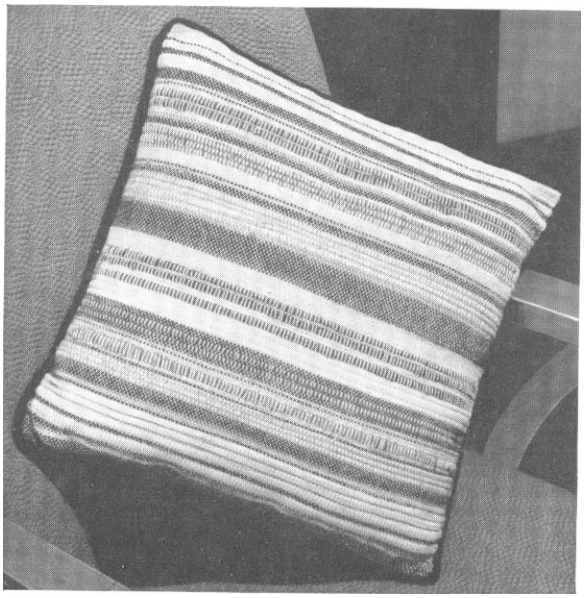
THIS loom, available only in 15″ width, incorporates some of the features of larger looms, the principal difference from the small looms previously described being that the rigid metal heddle is replaced by varnished string healds, which are alternately coloured yellow and orange, through which the warp passes ; the shed is changed by means of a lever at the side, making the weaving much quicker than when the changing of the shed is accomplished through moving the heddle by hand. For beating the weft, the loom is fitted with an accessory not unlike a metal heddle, known as a reed.

The making of the warp is exactly as detailed on page 7, and the mounting of it is on the principle there explained, with just a slight difference caused by the difference in the heddle. Instead of starting the mounting by passing the loops through the heddle to "spread" the warp to the width of the loom, the loops are taken through the reed, the heddle strings being temporarily dropped out of the way by loosening the thumbscrews on the back uprights which hold the top of the loom rigid, this allowing you to lift off the top roller holding the strings. Threading from front to back, take two warp loops through every fourth space in the reed and insert a warp stick

at the back to hold them. Wind the warp on to the back roller as previously described, leaving enough to go easily across the loom, then transfer the cross to the back of the reed, (also as previously detailed), cut the loops, slip the strands from the reed and tie in bunches to hold the shed sticks while threading the string healds. Replace the top roller holding the healds, raise the top of the loom to full height and tighten up the back thumb-screw again.

To thread the warp, first bring the reed forward to rest against the front bar and raise the side lever to an upright position, bringing the eyes of the two rows of healds opposite each other. Take your warp strands alternately through the eye of a yellow and orange heald, not forgetting to take two strands through the edge eyes for selvedges. Fasten on to the front calico as previously explained.

In weaving, simply change the shed each time by moving the lever, and use the reed to beat the weft.



This gay cushion has a warp of white mercerised cotton (W.194) and uses up all sorts of bright oddments for the weft—wool, cotton and even strips of rag.

THE SCOTTISH INKLE LOOM, W224

THIS interesting loom is copied from a traditional Scottish braid loom, and lends itself to the use of a particularly wide range of different yarns, wool, cotton or jute. The texture produced is very close and firm, so that the finished strips (maximum width $3\frac{1}{2}$") when joined up make shopping bags, cushions, pochettes, rugs, bath-mats, etc., which are as hard-wearing as they are attractive. Narrow strips make charming and unusual belts. This loom uses a thick warp with a thin weft, and this thin weft scarcely shows at all, so that if pattern is wanted it must be introduced in the form of stripes when the warp is threaded up.

The warp is very easily put on to the inkle loom, being simply taken right round a series of pegs arranged, roughly speaking, in a circle. The pegs are adjustable to give different lengths of warp.

The main way in which the inkle loom differs in principle from the others in this leaflet is that the warp threads do not pass through a heddle ; instead there is a series of string leashes permanently attached to one of the pegs (C in the illustration) and the warp threads pass alternately through and between these. Those that pass through the leashes are held in position by them, while those that pass between can be raised or lowered by hand to form a shed.

To mount a warp on the inkle loom, place the various pegs in the positions seen in the illustration with the exception of the peg marked D which is not used till the warp is completed, when it serves to tighten it up for weaving.

Begin the winding of the warp at the peg marked A. Take your thread across the loom from left to right, passing between the pegs

marked B and C, then round the remaining pegs back to A, where you knot it. On the second round, take the thread through the first of the string leashes, up and over the peg marked B (which is notched to hold the threads in position) and then round the rest of the loom back to A. Take the third thread straight round, like the first; the fourth through the next string leash and over peg B like the second. Carry on thus till the warp is complete. When introducing a new colour, always knot it to the old end at A. Finally tighten up the warp by inserting peg D and adjusting it until the warp is tight.

The actual weaving is very simple. Put your right hand between the two layers of threads to the right of the loops of string and press down the lower layer. This forms the first shed. Insert a short stick and press this back against the peg A; this is to give you a firm start to beat the weft threads against. Put your right hand under the lower layer of threads and push them up above the level of the string loops to form the second shed; pass your shuttle through, leaving a free end of the weft thread for subsequent fastening off, and use the shuttle to beat the weft strand very firmly into position. Change the shed by pushing down the movable layer of warp with your right hand, pass the shuttle through, and beat firmly as before; continue to weave thus.

As the strip grows, it will be necessary to shift the warp round the loom. This is easily done by loosening the bottom peg D, moving the warp as required, then tightening up peg D.

Weaving on this inkle loom will be found quite a quick job, and it can be speeded up still further if two people work together, one lifting and lowering the threads to produce the sheds, the other manipulating the shuttle.

If it is found necessary to have new leashes put on to the peg C, this can be done if the peg is returned to Dryad Limited, Leicester.

This leaflet, one of a series covering practically every branch of craftwork, is published by

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SAINT NICHOLAS ST., LEICESTER

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