

INSTRUCTION BOOK





# *Nadeau Looms Inc.*

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(OFF ROUTE 146)

PROVIDENCE, RHODE ISLAND 02904

## HOW TO BEAT THE HIGH COST OF LIVING

The average home owns a minimum of \$2,500. worth of wearing apparels like suits, coats, jackets, draperies, bed coverlets, rugs, table linens, furniture covers and with a newly developed system, all of these items you can make yourself for \$500.00, and have a lot of fun doing it. For instance you can make a beautiful woolen dress with nubs for \$18.00 with a store price of \$150.00. You can make a 100% cotton rug, one inch thick, 36"x42" with an original design, store price \$90.00, your cost \$15.00 or you can make an exquisite bed coverlet with Old Colonial design, in wool, cotton and linen for \$25.00, store price \$135.00, etc.

You will save 80% on all your wearing apparels and household apparels by buying yarns and turning them into the finished products of the very best quality and in very little time by following the simple system developed by Elphege Nadeau, who is a textile manufacturer and designer. Through his simple instructions, thousands are making their own silks, cottons, wool, polyesters, draperies or rugs from the thread to the finished item and finding that you can beat the high cost of living.

The reason why this is possible is that in the process of making these items you eliminate many manufacturing operations and also the profits of two or three middle men. Besides you end up with your own original designs, the very best of fabrics and a great feeling of satisfaction and accomplishment.

This system of making wool tweeds, rugs one inch thick, silks etc., is made possible for beginners by using the only simplified, fast, versatile, lightweight loom, THE NADEAU LOOM.



PROPER POSITION  
WHEN WORKING WITH THE HAND-SKILL LOOMS.

EXTENSIVE RESEARCH IS BEING MADE  
BY OUR CONCERN TO HELP IMPROVE THE APPROACH  
TO HAND WEAVING TO THE EXTENT WHERE YOU ARE  
WEAVING TO GROW YOUTHFUL AND NOT TO GROW OLD.

IT IS IMPORTANT TO USE A COMFORTABLE  
CHAIR AND ONE THAT HAS A GOOD BACK. WHEN  
USING A HAND-SKILL TABLE AND CHAIR UNIT, SLIP  
INTO YOUR CHAIR AND SLIDE IT FORWARD UNTIL  
THE TABLE IS ALMOST AGAINST YOU. YOU SHOULD  
NOW BE VERY CLOSE TO YOUR LOOM. ALLOW A  
SPACE OF NO MORE THAN 6 INCHES BETWEEN THE  
SEAT OF YOUR CHAIR AND THE TABLE. THIS  
POSITION ELIMINATES ANY POSSIBILITY OF  
ACQUIRING OCCUPATIONAL DISEASES OR DISTORTIONS  
DUE TO CONTINUED FAULTY POSITION. YOU WILL  
BE AMAZED WHEN YOU FEEL THE DIFFERENCE AND  
SEE THE IMPROVEMENT IN YOUR TECHNIQUE AS  
YOU GO ALONG.



HAND-SKILL LOOM



INSTRUCTION BOOK



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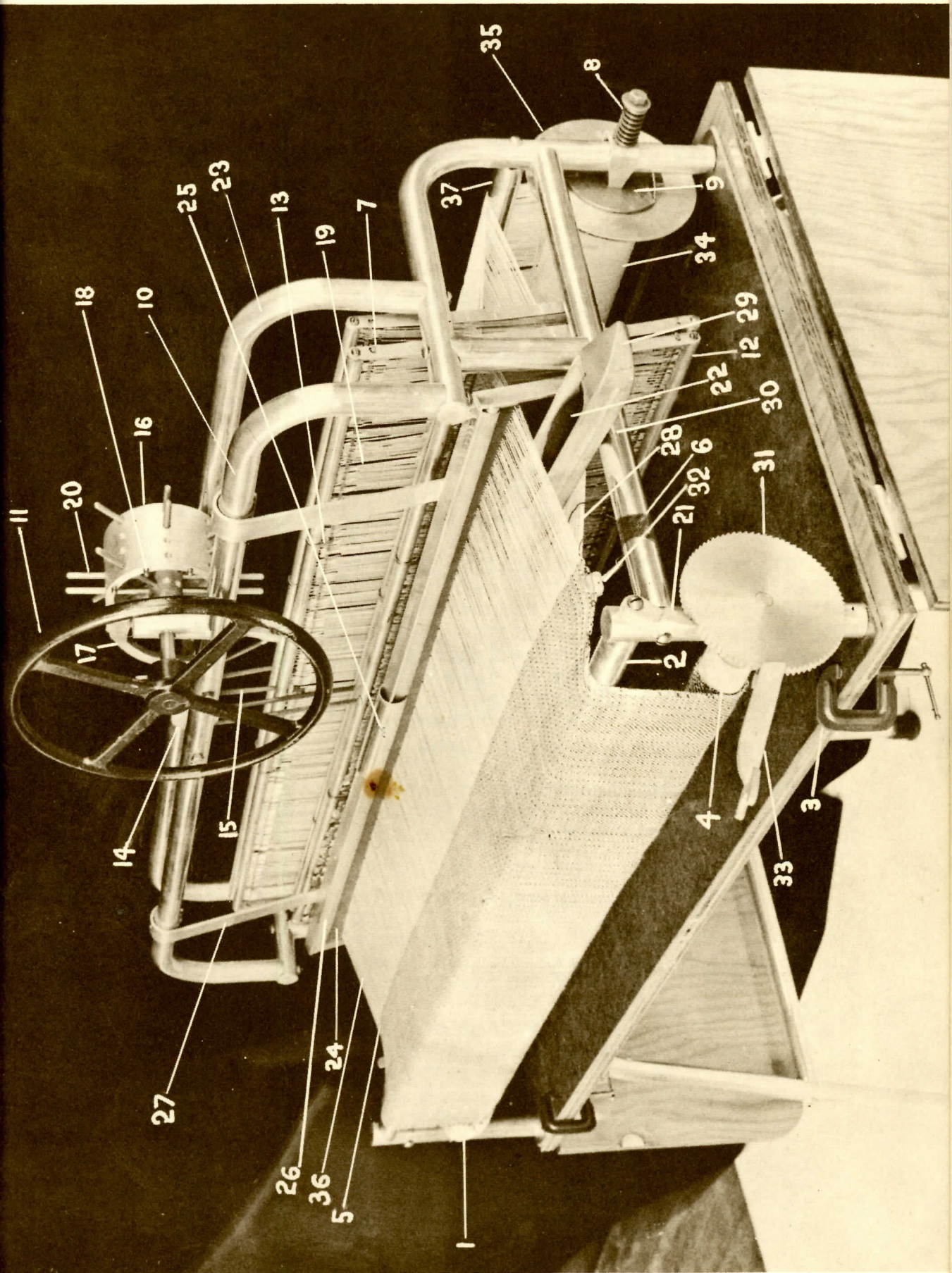
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## PARTS OF LOOM

1.	Apron over clothroll			
2.	Breast Beam	See Fig.	21	
3.	Clamps	" "	5	
4.	Cloth Beam			
5.	Cloth Line			
6.	Cloth Line Area			
7.	Cotter Pins			
8.	Friction let-off	" "	1, 11, 20	
9.	Friction Plate			
10.	Front Arch			
11.	Handwheel			
12.	Harnesses	" "	7	
13.	Harness Hooks			
14.	Harness pulleys			
15.	Harness Straps			
16.	Head Motion	" "	23	
17.	Head Motion Lock			
18.	Head Motion Lock Pin			
19.	Heddles			
20.	Indicator Pins	" "	13	
21.	Pawl	" "	17	
22.	Quill			
23.	Rear arch			
24.	Reed	" "	12	
25.	Reed Cap			
26.	Reed Frame			
27.	Reed Frame Strap			
28.	Shed	" "	21	
29.	Shuttle	" "	26	
30.	Shuttle Rest Bar			
31.	Sprocket-Gear take-up	" "	17, 19	
32.	Temple hooks	" "	18	
33.	Tool (loom)	" "	19, 20	
34.	Warp	" "	4	
35.	Warp Beam			
36.	Warp Threads			
37.	Whip roll	" "	21	



See Parts of Loom on preceding page



## EXPERIENCED HAND WEAVERS

This is an advanced loom. It requires new technique and application. You would hesitate to drive a 1953 car model in the same manner as you drove your Model T.

The rigid tension associated with the old type looms is no longer a necessity with the HAND-SKILL LOOM. Rigid tension requires heavy beating-in; consequently, much abuse to your warp threads, and sleazy materials.

The adjustable friction let-off enables you to adjust the necessary tension for the various type warp threads used. Very few fibres need rigid tension. With the correct tension a minimum amount of energy is required to weave an excellent piece of cloth with maximum durability. It is not necessary to work hard with this loom. It is so engineered as to make it possible for a child to handle the wheel and beater with ease.

It is the most adaptable loom on the market today. Fine single warp threads as well as carpet warp and over-coating can be woven with the same ease.

In reading pattern drafts, bear in mind that HAND-SKILL LOOMS have a rising shed. The insertion of an indicator pin into the head motion means a rising harness, this being the opposite of the foot power loom which lowers the harnesses. The indicator pins in the head motion are used instead of lams and treadles and give you the same as a direct harness tie-up. This improvement alone saves you much time and needless labor and yet takes nothing away from the art of hand weaving.

The Hand-Skill shuttle is an easy-flow shuttle. With Hand-Skill wound bobbins, it is no longer necessary to pull out sufficient filler for the next shot or pick.

### RHYTHM OF WEAVING

1. Throwing the shuttle.
2. Changing the shed.
3. Beating-in the pick or weft.

TECHNIQUE OF HAND WEAVING  
ON THE HAND-SKILL LOOMS

Technique is especially important in hand weaving. It not only saves precious time but enables the weaver to achieve greater perfection with much less effort. Fig. 23

S E T T I N G   U P   T H E   L O O M

REMOVING THE WARP BEAM  
(See Fig. 1 & Page 7)

Remove friction let-off unit, which includes tension bolt, friction plates, pressure bracket, spring and washer, by releasing the bolt with special tool that comes with the loom. Then from the opposite end of tension unit, pull out warp shaft until warp beam is free. Please note especially the position of your friction plates before removing, as they will not function correctly in any other position. Reverse the above procedure when putting on the warp beam. Friction unit can be placed on the left side of the loom as well as on the right if you are left handed. Simply reverse your warp beam shaft.

THREADING-IN or DRAWING-IN A WARP  
(See Fig. 2)

MATERIAL NEEDED FOR THREADING-IN:

- 3 lease sticks or smooth rods at least 42" long.
- 5 24" lengths of strong cord, light weight rope or strands of yarn entwined, to support the harnesses and reed.
- 1 heddle hook (longer and narrower than reed hook  
See Fig. 25)
- 1 tool (loom) See Fig. 20
- 1 warp

THE TECHNIQUE OF PREPARING THE LOOM FOR THREADING-IN:

1. Release the harness hooks from the heddle rods. This will enable you to slide the heddles without interference while threading-in. Before starting to weave put back each harness hook half way between center strap and end of the loom. Fig. 7
2. Remove the reed from the reed frame by first removing the bottom clips. These slide out easily. Then grasp the lower part of the reed and bend it upwards until it snaps and is released from the reed cap. Lay your reed to one side and out of the way.
3. Raise the reed frame and tie it on the hand-wheel as illustrated in Fig. 2.



Note position of lease sticks and method of tying up harnesses. Explanation on page 3.

Front of the loom.  
Fig. 2

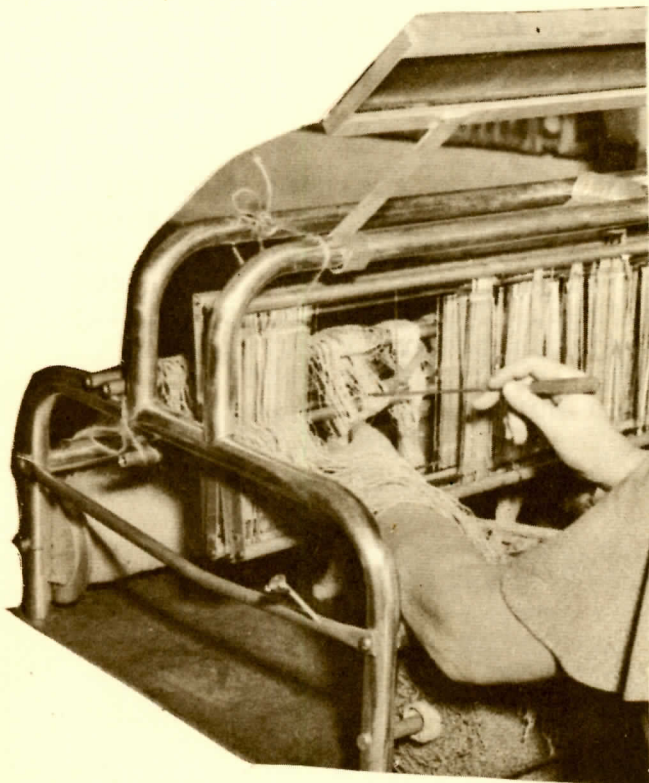


Fig. 3  
Front of the loom.

Note the reed tied to loom frame swing fashion. Explanation on page 4.

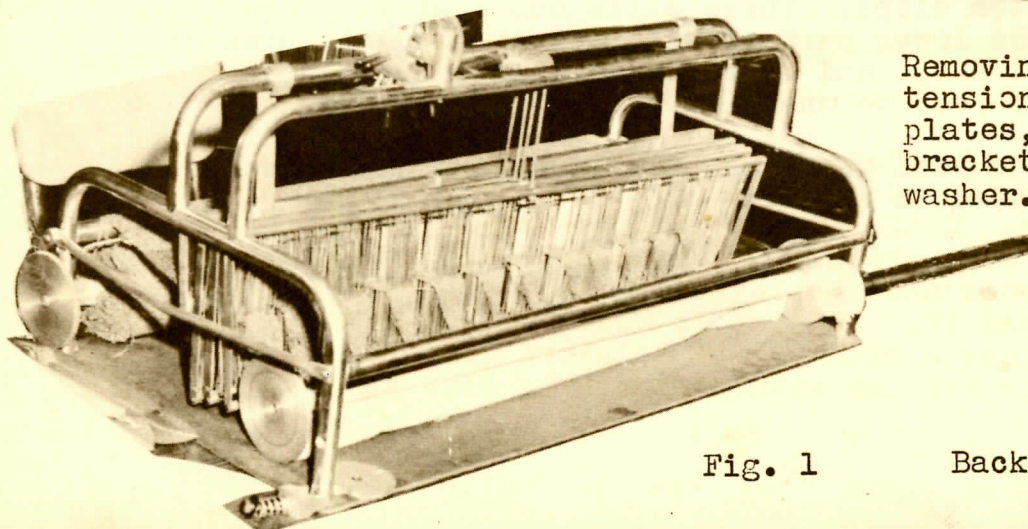
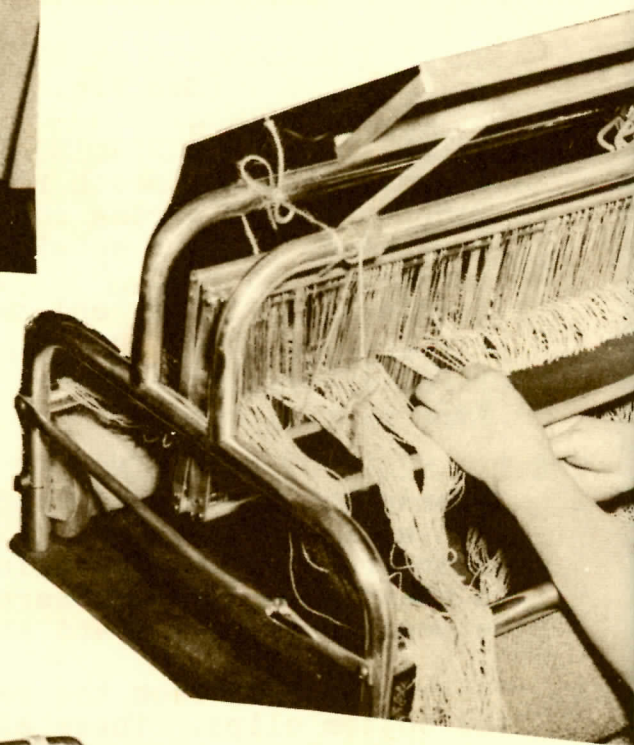
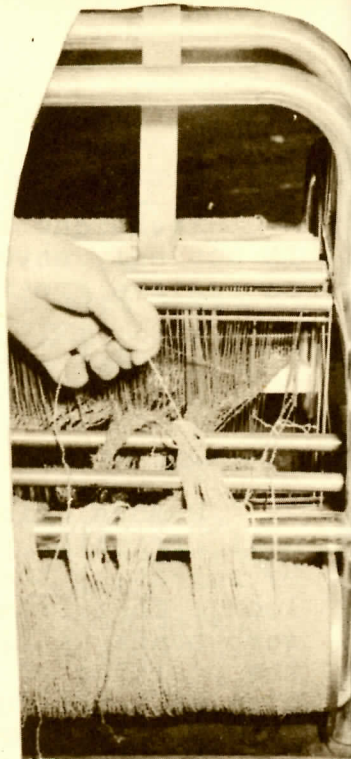


Fig. 1

Back of the loom.

Fig. 4  
Back of loom.  
Exp. page 4.

Tying on of new warp to finished warp of same drawing-in pattern.



Note lease sticks inserted in the lease for more efficiency in tying.

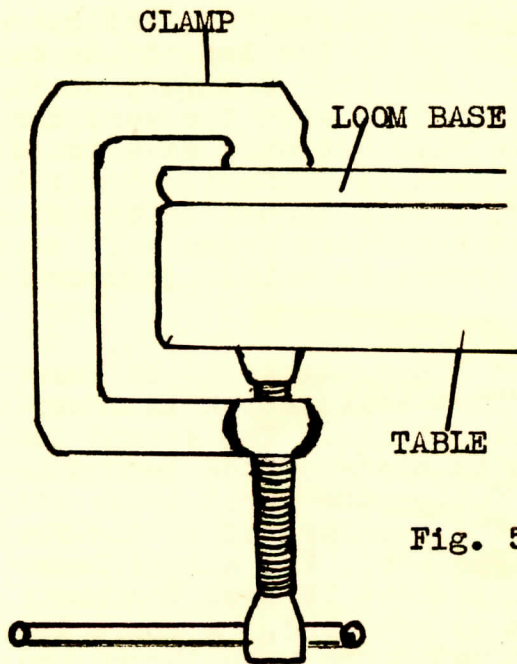


Fig. 5

Use to clamp the loom to the table.  
 MOST EFFECTIVE WAY OF TYING WARP ON THE APRON  
 (MORE EXPLANATION OF PAGE 4)

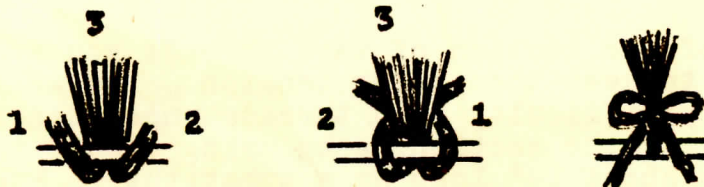


Fig. 6

Cross 1 and 2 behind 3

Bring 1 and 2 to Front of 3 Tie Bow knot

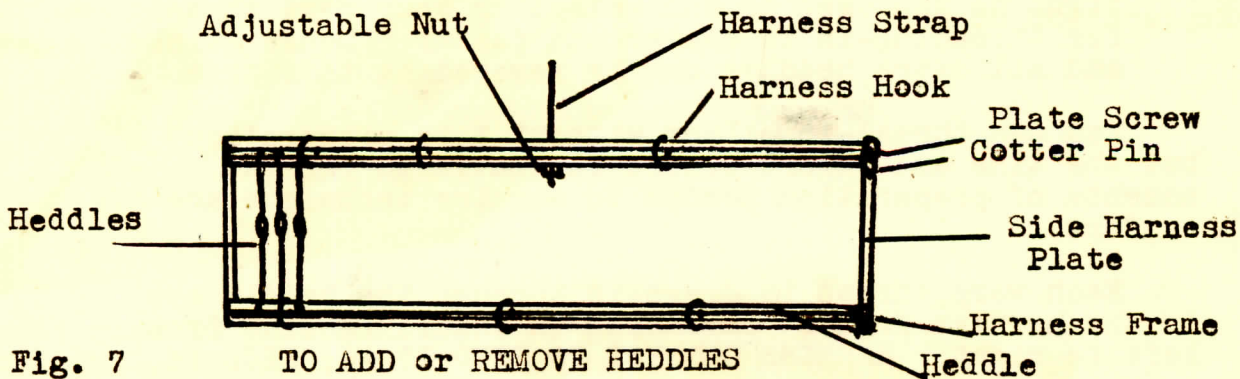


Fig. 7

TO ADD or REMOVE HEDDLES

Release right side plate by removing screws at top and bottom of the plate. Cotter pins are easily slipped out once the side plate is loose. Notice wavy end of heddle is always placed at the top. All extra heddles must be removed before beginning to weave. Harnesses must be level at both ends when weaving. This applies to Model 12. Applies to Models 12A & 15 N: Too, cotter pins can be removed with plyers or screw driver. This is another way of removing heddles without removing side plate of harness.



4. Harnesses are then raised first at one end then the other, and tied on to the top of the loom frame, swing fashion. See Fig. 2. This places the heddle eyes directly in line with the warp threads you will draw-in. This will not only save you time but will enable you to work in comfort. Small squares of sponge rubber, 1 to 2 inches thick, placed in between the base of each harness frame will separate them to avoid making errors in selecting your harnesses while threading-in.
5. Next comes the lease sticks to be inserted into the lease. The first lease stick is inserted in place of the first leash string. The second lease stick is then inserted in place of the second leash string. See Fig. 2. Notice the first lease stick inserted is placed under the tubular rod of the frame directly behind the harnesses. The second lease stick is placed directly above it over the bar. The two are tied securely at each end. A spare lease stick is then inserted under the warp threads placed directly behind the second lease stick that is on the frame. This lease stick is then tied on also. The purpose of this third lease stick is to support the warp at the height of the second lease stick and keeps the lease intact.
6. Tie the end of the section of warp threads you are threading-in to keep them under tension. You will never have any difficulty with threads under tension. One way of tying the section is by using a soft rope made of yarns about 14" long or a substitute. Pass the section you are threading-in under the harnesses and forward towards the breast beam. At about the center of your soft rope make a slip knot. Place your warp ends section into this knot then tie the other ends of the rope on the breast beam in line with your section. You can make your warp threads as tight as you need to and selecting your next thread for threading-in is easier and faster. Lease sticks and all extra heddles can be removed at this time.

You can thread-in a loom without this preparation but the time and effort wasted far outweigh the few moments of preparation needed to acquire technique and comfort.

Each warp thread is drawn-in through the heddle eye in the harness frame. Threading-in should be done from left to right. HARNESS CLOSEST TO REED IS #1, ETC.

Leash strings are set in the warp by the warp maker for the purpose of keeping each thread alternately crossed in correct succession.

Always study and follow precisely each design chart given with instructions before drawing-in warp threads.

IMPORTANT: LAST SENTENCE OF PARAGRAPH 6 APPLIES ONLY WHEN THE WARP IS COMPLETELY THREADED-IN. LEASE STICKS AND LEASH STRINGS CAN BE REMOVED AT THIS TIME OR WHEN THE REEDING-IN OR SLEYING IS COMPLETED.



### REEDING-IN (Fig. 3)

#### ARTICLES NEEDED FOR REEDING-IN:

Soft cord or heavy string to hang swing-fashion.  
1 reed hook (shorter and wider than heddle hook).

Reeding-in from right to left is faster. See Fig. 3 for position of the reed. Proceed to reed-in by placing your reed hook with hook opening facing the heddles or away from you. Always place your hook in the center of the reed dent, and from the under side of the reed. As you pull your thread through, notice how it remains entwined about your reed hook. Just leave it that way and proceed to reed-in the next thread and continue on this way until a small section is reeded-in. Then pull your hook down with all the threads around it until it is released. Check to see if warp threads are reeded-in correctly and repeat until all threads are reeded-in. Tie the ends of your reeded-in warp threads to prevent them from slipping out of the reed when placing the reed in the reed frame. Now is the time to untie the harnesses and reed frame. Insert the reed into the reed frame first by pulling the right end of the reed slant-wise through the frame. Once the reed is in place, put your bottom reed clips on at each end and then your reed-cap which is pushed in at top center of reed frame until it is secure.

### TYING ON THE NEW WARP (Fig. 4)

Some persons prefer to insert a quill or pencil under the harness levers before tying on the warp. Now is the time to tighten your tension bolt so your warp beam will not move when you tie on your warp. Before tying on your warp ends, comb them out with your fingers to straighten out all threads that are kinked. All threads and heddles must be straight and in line. Make certain that each section of warp tied on is of the same tension, to insure a straight cloth line and even cloth when weaving. YOUR TAKE-UP AND FRICTION LET-OFF ARE USED TO ADJUST THE TENSION. SEE PARTS OF THE LOOM #4 AND #16 ON PAGE II. It is not necessary to have rigid tension, just tight enough to hold your shuttle when it is put through the shed. Tight tension makes loose woven or sleazy cloth which is desirable only in curtain or drapery material where some light coming through is desirable. Now is the time to put harness hooks back on. (See Fig. 7)

### SETTING INDICATOR PINS IN HEAD MOTION CYLINDER

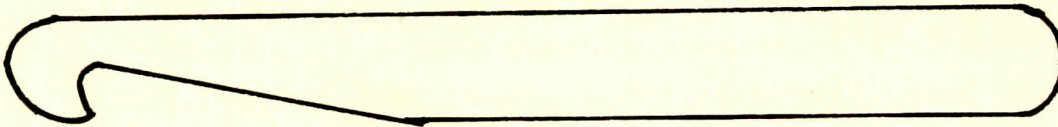
On rim of the head motion cylinder facing the operator, you will find the numbers; one to eight. Each number represents a row of four holes set across the face of the cylinder. These four holes are numbered one to four and correspond to harnesses one to four.

Instructions for setting indicator pins would read, for example: Row #1, Holes #2 and #3; meaning: Indicator pins to be set in hole #2 and #3 in row 1.



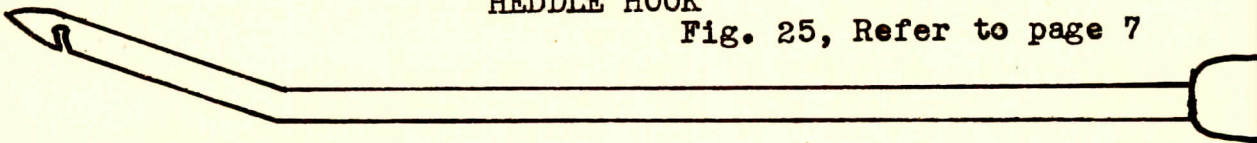
REED HOOK

Fig. 24, Refer to page 8



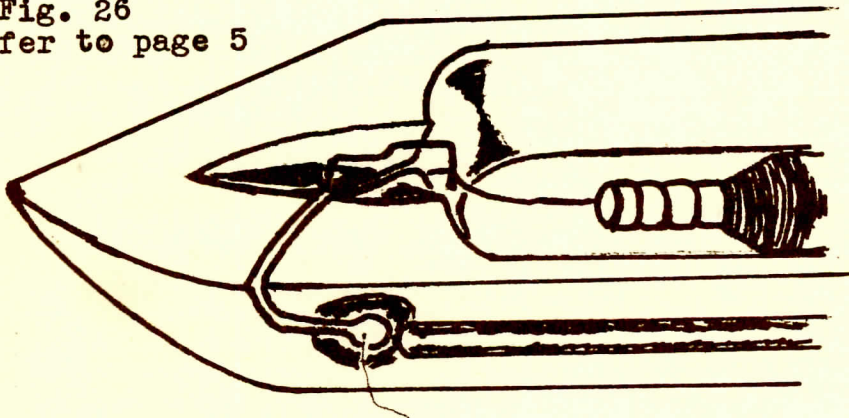
HEDDLE HOOK

Fig. 25, Refer to page 7

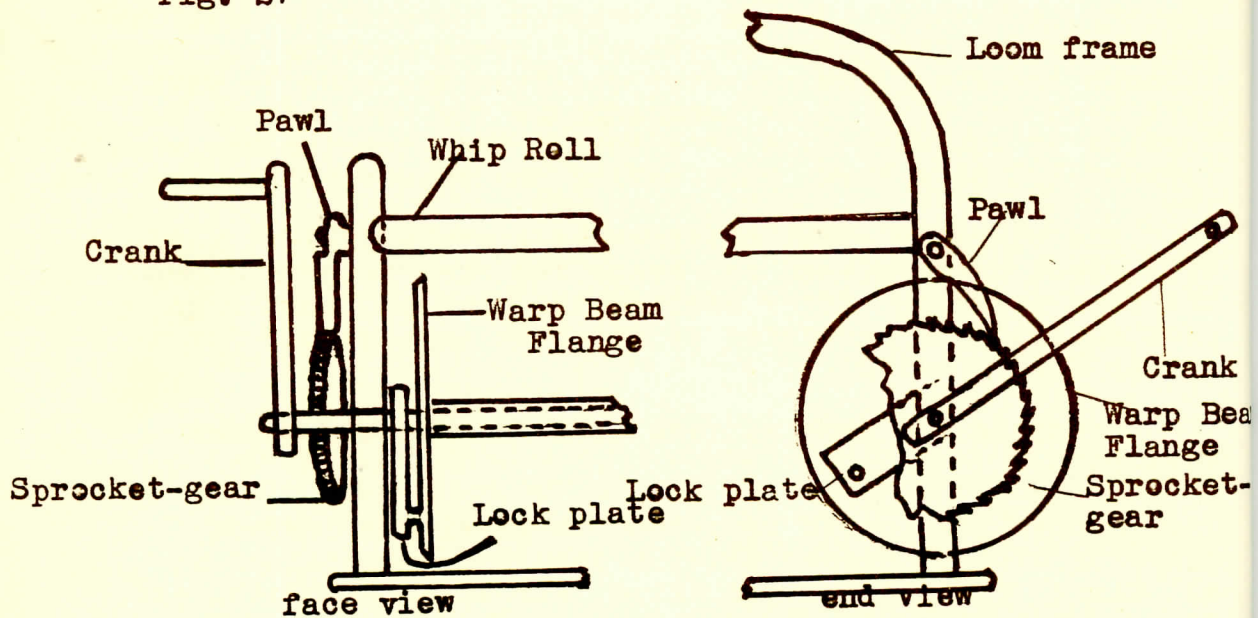


THREADING-SHUTTLE

Fig. 26  
Refer to page 5



WARP WINDER ATTACHMENT  
Fig. 27



Refer to page 15

Setting indicator pins, continued:

To remove indicator pins, simply twist and pull out; always make sure indicator pins are set deep into the bottom of the hole.

This loom, like most table looms, uses a draft for a rising shed.

#### THREADING SHUTTLE (Fig. 26)

This shuttle has an adjustable clip for all size quills.

First insert quill or bobbin deep onto spring clip. Slip thread down into slot and pull outwards until the thread pulls out freely through the eye of the shuttle. With this shuttle no yarn is pulled out before each shot or pick; it just naturally flows out.

Before starting to weave, tighten bolt on friction let-off until right tension is acquired. Always start to weave with indicator pins on row #1 raising the indicated harnesses. (See page 32 for more explanation.)

Flat plain side of shuttle is always next to the reed when inserting a pick, and threading slot is at the top.

When inserting the shuttle first from the right side, then from the left, the operator's index finger is resting on the point of the shuttle with the wrist bent backwards to allow a swinging motion of the wrist, as the index finger pushes the shuttle alongside the reed through the shed to insert a pick.

The shuttle, when placed half-way into the shed before pushing it across, is made to rest on the shuttle rest bar for proper position for beginners. After pushing the shuttle through the shed, the operator receives the shuttle with the left hand and with right hand unlocks the head motion by turning it backward  $1/16$  of a turn. Then turning the wheel forward  $1/8$  of a turn, thus making the shed for the next pick.

The operator still holding the shuttle in left hand, with right hand on reed cap beats the pick in by pulling the reed forward. After beating the pick in, push reed back against the harnesses as far back as possible for a better shed opening.

Continue the same motions with the shuttle in the left hand.

Proper tension is important in weaving a perfect piece of cloth. Proper tension should be maintained at all times to avoid shuttle skips, streaking of cloth, etc. Take up looseness in warp by turning the sprocket-gear downward either with right hand or special tool. Much warp looseness requires more tension adjusting.



LOCK HEAD PIN

Harness  
Lever

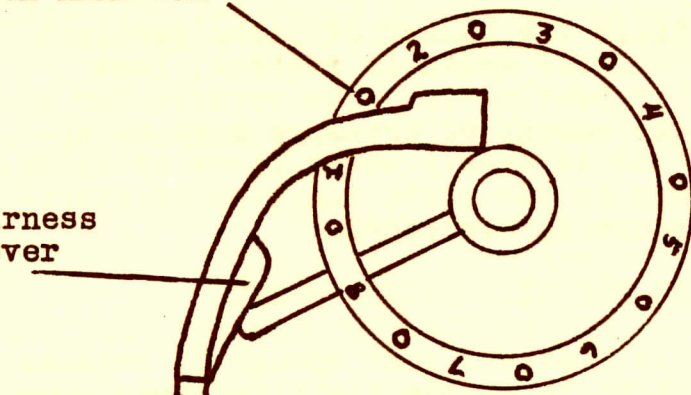


FIG.22  
WRONG POSITION  
when releasing  
the lockhead pin  
and unlocking  
the harnesses.

Lock Head pin  
Head Motion  
Lock

Harness  
Lever

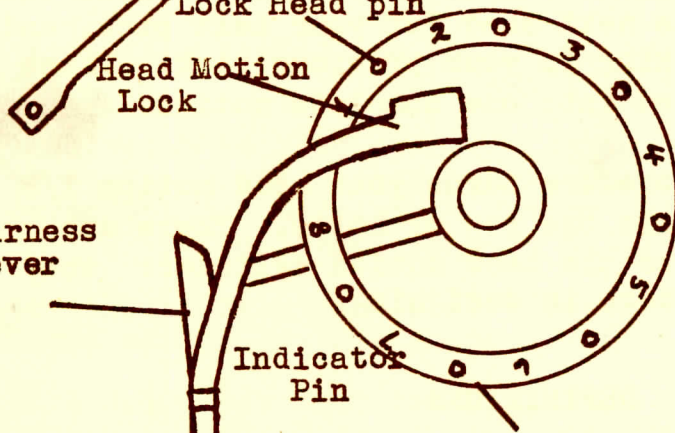


FIG. 23  
CORRECT POSITION  
when releasing the  
lockhead pins and  
unlocking the harness-  
es.

Refer to page 7

Outer rim of head motion

HEAD MOTION RHYTHM

Click! Click! Click!

- 1st Click: When cylinder lock head is released and harnesses are unlocked. This is done by turning the wheel backwards or to the left slightly, as indicated in Fig. 23.
- 2nd Click: Turn the wheel forward or to the right and lower your harnesses.
- 3rd Click: You continue turning the wheel forward or to the right until your indicated harnesses are raised and locked. These three Click motions are blended into one quick motion.

While holding the shuttle in one hand, the other hand turns the wheel to change the shed, then beats the pick into the cloth. One firm beat after changing the shed is sufficient. With adjustable warp tension, it is no longer necessary to partly beat in the pick before changing the shed.

## BEATING-IN

Beating-in controls the number of picks per inch of woven cloth. If a loose weave is desired, less pressure is applied in beating-in. The reverse for a tight weave. The same amount of pressure must be applied for each pick for an evenly woven piece of cloth. Light and dark streaks in the cloth can also be attributed to uneven pressure in beating-in.

## TURNING THE HEAD MOTION WHEEL

The first turn is backward just enough to release the lock. The next turn is to the right to lower your harnesses and once again turn to the right to raise the harnesses forming the next shed for your next pick, and at the same time locking in your previous pick. These motions can be blended into one complete motion.

This turning procedure turns your head motion  $1/8$  revolution which equals one row of holes. There are eight rows of holes on the head motion cylinder: the equivalent of eight bars in designing.

## DEFINITIONS

- APRON:** Stationary piece of material on warp and cloth roll. Warp ends are tied on to apron. A steel rod reinforces the apron.
- BREAST BEAM:** The tubular bar or beam located at the front of the loom directly above the cloth roll. The breast beam runs parallel to the whip roll located at the back of the loom. Fig. 21
- COTTER PINS  
for heddle shaft:** These cotter pins keep the heddle shaft in the harness frame. Remove cotter pins before removing or adding heddles. Fig. 7
- CLAMPS:** Used to clamp floor of loom to the table on which the weaving is done. One is placed at each end of the loom. Fig. 5
- CLOTH BEAM:** The roll at the front of the loom around which the woven fabric is wound.

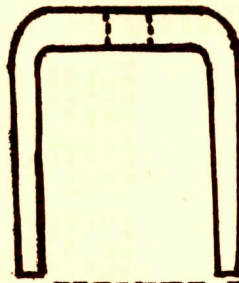


Definitions, continued:

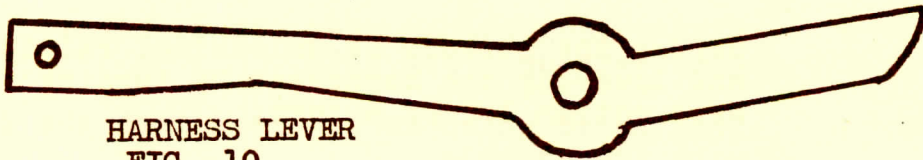
- DENT: Space between the vertical wires of the reed through which the warp ends are drawn. The number of the dents to the inch is determined by the size of the thread. The size and price of any reed is also determined by the number of dents to the inch.
- FRICITION LET-OFF UNIT: Includes friction plates, yoke, spring, washer, and bolt. Figs. 1, 11, 20.
- HANDWHEEL: Serves the purpose of unlocking, raising, and lowering the harnesses by turning the head motion  $1/8$  of a turn.
- HARNESS FRAME: Frame into which the heddles are placed. Fig. 7.
- HARNESS HOOKS: Hooks that keep heddle shaft in line. Fig. 7.
- HARNESS LEVERS: Articulate and raise the harnesses when raised by the indicator pins. Harness levers are connected to the harness straps. Fig. 10, 23.
- HARNESS PULLEYS: Guide the harness straps.
- HARNESS STRAPS: Leather straps that hold the harnesses and are connected to harness levers.
- HEAD MOTION: Consists of the cylinder, lock pins, holes for the indicator pins, lock and spring. Fig. 23.
- HEAD MOTION LOCK: Finger-like part that engages the lock pin.
- HEAD MOTION LOCK PIN: Tiny pins located on the outer rim of head motion cylinder. Fig. 23.
- HEAD MOTION LOCK SPRING: Is soft and can easily be pulled back when undoing errors and for colonial work. It can be removed easily if necessary to replace it.
- HEDDLE: A narrow steel wire with an eye. Fig. 7.
- HEDDLE HOOK: Longer and narrower than reed hook. Is used in threading-in and serves the purpose of pulling the ends through the heddle eye. Fig. 25.
- HEDDLE SHAFT: The shaft the heddles slide onto. Fig. 7.



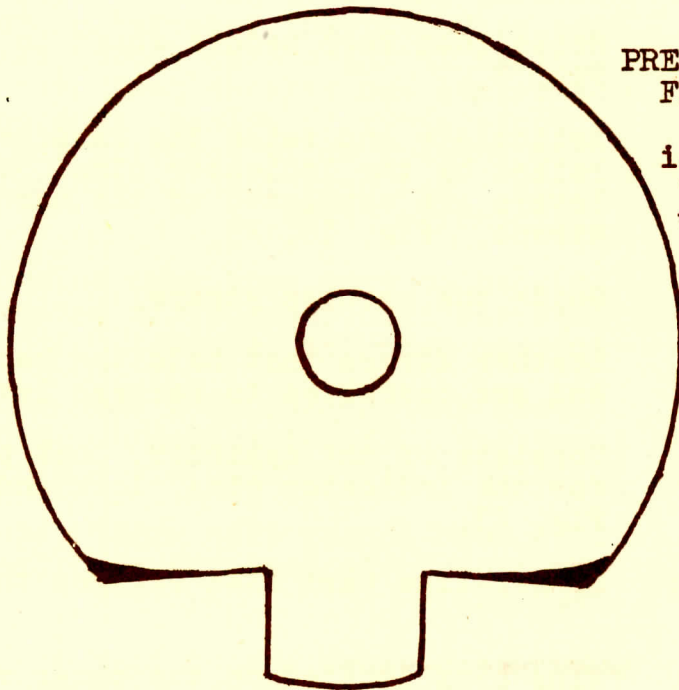
HARNES HOOK  
FIG. 8



PRESSURE BRACKET  
FIG. 9



HARNES LEVER  
FIG. 10

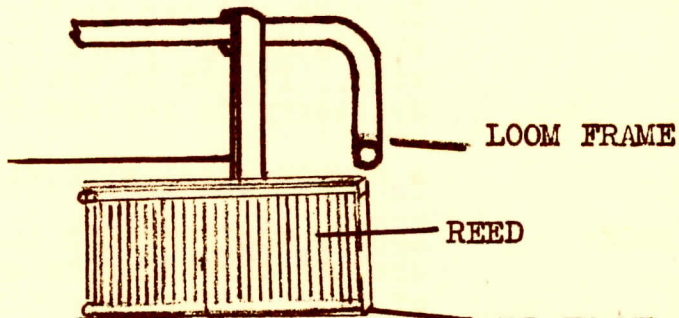


PRESSURE PLATE  
FIG. 11

is always used in  
this position  
with lining  
against warp  
beam flange.  
Lining is made  
of cork.

FIG. 12

REED FRAME STRAP



LOOM FRAME

REED

REED FRAME  
INDICATOR  
PIN

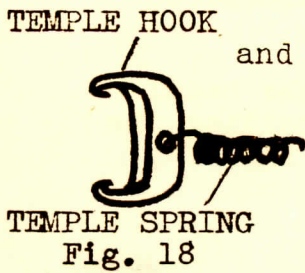
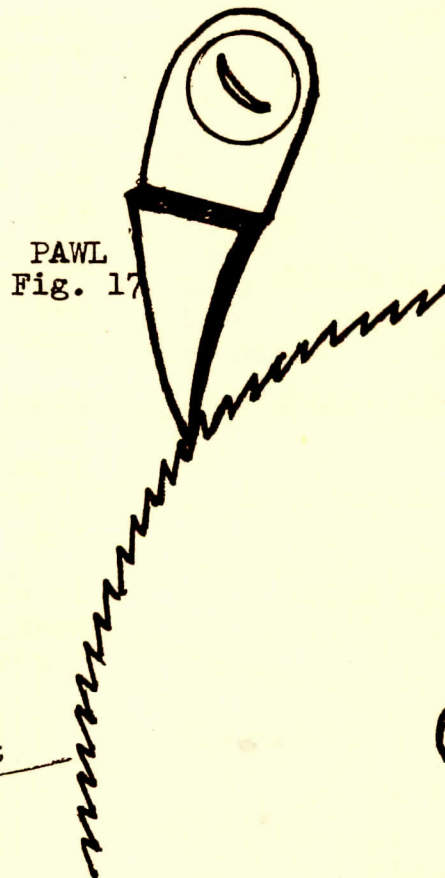
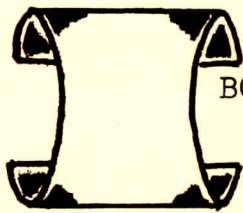
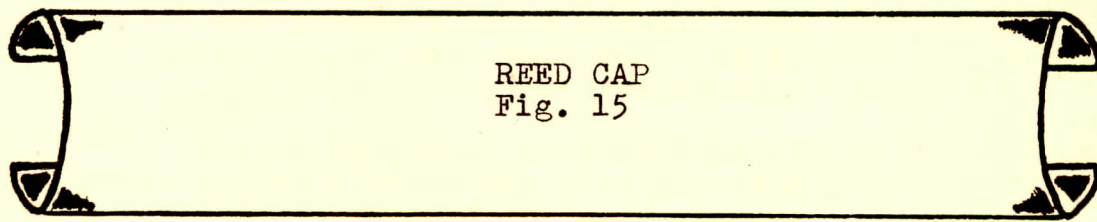
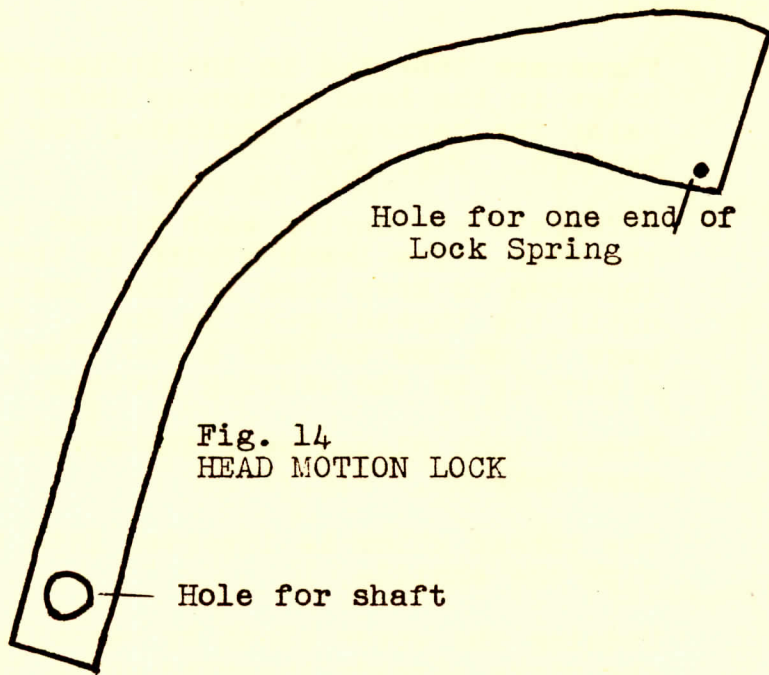
FIG. 13





Definitions, continued:

- INDICATOR PINS:** These are inserted in the indicated holes in the head motion cylinder to raise the harnesses indicated for your pattern. Fig. 13.
- LEASE:** Alternately crossing each thread in the warp. The leash string is then inserted to keep them in that position until the threading-in is done. See page 33 on how to take a new lease once a warp is in the weaving process.
- PAWL:** Finger lock placed over the sprocket-gear take-up. Fig. 17.
- PICK OR SHOT:** The thread which is inserted into the shed with the shuttle.
- PICKING OUT:** Undoing the woven cloth by removing all the picks already inserted up to the mistake in the cloth. Lower all harnesses and release pawl over sprocket-gear to release tension on warp threads while removing the picks. Not practical unless using inexpensive yarns.
- QUILL:** Is used to wind your yarn on and inserted into the shuttle before using. Another name for bobbin.
- REED:** Serves the purpose of a comb and spreader. It determines the width and thickness of your cloth. Fig. 12.
- REED CAP:** Is a much longer clip which fits over the top of the reed and reed frame. Fig. 15.
- REED CLIPS:** Two small clips shaped like the cap, used to keep the bottom part of the reed in the reed frame. Fig. 16.
- REED FRAME:** Aluminum alloy, outer protection for the reed. It hangs from the top of the loom frame by aluminum arms or straps directly in front of the harnesses. Fig. 12.
- REED HOOK:** Is wider and shorter than the heddle hook. It is used only in pulling the threads through the reed. Fig. 24.



Side of  
Sprocket  
Gear



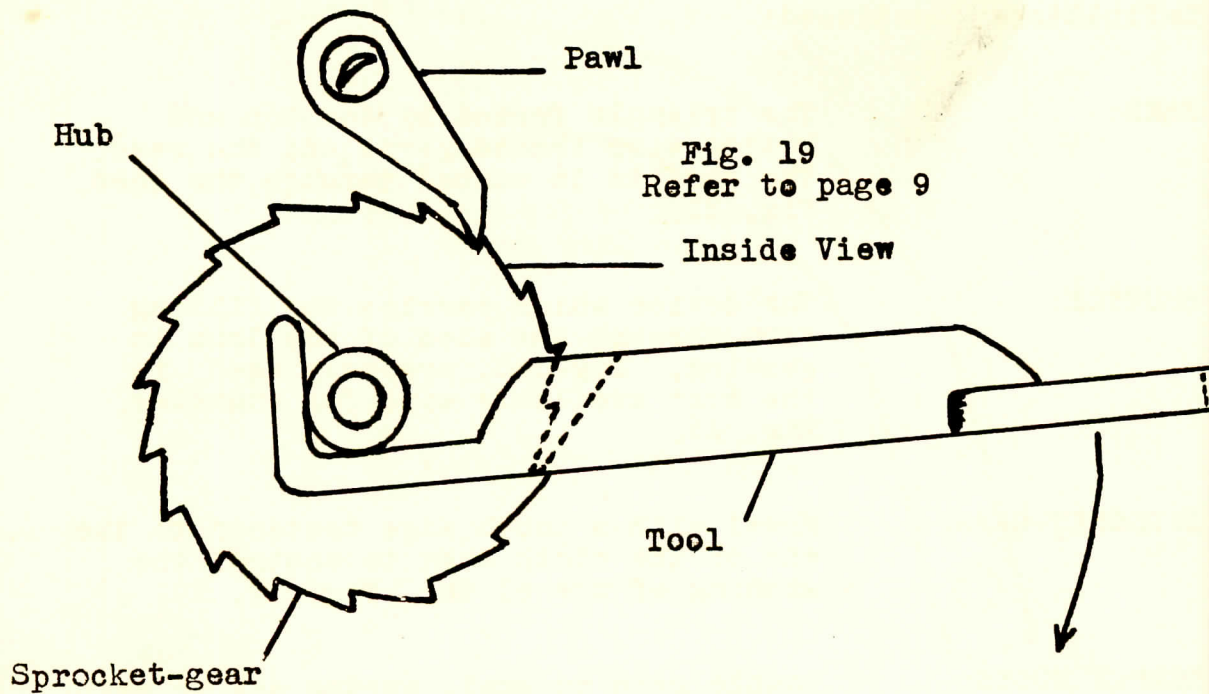


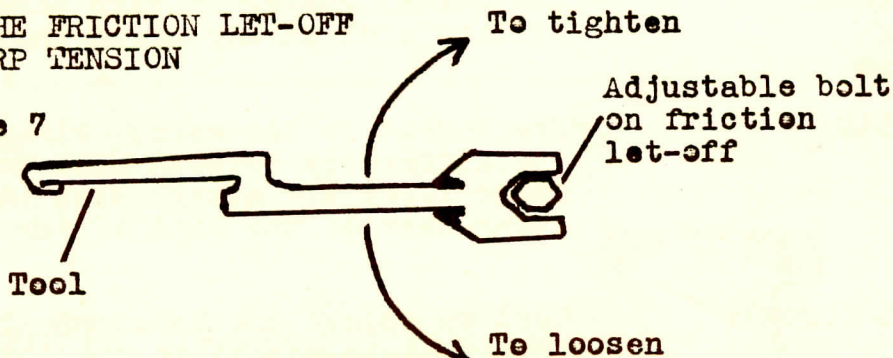
Fig. 19  
Refer to page 9

Diagram showing how the cloth is pulled forward onto the cloth roll.

To pull the warp back, simply release the pawl and turn the warp beam backwards. The pawl acts as a brake while weaving and steadies the cloth roll.

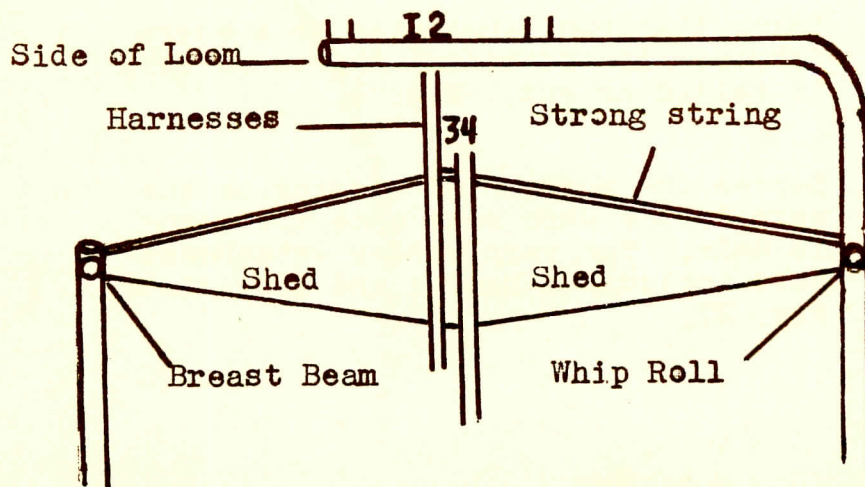
HOW TO USE THE FRICTION LET-OFF TO ADJUST WARP TENSION

Fig. 20  
Refer to page 7



The tension is right when your cloth pulls up freely, and your shed supports your shuttle without making skips. Turn your tension nut 1/2 turn at a time until you have the right tension. Rigid tension is very rarely necessary on this advanced loom.

WHEN WEAVING NARROW MATERIAL Fig.21



Balance the harnesses by threading-in the 4 harnesses 1-2-3-4 at each end of the loom with strong string. Thread the heddles while harnesses 1 & 2 are raised and anchor the string on whip roll at back, and breast beam in front. (See Fig. 21)

Definitions, continued:

- SHED:** The triangle formed by the top and bottom warp thread yarns and the reed. The shuttle is pushed through the shed. Fig. 21.
- SHUTTLE:** The device which carries the filling yarn through the shed of the loom in weaving. Dogwood, properly aged, is the best available wood for shuttles. Fig. 26.
- SPROCKET-GEAR:** Wheel with a tooth edge fastened to the end of the cloth beam to control the winding of the cloth. Fig. 17, 19.
- TEMPLE HOOKS:** Double grip on small spring set on each side of cloth; it provides proper tension across the cloth. Can be adjusted to narrower width cloth by adding needed length of cord or wire. Fig. 18.
- TEXTURE:** The actual number of warp threads and filling pick in any cloth that is woven.
- THREAD:** The thread in the warp. Please note the difference between pick and thread. These terms are always used in weaving regardless of the kind of yarn used.
- TOOL (LOOM):** Used to adjust the tension. One end of this tool is shaped to fit the nut on the friction let-off. The opposite end is hooked under the hub of the sprocket-gear take-up and serves to pull the cloth onto the cloth roll while weaving. Fig. 19, 20.
- WARP:** Yarns that run lengthwise in a woven fabric. An individual thread of warp is called an end. Fig. 4.
- WARP WINDER ATTACHMENT #2:** Serves the purpose of winding on the warp to the warp beam once the warp is made. The warp winder attachment unit includes a handle and lock plate. Fig. 27.



Definition, continued:

**WEAVE PATTERN:** A combination of threading-in and head motion creates your pattern. The threading-in of the warp regulates the warp pattern. The pins in the head motion plus the threading-in creates the weave pattern. If you change a pin, your pattern is completely changed. There are weave and color patterns. Color patterns are made on any type of weave pattern.

**WHIP ROLL:** Bar that is located above warp beam and across the loom from the breast beam. Fig. 21

#### POINTS TO REMEMBER

Keep cloth line within taped area located on right hand side of reed frame.

To measure yardage on the loom as you weave: Use inexpensive tape measure and pin on to the cloth as it is being woven. Allow an extra yard of woven material for every 10 yds. to allow for stretch and washing shrinkage as well as the undulations of the warp threads. Each warp thread goes over and under each filler thread. 1 yd. of warp thread on the warp beam is longer than a thread in a yard once it is woven.

Another commonly-used technique is to add brown paper or newspaper over the knots when cloth starts coming over the cloth roll. The paper evens out the warp threads and eliminates irregular tension caused by protruding knots.

Temple hooks should be moved forward after weaving every  $\frac{3}{4}$  of an inch. Fig. 18.

Some heavy materials require checking of the temples frequently.

Release pawl from sprocket-gear when not weaving.

When skipping a pick, undo what has been done up to that mistake. After undoing, find your pick as directed in following page.

When inserting indicator pins according to the diagram, make certain they are pushed in to their full depth; otherwise, they will fall out. If a pin falls out, your head motion diagram should be consulted to insert it in the correct hole.

Always be sure that the last pick is locked in the shed before beating-in and inserting another pick.



Points to remember, continued:

To find the right pick, keep on turning your wheel the same as when weaving and check each time until the pick in the shed is free. Then, turn your wheel again to lock your pick in the shed and proceed with your weaving.

In repairing a thread in the warp, add on a length of thread as long as is needed to tie on to the broken end, then check your drawing-in chart to see what harness and heddle it belongs in, as well as the reed dent. The repaired warp thread will not weave in unless it is in the right heddle and reed dent.

This is of the utmost importance in making perfect cloth.

When the edge of your warp does not weave in, simply put your shuttle through to make a pick and return your shuttle over the cloth back to where you started from. In this way the yarn binds the threads together until one or two picks are inserted. Then cut that top thread evenly with the edge of the cloth. It will full and bind itself in the finishing of the cloth and will not affect the quality of the cloth, when weaving tweeds. When putting 2 picks in from the same side proves ineffective, just rethread the last thread on to the next harness. For example: if the last thread is on harness #1, rethread on #2.

The pick is never pulled tightly across when inserted; it will make for an uneven edge and narrower cloth.

Mistakes must be corrected as you go along to make a good piece of cloth. If the pattern is not coming out right:

1. Check your diagram for the head motion to see if the pins are in their proper place.
2. Check to see if you have 2 picks in the same shed.
3. Check your reeding-in.
4. Check your diagram for threading-in of the heddles.

In using the HAND-SKILL LOOM tool for the sprocket-gear take-up, place the finger end of the tool under the hub of the sprocket-gear and engage the sharp tooth in the sprocket-gear. Then, push down slowly to take-up your cloth. The tool is needed especially after a number of yards are woven as the roll becomes harder to move. The other end of the tool is used to tighten and loosen the friction bolt at the end of the friction rod. Fig. 19, 20.

When weaving out the warp, weave until the knots are within 4" of the back of the harnesses.



Points to remember: continued

Adjustable flanges are now available for narrow width warps. Warp edges need not topple over.

When the cloth line becomes uneven soon after starting your warp or one side of your shed is open wide and the other side partly closed, you will find that the tension when tying on the warp was not even. Learning to tie the warp onto the apron requires much patience and practice because it is a rather difficult operation which is very important. An uneven cloth line is also responsible for the reed frame rubbing against the loom frame. In the event these same conditions occur at the end of your warp or somewhere along the middle, it is possible that you were beating off center. Please make certain that the beating is done in exact center. Off center beating is also responsible for the reed frame rubbing against the loom frame. (How to correct--See page 31.)

When the warp edge threads keep breaking, we immediately look to see if our cloth is the width of the reeding-in. One of the most common errors in hand weaving is to bind the edges of the cloth by pulling the weft or pick too tightly across the shed. With very fine single wool or worsted yarns for warp where breakage occurs without binding it is advisable to thread-in the last two edge threads in the same heddle for the amateur.

To trace a broken warp thread look to your reed dents and your chart. Please note on your chart that the warp is reeded-in or sleyed: 2 threads per dent for example. If your warp thread is out of its dent it will leave a dent with but one warp thread. Separate your warp at this point just behind the reed and you will observe the empty heddle directly in front of the reed. Tie on an added piece of warp thread sufficiently long so the first knot nearest the reed can be pulled through to the edge of your cloth and tie at that point to the broken warp thread. If there is not sufficient warp thread left, pin in a straight pin directly below (about 1/2 inch) and turn your warp thread around it to anchor it. Fig. 29. See that the tension for this thread is the same as your other warp threads. It can remain tied in this way until an inch or so of the cloth is woven and you are sure your thread is firmly placed and cannot loosen. When cutting your warp threads on the edge of the cloth or mending in the manner mentioned above, it is best to cut your thread at least 1 inch longer than is necessary. Once your thread is cut when repairing the warp threads as mentioned above, push it through to the back of the cloth with a burling iron or blunt end of a large needle.



## KEY TO HEAD MOTION

Head motion equals 4 harnesses and 8 treadles.

Examine head motion cylinder and note 8 rows of 4 holes. Holes are numbered on the face of cylinder 1 to 4. These holes control the harnesses:

Hole #1	controls	harness #1
" 2	"	2
" 3	"	3
" 4	"	4

Harness #1 is the first harness back of the reed.

The 8 rows of holes on the head motion correspond to the treadles on the old-type loom.

Row #1	corresponds to	1st treadle
" 2	"	" 2nd "
" 3	"	" 3rd "
" 4	"	" 4th "
" 5	"	" 5th "
" 6	"	" 6th "
" 7	"	" 7th "
" 8	"	" 8th "

Rows of holes are numbered on the rim of the cylinder: 1 to 8.

For example: When your pattern calls for tying up of harnesses 1 and 3 to the 1st treadle on the old-type loom, it means placing the indicator pins in holes 2 and 4 in Row #1 on the new loom. Notice it is the opposite harnesses we use because in treading you pull up the harnesses. When you treadle on the 1st treadle on the old-type loom, you are lowering harnesses 1 and 3, and 2 and 4 remain up. On the new loom, you place your indicator pins in holes 2 and 4 to raise the harnesses and 1 and 3 remain down.

When you consider the ease with which indicator pins can be moved it is a tremendous advantage in time, energy and space over tying up of harnesses to the treadles.

### COLONIAL DESIGNS (REVERSING HEADMOTION)

When weaving Colonial designs it is necessary to repeat a number of harness combinations frequently. It can be easily and quickly done by lowering the harnesses and pulling the headmotion lock back and out of the way with the left thumb, just enough so it will not engage the lock pins. The head motion can now be turned backward as well as forward, and enables the weaver to arrange his indicator pins for repeats with ease (See Fig. 22). Reverse your wheel until the right row number is under the harness lever. Then let the lock go forward again and return to engage the lock pin to hold the harness levers steady while you throw your shuttle.

The same procedure is used for reversing every time. However, your skill will improve so rapidly you will be able to reverse as quickly as when you go forward.

Threading-in is the same on all looms.



## HOW TO CARE FOR YOUR LOOM

Any machine well cared for will give you the best in performance. The following instructions will enable you to achieve the best results with the minimum of effort.

### OILING THE LOOM

Use adhesive grease to lubricate vital points of friction:

Tip of levers that touch the end of indicator pins and indicator pins.  
The head motion lock.

Use a small quantity of heavy oil:

The arms supporting the reed frame are perforated at the point encircling the top bar of the loom frame. Drop a small quantity of heavy oil in these holes now and then.

Use light oil:

In tiny holes in the top center of the two posts (upright bearings) in front and back of the head motion.

Rub the loom frame with fine steel wool for a high finish.

### ADJUSTING THE HARNESSSES

Harnesses are adjustable. Always lower the harnesses when adjusting the leather straps. When the straps supporting the harnesses are stretched, just screw the adjustable nut upwards on the end of the leather strap until you have reached the correct position. Never leave more than 1/4 inch of leather strap hanging below the adjustable nut, as it may hook itself in the harness next to it. Harnesses need adjusting if the warp tension is loose and after all instructions under "Adjusting For Right Tension" (page 32) are followed accurately.

### FRICITION PLATES

Before attempting to weave, check your tension plates to see if they are in the proper position. If you have trouble with your tension, check your tension plate linings. Your tension plate linings are made of cork. If the tension is jerky, simply rub a small amount of vaseline on the cork, then wipe dry before putting them into place.

Cork linings accumulate dirt and should be cleaned when they turn black in color. Soap and water applied with a brush is all that is needed. Never soak friction plates in water or liquid solution.



## HOW TO USE WARP WINDER ATTACHMENT #2

Remove bolt, spring, pressure bracket and friction plates (cork lined) from both ends of the warp beam. Place the shaft back in with the warp beam in place. Once these are removed, the shaft and warp beam in place, the U end of the plate (Fig. 30) is engaged in the groove (Fig. 30) located at the left end of the beam shaft or, when standing in back of the loom, on the right hand side of the beam shaft. Then engage the lock pin (Fig. 30) into the hole of the beam flange. This will lock your warp beam.

Next, insert the threaded bolt end of the handle (Fig. 30) in place of the friction let-off. Turn the handle and it will screw itself into the threaded end of the warp beam shaft.

Turn the handle in reverse to release it when the warp is all on the beam.

### WARPS MADE ON SECTIONAL WARP BEAMS

For handweavers owning a loom with sectional warp beam, the following technique is very effective. Your warps can be made on the sectional beam then transferred or beamed off on to the Hand-Skill Loom with the warp winder attachment. In beaming off a warp, brown paper can be placed the full width of the warp at the beginning of the warp because of the knots and about the center and the end of the warp. You can tighten your warp to make it very firm with the warp winder attachment as you wind, consequently increasing the yardage on the warp beam. This makes the ideal warp to work with on any loom. There is no need for lining your warp all the way with this arrangement. It is advisable to make your lease at the start of your warp on the sectional warp beam.

### ABOUT WEAVING

Weaving is the interlacing of two lines of threads; the warp and the weft (filling or woof) crossing at right angles. The warp threads are the long threads placed on the warp beam. The weft is inserted with the shuttle and is often referred to as filling.

The three fundamental patterns of weaving are:

1. plain or tabby
2. twill
3. satin

Plain weave requires at least 2 harnesses.

Twill weave requires at least 4 harnesses.

Satin weave requires at least 5 harnesses.

All other patterns are a combination of these three basic patterns. These weaves are described as follows.



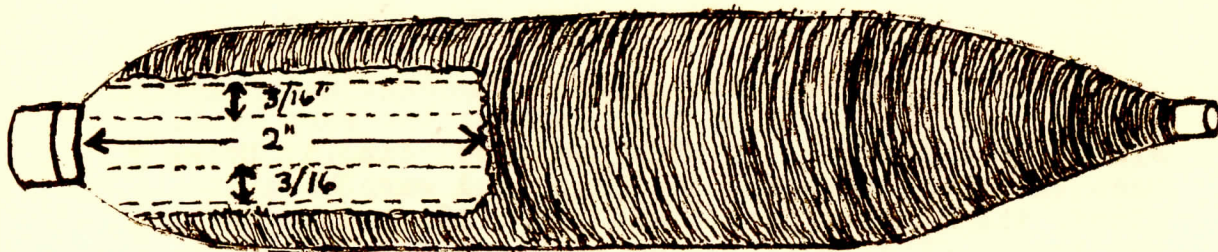


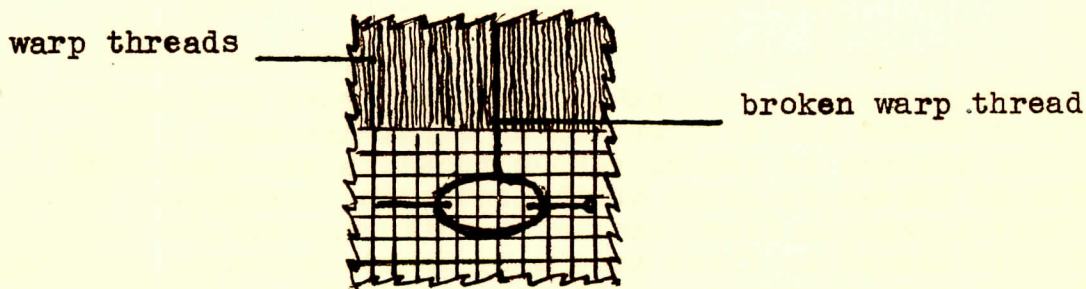
FIG. 28

WINDING QUILL OR BOBBIN

First fill a 2" area by going back and forth until there is a 3/16" thickness of yarn. Once the 2" area is filled, wind back and forth, gradually creeping toward the tip of the tube and always a 2" area at a time.

TRACING A BROKEN WARP THREAD  
Refer to page 12

FIG. 29

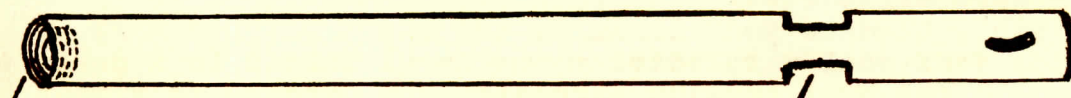


HOW TO USE WARP WINDER ATTACHMENT #2

WARP BEAM SHAFT

FIG. 30

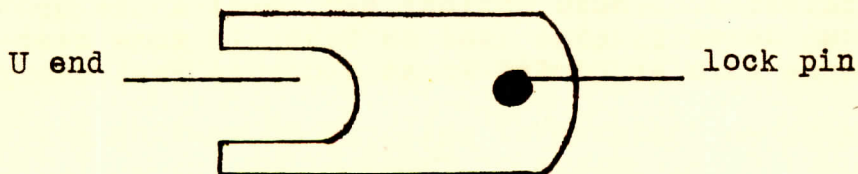
Refer to page 15



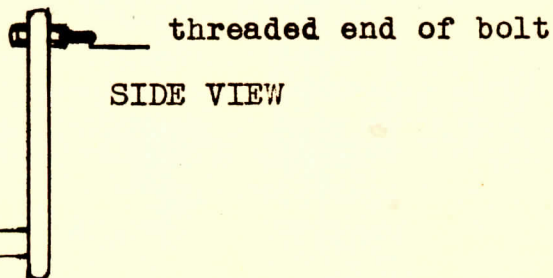
threaded end  
of warp beam  
shaft

Same position as  
on the loom (standing  
in back of the loom).  
LOCK PLATE

groove



HANDLE



SIDE VIEW

## PLAIN WEAVE

### Head Motion Pattern

Row #	Indicator Pins in Holes #
1	1 and 3
2	2 and 4
3	1 and 3
4	2 and 4
5	1 and 3
6	2 and 4
7	1 and 3
8	2 and 4

### Threading-in Instructions for Plain Weave

4	X
3	X
2	X
1	X

Start drawing-in at left and in front of loom.  
First thread in first heddle on first harness.  
First harness is the harness closest to the reed.  
Second thread is first heddle on second harness.  
Third thread in first heddle on third harness.  
Fourth thread in first heddle on fourth harness.  
Repeat same procedure until warp is finished.

### Reeding-in Instructions for Plain Weave

On number 10 reed:

very coarse threads:	1 thread to a dent
2 run wool (medium thread):	2 threads to a dent
very fine threads:	require a finer reed

Plain weave is referred to as Tabby when used in overshot patterns. (Head Motion: 1-2, 3-4) A one up and one down weave is also used as tabby in some overshot patterns such as Edward Worst's Orange Peel design.



# TWILL WEAVE

## Head Motion Pattern

Row #	Indicator Pins in Holes #
1	1 and 2
2	2 and 3
3	3 and 4
4	4 and 1
5	1 and 2
6	2 and 3
7	3 and 4
8	4 and 1

## Threading-in Instructions for Twill Weave

4	<u>    x    </u>
3	<u>    x    </u>
2	<u>    x    </u>
1	<u>    x    </u>

Start threading-in at left and in front of loom. First thread in first heddle on first harness. First harness is the harness closest to the reed. Second thread in first heddle on second harness. Third thread in first heddle on third harness. Fourth thread in first heddle on fourth harness. Repeat same procedure until warp is finished.

## Reeding-In Twill Weave

On number 10 reed:

very coarse threads:

2 run wool (medium thread):

very fine threads:

1 thread to a dent.

2 threads to a dent.

require a finer reed.

SATIN WEAVE  
8 Harness

Head Motion Pattern

Row #	Indicator Pin In Hole #
1	1
2	4
3	7
4	2
5	5
6	8
7	3
8	6

Threading-in Instructions  
for Satin Weave

8	X
7	X
6	X
5	X
4	X
3	X
2	X
1	X

Start drawing-in at left and in front of loom. First thread in first heddle on first harness. First harness is the harness closest to the reed. Second thread in first heddle on second harness. Third thread in first heddle on third harness. Fourth thread in first heddle on fourth harness. Fifth thread in first heddle on fifth harness. Sixth thread in first heddle on sixth harness. Seventh thread in first heddle on seventh harness. Eighth thread in first heddle on eighth harness. Repeat same procedure until warp is finished.

Straight satin weave ordinarily employs very fine yarn. It is often used in combination with other weaves to bind the top and bottom of double face cloth.



These weaves can only be woven on Hand-Skill Looms with 4 harnesses and 1 warp beam.

DRAPERY CASING (rod opening)

Weave in the casing while you weave the drapery material: Use the plain or twill weave, threading-in 1-2-3-4.

This casing can be woven in whether or not you are weaving a plain or twill pattern. It will serve as contrast to your basic pattern.

For the double width cloth, use the following Head motion Pattern:

Row	Holes	Row	Holes
1	1	5	1
2	1-2-3	6	1-2-3
3	1-2-4	7	1-2-4
4	2	8	2

If you are weaving a 37½" material instead of double width, it is necessary to use 2 shuttles when weaving in the casing.

Use the same shuttle when the following rows of indicator pins are being raised: Rows 1-4-5-8. In other words, when harnesses 1 or 2 rise, the same shuttle is used to take care of your top cloth. Another shuttle is used for Rows 2-3-6-7. These harnesses and shuttle take care of your bottom layer of cloth. You are using these two shuttles so that your cloth edges will remain open and not bound together.

-----  
DOUBLE WIDTH CLOTH

Plain Weave on the Model 15N, 4 harness loom.

Head Motion Pattern:

Row	Holes	Row	Holes
1	1	5	1
2	1-2-3	6	1-2-3
3	1-2-4	7	1-2-4
4	2	8	2

Start inserting the weft or picks on Row #1 and from right if you wish to have your cloth open and separated on the right hand side.

A fine strong thread or 2 inserted in last heddle on the closed side is desirable to help keep a straighter edge. These threads would be reeded in the very last free dent in the reed, on the closed side. Once the cloth is woven these threads are removed. The space left by their removal can be filled by using the dull end of a large needle to push over the threads on either side of the gap. When this is done, take that area in your 2 hands and pull cloth back and forth in a wood sawing motion thereby helping the warp threads, just moved, to come closer together.

This weave can only be woven on Hand-Skill Looms with 4 or 8 harnesses and 1 warp beam.

### TUBULAR CLOTH

Plain weave on the Model 15N, 4 harness loom.

Head Motion Pattern:

Row	Holes	Row	Holes
1	1	5	1
2	1-2-3	6	1-2-3
3	2	7	2
4	1-2-4	8	1-2-4

Start inserting the weft or picks on Row #1 from either side in this case.

For all double width, tubular and double cloth, twice as many threads are used in the making of the warp. If using a 4 harness loom, plain weave is the only weave that can be woven for these double weaves, and the threading-in is the same as for single width material. (See page 16.)

For a twill weave for these double weaves, an 8 harness loom is required. Threading-in is 1-2-3-4-5-6-7-8 for the twill weave.

### DOUBLE FACE REVERSIBLE CLOTH

Head Motion Pattern:

Row	Holes	Row	Holes
1	1	5	4
2	1-2-3	6	2-3-4
3	2	7	3
4	1-2-4	8	1-3-4

Rows 1-3-5-7 control the under side of the cloth.

Rows 2-4-6-8 control the top side of the cloth.



## CALCULATION OF SINGLE YARNS

STANDARD FOR COTTON		840	YARDS	TO	1	POUND
"	"	SILK	840	"	"	"
"	"	WORSTED	560	"	"	"
"	"	WOOL (run system)	1,600	"	"	"
"	"	LINEN (lea system)	300	"	"	"
"	"	SYNTHETIC FABRIC 1 DENIER 4, 464, 528				YARDS TO 1 POUND

## HOW TO USE THE YARN STANDARD

Let us assume that a 2/18's worsted yarn is given us and no yardage is listed with it.

Worsted 2/18's explanation:

2 is the number of plies in the yarn  
18 is the size of the plied yarn

2/18's equals: single 9 or 1/9

To use the yarn standard, it is necessary to reduce all plied yarns to single counts. In other words, 1/9 and 2/18's are the same size. We proceed to look for the worsted standard for a single yarn and we discover that it is 560 yards to the pound.

We then multiply our 560 yards by 9 and we have the number of yards per lb. for our 2/18's or 1/9 which is 5,040 yards.

Again let us assume this same 2 ply worsted yarn is given us with the yardage but no size. We know our yardage is 5,040 and our Worsted standard is 560. We will divide 5040 yards by 560 and our answer is 9. 1/9 is the size for a single yarn and our yarn is 2 ply. We simply multiply 9 by 2 which is 18 and since it is 2 ply, we have 2/18's worsted yarn.

## FACTS APPLYING TO ALL YARNS

SINGLE AND PLYED YARNS ARE AVAILABLE TO THE HAND WEAVER.

PLYED YARNS MAKE FOR EXTRA STRENGTH AND ARE ESPECIALLY DESIRABLE AS WARP THREAD, FOR HEAVY MATERIALS SUCH AS RUGS, ETC.

### RULES FOR FIGURING OUT A WARP

1. Determine the number of threads per inch. The size of the yarn and the weight of the material are the determining factors.
2. Multiply the number of threads per inch by the width of your warp. This will give you the number of threads in your warp.
3. To determine the number of yards of warp threads you need, it is necessary to multiply the number of warp threads by the length of your warp.  
(Use rule 8 here if figuring for warp only.)

To determine the length of your warp: Example:-  
Mats: determine the length of your mat (including fringe if any); then multiply by the number of mats planned and add one yard for waste or errors as well as shrinkage.

For homespuns, worsteds, woolens, suits, dresses or coats; determine the number of yards needed by the pattern you select. All patterns list cloth widths with number of yards needed for each width on the back of the pattern envelope. Note the number of yards needed for a 35" or 36" width. Always order at least 1 yard more than pattern states.

### RULES FOR FIGURING OUT WEFT OR FILLER

4. Determine the number of picks or shots per inch.
5. To determine the requirement of filler for 1 inch of fabric, multiply the number of picks or shots per inch by the width of your material. (Width of the reed includes only the width of dents, not the overall width when making full width cloth.)
6. Take the total requirement of filler for 1 inch of fabric and multiply by the number of yards to be woven. The total result is the number of yards required for the filler or weft.
7. Add weft or filler total to warp total.
8. To determine the number of pounds required, divide this total number of yards by the number of yards per pound quoted on price list.

It is always best to buy more than is required as yarns are sensitive to the changes in temperature as well as humidity. Another good reason for ordering more yarn than you require is: in the event of a temporary shortage, different dye lots vary in color. Let us assume you ordered 1 lb. of red wool and it happened to be the last of that dye lot. Occasionally, you will find a color so much in demand temporarily that the new dye lots ordered ahead of time for a certain date are not ready and your project just must wait.



## EXAMPLE FOR FIGURING OUT AVERAGE WARP

Ex.: Figuring out a warp for a woman's medium-weight suit, size 12, 5 yds. required; plan on 6 yards.

Pattern: Twill Weave

<u>Length</u>	<u>Width</u>	<u>Size of yarn</u>
6 yds.	37½"	French Spun Worsted

Rule 1: medium weight for a woman's suit:  
30 threads per inch

Rule 2:           30 threads per inch  
x 37½" wide in the reed (counting only  
1125 threads in the warp. the dents.)

Rule 3:           1125 warp threads  
x 6 yds. length of warp  
6810 yds. of warp threads

Rule 4: 27 picks per inch

Rule 5:           27 picks per inch  
x 37½" wide  
1013" filler for 1 inch of fabric

Rule 6:           1013" filler for 1 inch of fabric  
x 6 yds. long  
6078 yds. filler

Rule 7:           6078 yds. filler  
6810 yds. warp  
12888 yds. warp & filler

Rule 8: 3 ply French Spun Worsted: 5,000 yds/lb.  
At least 2 ¾ lbs. of yarn is ordered.

## MOST EFFICIENT METHOD OF TYING ON A WARP

Use square knot. One half of the section to be tied on is inserted thru the apron hole from the under side. This half is then tied to the half in your right hand in a simple knot. Tighten well and knot once more.

METHOD OF TYING ON WARP USED IN FIG. 6 IS DESIRABLE ONLY FOR SLIPPERY YARNS WITH NO RESILIENCE.

Once the number of yards required for a garment is determined according to the pattern selected, allow one extra yard of warp. This extra yard takes care of the stretch and washing shrinkage, and waste at start and end of warp. Each warp thread, once woven, is shorter, since it must go over and under every filler thread.

When ordering forty yard basic tweed warps, always weave up at least 1/2 yard more of material for every fifteen yards of one pattern.

EXAMPLE FOR FIGURING OUT SPECIFIC TYPE WARP

EX: Figuring out a warp for 5 mercerized table mats 12" x 14", each mat to have 1½" fringe on each end. Each mat will require 3" of warp fringe plus 14" warp length.

Pattern: Governors Garden with Border

<u>Length for 1 mat</u>	<u>Width for 1 mat</u>	<u>Size of Yarn</u>
14" long		20/2 <sup>s</sup>
3" fringe	12" wide	mercerized
17" long overall		cotton

Rule 1: 20/2s is a fine thread and a firm mat is required. 50 threads to the inch is adequate.

Rule 2: 50 threads to the inch  
x12" width of warp  
600 threads in the warp

Rule 3: Each mat is 17" long overall  
x 5 mats  
85"  
plus 36" for waste, errors or shrinkage  
121" length of each warp thread

We have 600 warp threads  
x121" warp length  
72600 inches  
or 2,017 yds. of warp threads

Rule 4: For the weft a minimum of 40 shots or picks per inch is desirable for a firm mat. It is always best to make an allowance for more yarn. We will then use 45 picks per inch instead of 40 picks per inch.

Rule 5: 45 picks per inch  
x12" width of mats  
540" filler for 1 inch of fabric  
x14" 1 mat (fringe requires no filler)  
7,560" filler for 1 mat

Rule 6: 7,560" filler for 1 mat  
x 5 mats  
37,800"  
or 1,050 yds. of filler for 5 mats

Rule 7: 1,050 yds. filler  
2,017 yds. warp  
3,067 yds. warp & filler for 5 mats

Rule 8: 20/2s mercerized cotton, 8,400 yds/lb.  
At least 1/2 lb. of yarn is required.



## HELPFUL OBSERVATIONS

In hand weaving, the number of shots or picks per inch rarely exceed the number of warp threads per inch.

As a rule, the warp has finer threads. Weft or filler threads are either the same size as the warp threads or coarser. In linens and cottons as many as 10 threads more to the warp per inch is not uncommon in a firm material. However, it is necessary always to consider the weight desired to determine the number of shots or picks per inch as well as the number of warp threads per inch.

In woollens and worsteds, unless hardspun, the difference in the number of warp threads and picks vary as little as two picks per inch. Here also, the number of picks or shots per inch is determined by the weight of your material.

### GENERALLY ACCEPTED WEIGHTS FOR VARIOUS GARMENTS

- 2 ply Virgin Wool Worsted, approx. 4,800 yds/lb.  
Suiting 30 threads per inch  
Heavier Dress Material 30 threads per inch
- 2 ply Virgin Wool Worsted, approx. 7,600 yds/lb.  
Dress Material 30-38 threads per inch  
Light Suiting 40-44 threads per inch
- 2/28's Hardspun Virgin Wool Worsted, approx. 7,840 yds/lb.  
Suiting for men 30-46 threads per inch  
Also suitable for women's suiting
- 3 ply French Spun Virgin Wool Worsted, 5,000 yds/lb.  
Suiting 30 threads per inch  
Sport Jacket 30 threads per inch  
(Suiting--5-10 min. washing)
- 2 run Virgin Wool yarn, 3,200 yds/lb.  
Suiting and dresses 20 threads per inch.  
(Medium weight, 15 minutes washing)
- Topcoats and heavier suitings: 25 threads per inch  
(Heavier fabric with some pile: 20-30 min. washing)
- 3/26's Hardspun Virgin Wool Worsted, 4,853 yds/lb.  
Suiting--men and 24 threads per inch  
women's  
Lighter weight fabric
- 3/18's Semi-Hardspun Virgin Wool Worsted, 3,360 yds/lb.  
Suiting--men and 24 threads per inch  
women's  
Medium weight fabric--5-10 minutes washing
- Tweed Yarns, 2,800 yds/lb.  
Sport jackets and 18-20 threads per inch.  
coats  
(20-30 minutes washing)



## WOOLEN YARNS

Woolen fibres are carded usually 3 times. Some methods card but twice. They are then spun into yarns.

Most woolens are single yarns.

Wool fibres used in the making of woolen yarn are shorter and coarser than the wool used in worsted yarns.

Our domestic wool in the U. S. A. is somewhat coarser. It is usually mixed in with important finer fibres to make a good grade yarn.

In the industry, very often reused wool is combined with virgin wool to form a new woolen thread. It is classified as reused wool or shoddy.

Virgin wool or new wool is wool that has never seen use. Another meaning of the term virgin wool is that it is the first clipping from a sheep that has never heretofore been sheered: A shearling or yearling. The first clip from the sheep will be the best obtained, as each successive clip becomes inferior in quality; the older the sheep the poorer will be the grade of the fibre.

The finest type of wool obtainable comes from the merino sheep. The best wool in the world comes from Botany Bay and Port Philip areas of Australia; 85% of all Australian wool is merino.

Other world centers for fleeces are: Ohio, Australia, Saxony in Germany, France, Argentina, Spain, the Union of South Africa and New Zealand.

## WORSTED YARNS

Worsted yarns are customarily made of the longest, finest wool fibre of the sheep.

The determining factors in the production of woolen and worsted yarn are the carding & combing processes.

French spun yarns go through a processing which requires the very longest fibres: consequently, one has the very best quality yarn when it is spun according to the French system.

There are also the Bradford and American methods in the spinning of worsted yarns. These last two methods are not as expensive or as lengthy. In these systems of making yarns, the skill and major expenses are in the finishing of the cloth, while in the French system the skill and major expenses are in the processing of the fibres and spinning of the yarn. In home finishing, none of the equipment used in industrial finishing is used; therefore, it is of the utmost importance to start with the very best yarns.



## LINEN YARNS

Linen yarns are made from flax. Flax is a plant grown in many countries. Very little linen is grown here in this country and we import our linens mostly from Belgium, Ireland, and Scotland.

In hand weaving, linen yarns are classified as line and tow.

Line yarn is spun from long fibre flax. This yarn is even and strong and very suitable for warp yarns although it is very desirable as weft when a smooth finish is desired.

Tow yarn is spun from the combings of line yarn. It produces a somewhat uneven yarn and is not as strong. It is advisable to use this type of yarn as filler.

Linen yarns are spun dry to produce a lofty, soft yarn.

Linen yarns are also spun wet in contrast to dry-spun to make a smoother, firmer yarn.

## COTTON YARNS

Cotton fibre comes from certain plants of the mallow family grown in warm climates. It is a white, brownish white, or bluish white, soft, fibrous substance.

Cotton is one of the most important and versatile fibres known to mankind. It is used in inner wear, outer wear, accessories, decorative materials in the home, and in industry.

The U. S. A. now produces about 35 per cent of the world production. Brazil, Egypt, Central America, China, Mexico and Peru are other noted producing areas.

The cotton fibre is very long and strong and goes through the processes of carding and spinning before it becomes a thread. Cotton fibres are spun in less time, and at less cost, than any other fibres.

## FINISHING AT HOME

### WOOLEN AND WORSTED MATERIALS

All errors must be corrected before material is washed.

Errors are easier to correct on the loom; however, some do avoid detection. If knots are present, pull them through to the back of your cloth. A burling iron (available at our plant, price \$1.00) is ideal for use in the repair of mistakes. Trim lengths of yarn on the edges of the cloth to  $\frac{1}{2}$  inch in length. Once your material is washed and dried, these ends, if still showing, can be cut even with the edge of the cloth.

#### Washing Formula:

$\frac{1}{4}$  Tide       $\frac{3}{4}$  Ivory Snow      Quantity of soap depends on number of gallons in water bath and the amount of oil in the yarn. More soap for Homespun yarns. Dissolve the soap in enough tepid water to wash length of material freely. Rinse well at least twice in tepid water. Use water thermometer if you have one. Elbow testing is more reliable than finger testing, if no thermometer is available.

Add  $\frac{1}{3}$  cup of white vinegar to one gallon of water to the last rinse water. Acetic acid in the white vinegar is especially good for wool fibre. It will bleach white yarns whiter, help remove the odor of wool oils and keep the material fresh-looking longer.

Press the water out; do not wring. Then stretch on a curtain rack to dry, or hang it squarely. In the summer, a shaded spot is best; in the winter, it is best to dry the material inside. Never expose your material to freezing or dry heat.

When dry, steam press at least twice on the face of the cloth and once on the back. Reliable cleaning establishments can do a very effective job of pressing your materials as there is more weight in their pressing equipment and the cost is very reasonable.

When washing worsted material, more than ten minutes of washing is rarely required; however, the fulling or shrinkage must be considered at this time also. The longer a wool material is washed the more it will shrink and eventually nap and mat if washed for too long. This is sometimes desirable for a heavy coat material. Wool yarn in oil requires much washing to remove the oils. Unless washed properly, it will never look its loveliest. Some wool materials will full or shrink much faster than others especially those with little or fluffy twist. It is best to feel of your material while it is still in the washing to consider the firmness you desire. Sleazy, loose materials are never desirable.



FINISHING AT HOME  
(continued)

OTHER ERRORS FOUND IN HAND WOVEN MATERIAL

Two threads in the same shed: Remove one of these threads and fill in the space left by using the eye end of a large coarse needle. With this needle and finger tips, you bring your filler or weft threads in to fill in the space left by the thread removed. Alternate from one side of the opening to the other so that light and dark streaks will be avoided.

Skipping a Shed: Weave your weft or filler back with a ball point needle (available at the plant, price \$.30). Check your draft to determine whether it is a 2 up and 2 down or 1 up and 1 down before inserting your weft or filler.

Short Weft Skips: Can be mended by cutting the skip thread in the center and pushing the ends to the back of the cloth with your burling iron. This will leave an area to weave in. Start weaving it in, 2 warp threads before the unwoven area or 2 warp threads before the end of your skip thread comes out. If it is a 1 up and 1 down weave, start in 1 warp thread before instead of 2 warp threads. End your weaving with the needle in the same manner as you started it. This will cross or bind your thread ends and your cloth will not have a hole in it nor will it weaken the material. All of your thread ends (4 in all) are on the reverse side of your cloth. When cutting these, leave  $\frac{1}{4}$ " of the thread hanging. Once your material is washed, the thread ends can be cut close to the cloth because the shrinkage has taken place and they will not slip out.

Short Piece Warp Thread Missing: Use same technique as with short weft skips.

Perfect cloth is the trademark of the skilled handweaver and has been for centuries. There is very little reason for handwoven textiles today unless they excel in quality of workmanship as well as in color and texture.

CASHMERE, FINE WORSTEDS, NYLON BLENDS, ETC.

Wash in tepid water with Lux or Ivory Snow.

Dry in the shade or indoors. Do not allow to freeze nor apply direct dry heat to dry these materials. Drying on a curtain rack is the best way to dry all materials.

PURE SILKS

Wash in lukewarm water and Ivory Snow or Lux. A good fifteen minutes of washing at least is required. Rinse in lukewarm water at least twice.

Hang squarely to dry in the shade or indoors. Do not allow to freeze nor apply direct dry heat to dry.

Drying on a curtain rack is the best way to dry all materials.

FINISHING AT HOME  
(continued)

LINEN MATERIALS

Use water as hot as the hands can stand with Ivory Snow or Lux. If there are grease spots on the hand woven linens (rub them with Tide), possibly two washings will be necessary. Rinse in clear water three times.

Dry in sunshine or indoors. Do not allow to freeze and never apply direct dry heat to dry linens. Always hang linen squarely folded over the line.

Linens must be well dampened before ironing. Place indicator needle on linen for pressing of linens. Do the reverse side first and the right side last.

RAYONS AND METALLIC MATERIALS

Wash in lukewarm water with mild soap. Water weakens these threads. Gentle handling is of the utmost importance. Drying in the shade or indoors is required. Never allow to freeze nor apply direct dry heat to dry these materials. Place indicator needle on rayon when pressing.

These instructions are given to help you get long wear out of these materials and to keep them looking at their best always.

PROPER CLOTH LINE POSITION

Keep cloth line within blue area indicated on right hand side of the loom. This will make for more evenly beaten cloth, if the same amount of pressure is used to beat at all times.



## How to Correct Uneven Cloth Line

If cloth line is not too far out of line it can be corrected by beating on the side of the cloth line that is farthest away from the beater. As the cloth line straightens, beat closer to the center. Once it is completely straight, beat exact center.

If the cloth line is crooked beyond repair, it is best to cut the warp at this point and tie it on to the apron for a new start.

Avoid uneven cloth line by following these suggestions:

1. Beat from the exact center of the reed with every beat.
2. When tying on the new warp to apron, make certain that every section has the same tension.

## HOME MADE CHENILLE

HOME MADE CHENILLE can be made of discarded materials such as dyed bedsheets, pillow cases, cotton dresses, shirts, light weight woolen dresses, wool carpet yarn, women's hosiery rayon or nylon, silk or nylon cord, jute, odd woolen and cotton yarns, etc.

Plain or twill weave can be used to make the chenille. Thread-in the loom 1-2-3-4 when using a 4-harness loom. Reed or sley the threads 4 or more to 1 dent skipping enough dents in between to allow for the size of chenille you are planning. The width of these spaces depends on the thickness you want your chenille. A 1 inch chenille would require a 1 inch space between threads.

THE WEFT IS FIRMLY BEATEN IN.

Once the material is removed from the loom it is cut in vertical strips half-way between the groups of threads. The resulting strips can also be twisted for more fullness if preferred.

Scissors can be used to cut the chenille in strips. This proves tedious and strenuous. The pinking machine that can be attached to a table is ideal and the pinked chenille adds to the appearance of your rug. All large department stores and Singer Sewing Machine stores carry these pinking machines.

10/2's or a little coarser yarn is used in the warp to make chenille. It is of the utmost importance to beat the filler in very firmly for best results.



## ADJUSTING FOR RIGHT TENSION

You have the right tension:

1. When your warp comes off the warp beam with ease on pulling up the cloth with the loom tool inserted under the hub of the ratchet take-up.
2. If the warp has the same tension after changing the shed and beating in. When your warp thread loosens and your last beaten picks are elevated above the rest of your cloth your tension is too loose. Release your pawl and pull back your warp on to the warp beam by turning the warp beam flanges away from the loom. Once your cloth line is a few inches from the reed tighten the friction let-off bolt one whole turn at the time, until you have the desired tension.
3. When your shed is spacious enough for your shuttle to go through with ease. IF IT IS TOO NARROW RELEASE YOUR PAWL A FEW NOTCHES. Your warp threads should be tight enough so that they do not catch the shuttle as the shuttle goes through. They definitely should not be tight as this prevents you from beating-in firmly with sleazy loose materials resulting. A medium tension on your warp threads is necessary for firmly woven material. A tight tension is desirable for only loosely woven material such as curtains, etc.
4. Harness straps are just slightly kinked, almost straight.

IF THESE INSTRUCTIONS ARE FOLLOWED ACCURATELY AND WARP THREADS TENSION REMAINS LOOSE REFER TO PAGE 14. (ADJUSTING HARNESSSES)

### TAKING A NEW LEASE

Taking a new lease when a different threading-in pattern is wanted in the middle of a warp:

Simply use the plain weave headmotion. Harnesses 1 and 3--2 and 4 are used for a new lease.

Start with Row 1--indicator pins in holes 1--3. Tie your leash string to your lease stick and insert the leash string (smooth, not knotted) which is  $2 \frac{1}{4}$  times the width of the warp, by using your lease stick to guide it through the shed directly behind the harnesses.

Once inserted, pull it towards the warp beam at least four inches to allow the yarns to separate when you turn your wheel and bring up Row 2 with indicator pins in holes 2--4. Once your leash string is pulled through the second lease opening, tie it securely so it will not slip out.

Knot your warp ends into sections as each section is removed from the heddles and reed to keep them from getting snarled. A good section includes the number of threads in approximately three inches of the reed dents. It is best not to use too large a section.



## The Art of Making a Warp

The art of making a warp should never be lost, but it is no longer practical nor useful in our modern world.

Three years of research have proven beyond a doubt that warp making at home is expensive.

Here are a few of the facts we have discovered:

1. Warps made at home are costly in time and energy.
2. The yarns used to make these warps are purchased in small quantities. These command top retail prices if good yarns and open stock yarns, which are the best and only yarns to use, are purchased.
3. Most handweavers, because of the prevailing conditions mentioned in paragraph two, buy in very small quantities or purchase poor grade yarns, especially in the wool and worsted line, because the price is low. Low priced yarns in the wool line indicate yarns made of short wool staples where an abundance of oil must be used to spin the fibre together. In reality the weaver pays for much oil - and the yarn, because of its short fibres, is not as strong and never holds as good a press as a high grade woolen material should. There is no reason to handweave materials unless the product is superior in every way to the commercially woven goods.
4. In ordering yarns the home weaver feels, especially when a good buy in odd lots presents itself, that a wonderful savings is in the making. The average weaver purchasing odd lot materials finds himself at the end of a time with numerous odds and ends and colors and varieties no longer available if a project of any length is decided upon. Left-overs are costly in time and effort to handle. The majority of the weavers today are interested in results and accomplishment and not collecting odds and ends.
5. Each home-made warp varies in length from  $1\frac{1}{2}$  up to 10 yards. Each one of these short warps has the repeated waste of tying on the warp to the apron when starting a new warp and the extravagant added waste at the end of the warp. This waste of yarn makes any project costly.
6. The added cost of warping equipment and the drudgery involved in making warps and beaming them takes many hours of actual weaving time away from the weaver and has very little to offer.
7. The entire procedure of setting up the loom for every short warp takes away any savings in the purchasing of yarns.



In our efforts to discover an inexpensive method of weaving for the hobbyist and specialist, long basic warps of thirty to fifty yards in length are now being designed in woolen, wool worsted, silk, cotton, and linen as well as new yarn blends.

These basic warps available to you in thirty to fifty yard lengths bring to you the following savings and advantages:

1. Quantity buying entitles you to a discount on yarns.
2. Your warping services are reduced to a minimum.
3. Since we buy in large quantities to supply these warps, the savings are passed on to you.
4. All basic warps are sent postpaid.
5. You start and end your warp only once.
6. The complete set-up of the loom occurs but once.
7. Your warp is ready-made, beamed, and leased.
8. You have more time to materialize your projects. All of your efforts are directed to weaving and designing your own color combinations and textures.
9. Yarn fillers used in these projects vary in texture and color. Your own taste prevails and each two or three yards can be entirely different.
10. Your quills are already wound. More added time to materialize your projects!
11. Time and money saved in avoiding drudgery, as well as precious yarn waste, enables you to find more time and energy to do more weaving and experimenting with color and its application, as well as texture. Elimination of waste increases your yarn budget and allows for more projects than can be imagined.

Time is the most precious and the most expensive element at your disposal. We are making it possible for you to use it wisely and advantageously. Every basic project has with it much fundamental knowledge not necessarily available in books. You can grasp facts so much easier if they are applied to the project. The study of ready-made warps, their construction, and eventual adaptability can be considered fundamental for success in weaving.

Instructions for home-made warps are available on request.



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*Notes*



Notes

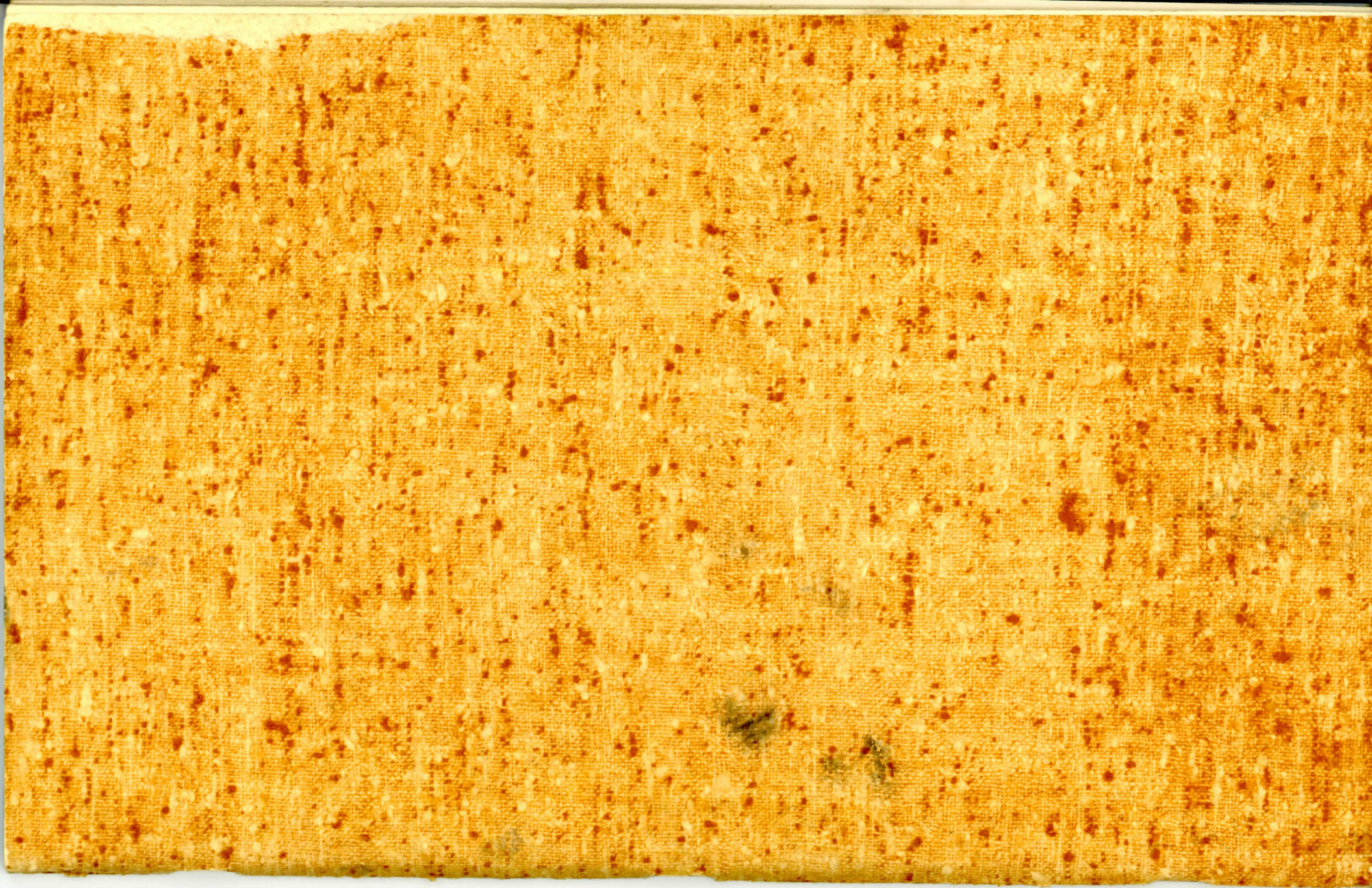
Honeysuckle Pattern No. 21.

- (b) Levers
- |                 |   |                    |              |                  |  |
|-----------------|---|--------------------|--------------|------------------|--|
| large<br>circle | { | 3-4, once          | tabby sheds. |                  |  |
|                 |   | 1-4, "             |              | 1-3              |  |
|                 |   | 1-2, twice         | 2-4          |                  |  |
|                 |   | 2-3, "             |              |                  |  |
|                 |   | 3-4, three times   |              |                  |  |
|                 |   | 1-4, six times     |              |                  |  |
|                 |   | 3-4, three times   |              |                  |  |
|                 |   | 2-3, twice         |              |                  |  |
|                 |   | 1-2, "             |              |                  |  |
|                 |   | 1-4, once          |              |                  |  |
|                 |   | 3-4, once          |              |                  |  |
|                 |   | between<br>circles | {            | 2-3, once        |  |
|                 |   |                    |              | 1-2, three times |  |
|                 |   |                    |              | 2-3, once        |  |

Border -

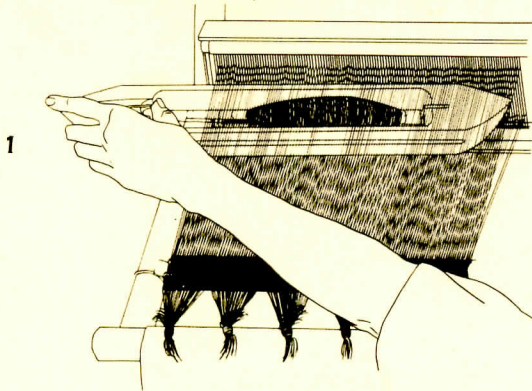
- 2-3 - Twice  
 1-2 - Three  
 2-3 - Twice



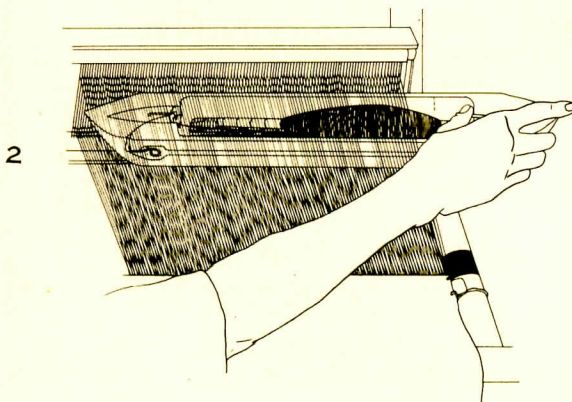




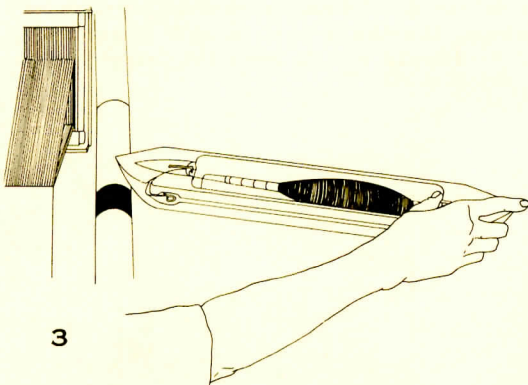
Note: Follow these instructions carefully and key to expert weaving. See sketch of Loom with loom par



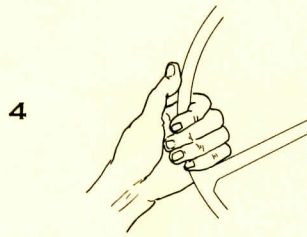
Starting position — Reed or comb pushed back, shuttle in left hand and resting against shuttle rest bar and the reed. Insert shuttle 2/3 its length into the shed (opening through which shuttle glides) and PUSH with a flipping motion using index finger. Note grip of shuttle — position of thumb and index finger. Do not rest arm on loom. Note how warp is tied to apron, each section must be tied with same tension. This is the first step in controlling warp tension.



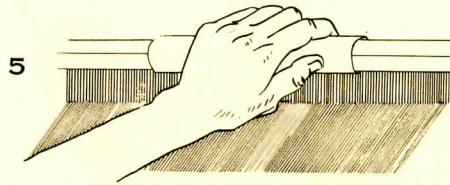
Shuttle has crossed through the shed and is now received and gripped by the right hand. Note position of thumb and index. Eye of shuttle is always on your left and looking at you.



Shuttle held in right hand, out of the shed (Sketch # 3), enough to clear the end of reed.



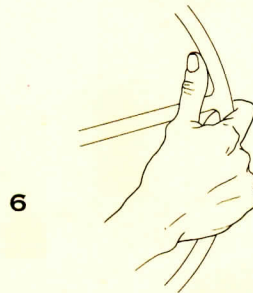
Grip wheel with left hand (important to grip exactly as in Sketch #4) turning once to the left lightly and twice to the right raising a combination of harnesses.



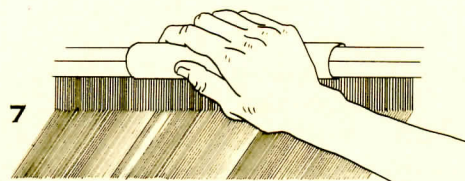
Grip reed cap on center of beater with left hand; lean forearm against front bar (breast beam) and with tip of 4 fingers give firm snappy blow against cloth; then push back beater against harnesses.

Shuttle gripped in right hand (Sketch # 2) and dropped against shuttle rest bar and reed, insert 2/3 its length; then PUSH with a flipping motion using index finger.

Shuttle pushed through by right hand is now received by left hand with the same grip used to push it through the shed. (Sketch # 1).



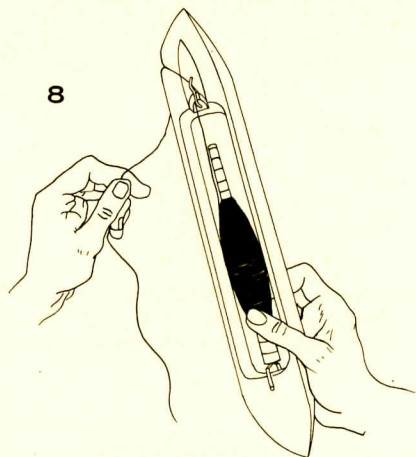
Shuttle in left hand held in waiting position (Sketch # 3). Right hand changing the pattern (Sketch #6) (important to grip exactly as in Sketch # 6) by turning the handwheel once to the left lightly, twice to the right.



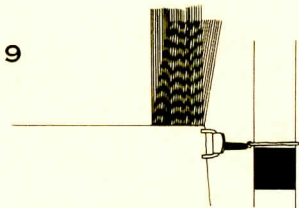
Grip reed cap on center of beater with right hand, lean forearm against front bar (breast beam); and with tips of 4 fingers give firm and snappy blow against cloth; then push back beater against harnesses.

# you will weave perfect fabric. This is the

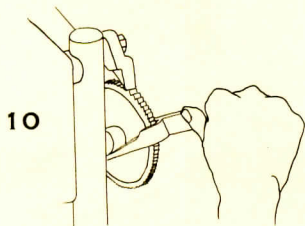
ts numbered. (See Instruction Book).



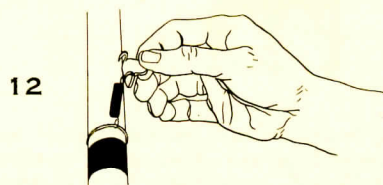
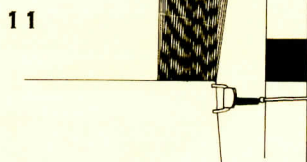
The importance of proper tensioning of the filler yarn as it is coming out of the shuttle cannot be over-emphasized. Tip of bobbin must aim at the opening in the shuttle; so there will be a minimum of friction against the yarn and it will flow out freely and cause the cloth to weave in approximately the width it is set in the reed. The tension of the filler thread is extremely important because it controls the width of the material. If the cloth becomes narrow because of tight tension in the filler, the reed will soon chafe the warp thread and cut the outside threads of the warp. (Threads from the shuttle are called picks). When weaving woolens and worsteds, you cannot have any tension on the thread coming out of the shuttle. For mercerized cotton or yarns which are very slippery the tip of the bobbin is aimed away from the opening in order to produce the tension required to bind the edges of cloth properly. If properly adjusted, the filler threads will produce a good straight edge without having to pull out the edges of the cloth or without assistance other than the temple hooks.



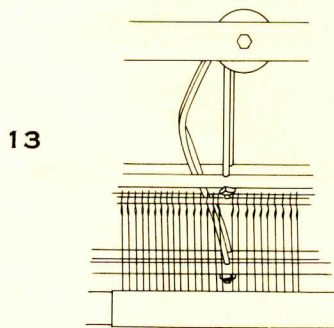
This sketch shows the cloth line (the line where the cloth begins) at about 1/2" beyond the blue tape on the shuttle rest bar which means that we have woven the limit and the cloth should be wound onto the cloth roll in the front.



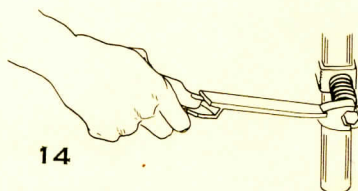
Shows the loom tool engaged onto the sprocket gear. The round end of the loom tool must fit underneath the hub of the sprocket gear while the notch halfway on the tool engages the sprocket teeth. Now press down on loom tool to wind the cloth onto the cloth roll and move the cloth line to the beginning of the blue tape marker. (Sketch # 11).



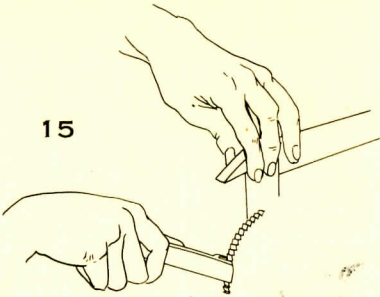
The temple hook held by its tab between the index and thumb has been unhooked from the cloth and is to be hooked again into the cloth at about 1/8" from the cloth line. The sketch shows the temple hook upside down, so you may see the two hooks which dig into the cloth without danger of causing any damage. Move the right and left temple hooks every time the cloth line is changed. (Sketch #11).



Showing the heavy buckling of the harness straps of the two low harnesses due to the rolling of the cloth around cloth roll in the process of moving the cloth line, to its new position at the beginning of the blue tape marker. If the straps are more heavily buckled it means that there is too much tension applied to the warp and it is not flowing freely off the warp beam. One turn or more should be unwound off the pressure bolt, to lessen the tension as in Sketch # 14.

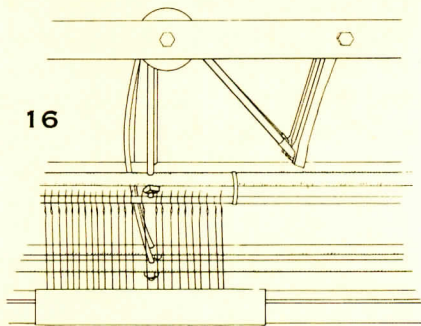




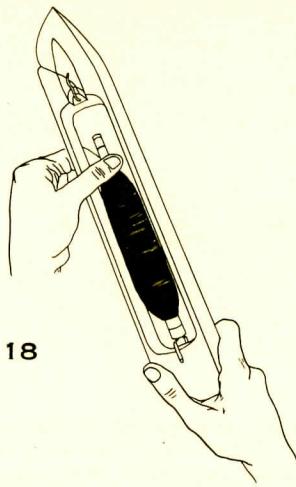


15

After the cloth line has been brought into position as (Sketch # 11) and the harness straps still heavily buckled as in Sketch # 13 the loom tool is engaged to the sprockets Sketch # 15 and held by the right hand while the left hand raises the pawl to allow the sprocket to turn back a few notches, thereby releasing the warp tension until the harness straps of the two low harnesses are slightly buckled. (Sketch # 16). Correct slight buckle must be held the same at all times while weaving in order to produce even cloth. The correct tensioning of the warp and filler threads are the most important points to master as that is the foundation of the fabric.

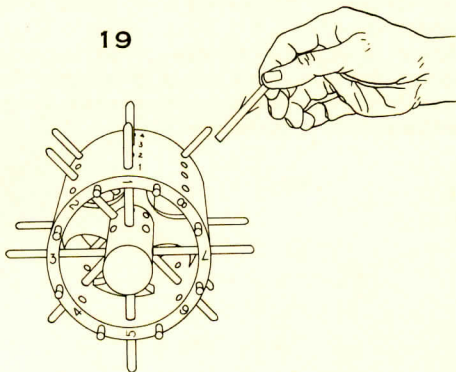


16



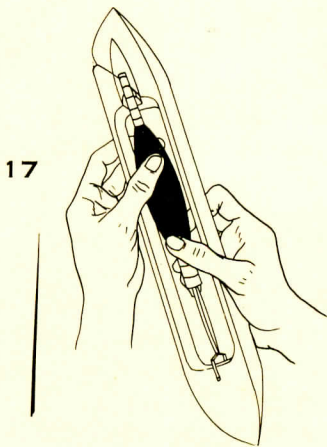
18

Showing the insertion of a bobbin into the shuttle by pushing it in from the top of the wound yarn.



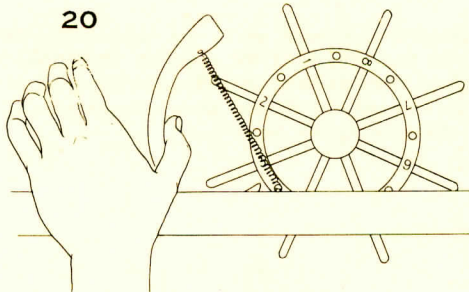
19

Showing # 1 to # 8 stamped on rim of cylinder and painted. These are the row numbers. The rotation of the cylinder is normally clockwise but it can turn in either direction. Also showing numbers stamped across the face of the cylinder, # 1 to # 4, to correspond with the harnesses. Sketch shows indicator pin pulled out of hole in cylinder to be set in a different hole to produce a different pattern.



17

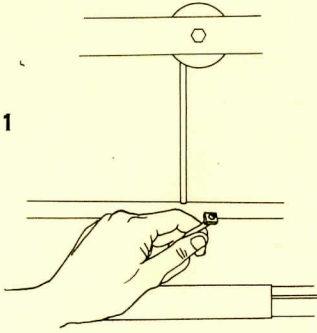
Showing the manner of removing the bobbin out of the shuttle by pushing it out from the base of the bobbin.



20

For counter clockwise rotation, lean the left hand against frame of loom and push upwards against the headlock with thumb at the same time as the right hand turns the handwheel backwards so the headlock will clear the cylinder, then turn until the desired row # is directly below the harness levers. Now let the headlock go, turn forward until the desired row # has raised the harness levers. It is not necessary to bring the lock out as far as is shown in the sketch as it stretches the spring needlessly.

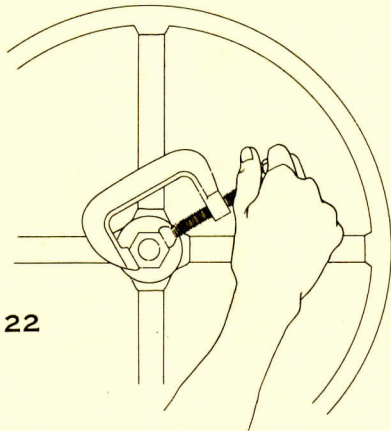
21



Before starting new warp all the harnesses should be leveled. The tension of the warp is released to the point where the harness straps are straight up and down. When in this position the warp threads should be just about touching the bottom of the reed at the location of the reed cap. Make harnesses #3 and #4  $1/16$ " higher. Then set warp tension at normal and raise shed.

Refer to Sketch #16 showing the raised harnesses with the heel of the harness lever slightly above harness top.

Method of adjusting harnesses. Pull the strap through the harness top two or three inches then screw the nut onto the harness strap to raise harness and unscrew to lower harness.



22

Handwheel screwed on to the headmotion shaft with hub away from the operator. Handwheel in place screw as far as possible leaving end of shaft for lock nut. In absence of wrench use clamp to tighten nut against handwheel.

**NADEAU**  
*Hand-Skill Looms, Inc.*

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WOONSOCKET, R. I., U. S. A.

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## BASIC WARP PRICE LIST AND DETAILED INFORMATION

The wealth of information acquired by using our basic projects will eliminate the costliness of trial and error and the handweaving knowledge gained cannot be had in any way other than in actually doing it yourself.

With long basic warps you can make entirely different fabrics every 3 or 10 yards by changing combinations of colors, also fabric with various textures. Even the weight of the material can vary: For example: a light weight and medium weight material can be made on the same project by changing the weight of the filler. On silk - project # 40 - a silk filler will make a medium weight warm material suitable for Spring suits and Winter dresses and men's sport jackets.

No one is obliged to accept any one project. New projects are constantly being developed. Yarns at reasonable prices, not available elsewhere, are made available to you through this program.

The luxury, longevity and economy of handwoven materials, made with our QUALITY yarns, will make you realize how much you have missed up to now. High-grade hand woven materials are among the finer things in life. The low cost is unbelievable until you discover it for yourself with our basic warp program.

Now you can give the very best to the special persons in your life on their birthdays, anniversaries and Christmas. A handwoven gift is the ideal gift for all occasions.

### THE ADVANTAGES OF BASIC WARPS

In our efforts to discover an inexpensive method of weaving for the hobbyist and specialist, long basic warps to fifty yards in length are now being designed in woolen, wool worsted, silk, cotton, and linen as well as new yarn blends.

These basic warps available to you in thirty to fifty yard lengths bring to you the following savings and advantages:

Your warping services are reduced to a minimum.

Since we buy in large quantities to supply these warps, the savings are passed on to you.

Quantity buying entitles you to an added 5% discount on yarns.

You start and end your warp only once.

The complete set-up of the loom occurs but once.

Your warp is ready-made, beamed and leased, no odds and ends left over.

You have more time to materialize your projects. All of your efforts are directed to weaving and designing your own color combinations and textures.

Yarn fillers used in these projects vary in texture and color. Your own taste prevails and each two or three yards can be entirely different.

Your quills are already wound. More added time to materialize your projects! Free quills.

Time and money saved in avoiding drudgery, as well as precious yarn waste, enables you to find more time and energy to do more weaving and experimenting with color and its application as well as texture. Elimination of waste increases your yarn budget and allows for more projects than can be imagined.

TIME IS THE MOST PRECIOUS AND THE MOST EXPENSIVE ELEMENT AT YOUR DISPOSAL. WE ARE MAKING IT POSSIBLE FOR YOU TO USE IT WISELY AND ADVANTAGEOUSLY. Every basic project has with it much fundamental knowledge not necessarily available in books. You can grasp facts so much easier if they are applied to the project. The study of ready-made warps, their construction and eventual adaptability can be considered fundamental for success in weaving.

Please note that our projects are made of natural wrinkle resistant fibres.

Please ask for QUOTATION on Special Projects of your own design.

READY-WOUND BASIC WARPS.....RETAIL PRICES  
 (Including Winding) FOR MODELS 15-N & 21-N LOOMS  
 WARP BEAMS EXCHANGEABLE OR PURCHASEABLE OUTRIGHT \$6.45

Please write in for quotations on fillers of your selection other than those listed. It is important to mention what the project is to determine the number of picks per inch required.  
 Refer to Bi-monthly Publications for photographs of the finished projects listed.

DESCRIPTION	STANDARD LENGTHS OF WARP (YARDS)				
	10	20	30	40	50
ANY LENGTH WARP CAN BE ORDERED ON ALL PROJECTS					

WARP FOR PROJECT NO: 1 Add 75% to all Cotton Warps & Fillers unless otherwise indicated.

20/3 combed cotton (Natural) 28 threads to the inch #14 reed (14" wide) 392 ends	3.60	6.25	8.75	11.10	13.30
--	------	------	------	-------	-------

FILLER YARNS

Standard Assortment - Mixture of:

* Floss - 20/3 Merc. - Wonderglow	3.65	7.30	10.95	14.60	18.25
* All Floss (24 picks per inch)	5.93	11.86	17.79	23.72	29.65
* All Merc. (32 picks per inch)	3.65	7.30	10.95	14.60	18.25
* All Wonderglow (30 picks per inch)	6.95	13.90	20.85	27.80	34.75
* All Flecked Silk 14/1 (32 picks per inch)	4.11	8.22	12.33	16.44	20.55

Other Filler Yarns that can be used:

Novelty Rayon ) per lb.					* Chenille (All sizes)
Novelty Cotton ) \$2.95					Wool Novelties (Dry cleaning advised when wool filler is used on cotton or mercerized warps)
* Jute					* Synthetics, etc.
* Straw					
* Raphia					

ITEMS THAT CAN BE MADE ON PROJECT NO: 1

Stoles	Hoods	Hat & Bag Fabric	Weskits
--------	-------	------------------	---------

Fabrics for adult accessories:

Tie fabric & Scarves (Silk and Wool)	Stole & Beach Bag Plaid Woolen Scarves	Skirts Aprons	Handkerchief Cases Stocking Cases
---	---	------------------	--------------------------------------

Fabrics for household items:

Napkins Guest towels table runners drapery material	Dutch Curtains Floor Runners Pot Holders Living room chair sets	Reversible Place Mats Lamp Shades Upholstery for Hassocks & Stools
--	--	---

Fabrics for the younger set:

Hoods Baby Bibs Aprons Bonnet Material	Doll Clothes Skirts Dresses Jumpers	Crib covers Baby carriage sets Boy's Suits
---	--	--



DESCRIPTION	STANDARD LENGTHS OF WARP ( YARDS )				
	10	20	30	40	50

WARP FOR PROJECT NO: 1A

20/3 combed cotton (Natural) 28 threads to the inch #14 reed (37½" wide) 1044 ends	6.10	10.70	15.30	19.90	24.50
--	------	-------	-------	-------	-------

FILLER YARNS

Standard Assortment - Mixture of: Floss - 20/3 Merc. - Wonderglow	7.30	14.60	21.90	29.20	36.50
* All Floss (24 picks per inch)	15.74	31.48	47.22	62.96	78.70
* All Merc. (32 picks per inch)	7.99	15.98	23.97	31.96	39.95
* All Wonderglow (30 picks per inch)	19.11	38.22	57.33	76.44	95.55
* All Flecked Silk 14/1 (32 picks per inch)	10.95	21.90	32.85	43.80	54.75

OTHER FILLER YARNS ARE THE SAME AS FOR PROJECT NO: 1

ALL ITEMS MADE ON PROJECT NO: 1 CAN BE MADE ON PROJECT NO: 1A WITH THESE ADDITIONS:

Dress fabric	Evening Bags	Summer Resort Wear
Skirts	Beach Bags	Men's Summer Togs
Evening dress Fabric	Shopping Bags	Sport Shirts for all seasons
Upholstery	Stoles	Reversible chenille rugs
Cocktail Aprons	Aprons	Stole Aprons
Draperies	Colonial Coverlets	Bar-B-Q Aprons & Tablecloths (Using coarse filler)
Indoor folding screen	High-Fi Screen	Couch covers
Bed & Couch bolsters	Bedspreads	

WARP FOR PROJECT B:

20/3 Mercerized Cotton (Black) 28 threads to the inch #14 reed (37½" wide) 1044 ends	9.80	18.10	26.40	34.70	43.00
--	------	-------	-------	-------	-------

FILLER YARNS:

Standard Assortment - Mixture of: Floss - 20/3 Merc. - Wonderglow	7.30	14.60	21.90	29.20	36.50
--	------	-------	-------	-------	-------

ALL FILLERS AND PRICES ARE THE SAME AS FOR PROJECT NO: 1

All items made on Project No. 1 and Project No. 1A can be made on Project B. B is Black mercerize and gives deeper darker tones to all fillers used.

DESCRIPTION	STANDARD LENGTHS OF WARP (YARDS)				
	10	20	30	40	50

WARP FOR PROJECT NO: B-1

* 20/3 Mercerized Cotton (Black) 28 threads to the inch #14 reed (14" wide) 392 ends	4.26	8.52	12.78	17.04	21.30
--	------	------	-------	-------	-------

All fillers and prices are the same as for Project no. 1

All items made on project No. 1 can be made on Project B-1.  
Project B-1 is Black Mercerize and gives deeper darker tones to all fillers used.

-----  
RUG WARPS

WARP FOR PROJECT NO: 2

8/4 combed cotton (Natural) 12 threads to the inch #12 reed (28" wide) 336 ends	4.70	7.90	11.10	14.30	17.50
---	------	------	-------	-------	-------

WARP FOR PROJECT NO: 2A

8/4 combed cotton (Natural) 14 threads to the inch #14 reed (28" wide) 392 ends	5.67	9.80	13.93	---	---
---	------	------	-------	-----	-----

FILLER YARNS FOR PROJECTS NO: 2 & 2A

Rugs are figured by the foot  
10 yds. - 30 ft.

* Cotton Roving	12.00	---	---	---	---
Rag Roving .60 per lb. in 5 to 8 lb. bags					
* Braided Chenille (for heavy pile rugs)					
Bi-colors (Maximum Cost)	52.55	---	---	---	---
Solid colors	71.05	---	---	---	---
Refer to Bi-monthly for weaving technique					
* Regular Chenille (Double face Reversible)	63.20	---	---	---	---
Single face double pick - Approx. 3/4 price					
Single face single pick - Approx. 1/2 price					

Amount of rug filler yarns will vary depending on size filler used and whether rug is double or single face. Also if single pick or double pick is preferred on single face rugs. Common Filler Yarns are: roving, chenille, rayon wool filler, or your own odds and ends of discarded materials. Roving can be alternated with rags for unusual texture.

ITEMS THAT CAN BE MADE ON PROJECT NO: 2 & 2 A

Bath Mats  
Throw Rugs

Rugs for any Room

Stair Runner  
Heavy Pile Rugs

Heavy Novelty cotton or rayon fillers 5/2 floss and 8/4's can be used to make the following projects:

Bar-B-Q-Aprons  
Table Cloths

Luncheon Cloths for garden  
and veranda furniture

Summer cottage draw drapes  
Cabin draw drapes



DESCRIPTION	STANDARD LENGTHS OF WARP (YARDS)				
	10	20	30	40	50

Allow one yard of warp extra for every 10 yards ordered for all basic warps excepting tweeds. We allow 1½ yards for every 10 yards on all woolen tweed warps #10 - 11 - 12.

WARP FOR PROJECT NO: 10 Add 50% to all Tweed & Woolen Warps unless otherwise

Tweed Wool (Neutral Shades)	indicated				
20 threads to the inch	13.75	26.00	38.25	50.50	62.75
#10 Reed (37½" wide) 744 ends					

Filler Yarns same as warp:	Add 25% only to all Tweed Fillers				
1.8 Wool	10.00	20.00	30.00	40.00	50.00

WARP FOR PROJECT NO. 11

Tweed Wool (Cool Overplaid) - Warp color pattern - 1 gray (Lt. Mix.) - 1 red - 1 gray (Lt.)  
1 Navy - 1 gray (Lt.) - 1 slate gray - 1 gray (Lt.) - 1 turquoise

WARP FOR PROJECT NO. 12

Tweed Wool (Warm Overplaid) - Warp color pattern - 1 Dark Brown - 1 Neutral - 1 Rosewood  
1 Neutral - 1 Tan - 1 Dark Green - 1 Neutral - 1 Rust - 1 Neutral

FILLER YARNS THAT CAN BE USED ON PROJECTS NO: 10 - 11 and 12

Heathers	All Wool Boucle's
Nubby Woolen	and
Metallics	Novelty Yarns

ITEMS THAT CAN BE MADE ON PROJECTS NO: 10 - 11 and 12

Medium weight tweed jackets (Men, women and children)  
Heavy weight tweed jackets (Using heavy fillers)  
Top Coats (Men's wear)  
Overcoats  
Coats for women and girls (Heavy fillers, boucle's etc.)  
Medium weight Fall & Winter suits, skirts, jumpers -  
for women, teenagers and children  
all types of blankets

WARP FOR PROJECT NO: 30 No Price Change

3 ply Hardspun Wool Worsted (Beige & Gray alternating)					
30 threads to the inch	22.38	43.26	64.14	85.02	105.90
#10 or #15 Reed (37½" wide) 1116 ends					
Filler Yarn same as warp:					
3 ply Hardspun Wool Worsted	19.88	39.75	59.63	79.50	99.38
Flecked Silk - 14/1	10.95	21.90	32.85	43.80	54.75
80% Wool Worsted & 20% Silk blend	12.38	24.75	37.13	49.50	61.88

DESCRIPTION	STANDARD LENGTHS OF WARP (YARDS)				
	10	20	30	40	50

OTHER FILLER YARNS THAT CAN BE USED:

All re-inforced metallics	2/26 Vicara & Worsted Blend
Heathers	2/18 Wool Worsted
Finer nubby woolens	2/12 Wool Worsted
All Wool Boucle's and Novelty Yarns	Wonderglow can only be used for decorations when used sparingly.

ITEMS THAT CAN BE MADE ON PROJECT NO: 30

Men's suiting - Fall and Winter, with worsted filler

Men's suiting for Spring  
Ideal for women's wear as well - with varying sizes of boucle's for filler

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WARP FOR PROJECT NO: 31

3 ply Baby Worsted (White) 14 Threads to the inch #14 Reed (37½" wide) 525 ends	18.40	35.30	52.20	69.10	86.00
Filler Yarn same as warp: 3 ply Baby Worsted	15.90	31.80	47.70	63.60	79.50
Flecked Silk 14/1	10.95	21.90	32.85	43.80	54.75

OTHER FILLER YARNS THAT CAN BE USED:

All worsted Boucle's Metallics All Fine Worsted Cashmere	Wonderglow (for decoration only) 20/3 Mercerize 80% Wool Worsted - 20% Silk Blend
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ITEMS THAT CAN BE MADE ON PROJECT NO: 31

This is our basic baby blanket and shawl warp. Other useful items: stoles - throws that are useful for the car, invalids, hockey & football games - afghans (fancy pattern with multi-colored filler) Filler colors predominate. Evening Jackets - Sportwear - Casual Wear.

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WARP FOR PROJECT NO: 40 Also available in stock colors.

14/1 Flecked Silk (Natural) 30 threads to the inch #10 or #15 reed (37½" wide) 1116 ends	13.45	25.40	37.35	49.30	61.25
Filler Yarn same as warp: 14/1 flecked silk	10.95	21.90	32.85	43.80	54.75
80% Wool Worsted & 20% Silk blend	12.38	24.75	37.13	49.50	61.88

OTHER FILLER YARNS THAT CAN BE USED - SAME AS PROJECTS NO. 30 and No.31



DESCRIPTION	STANDARD LENGTHS OF WARP ( YARDS)				
	10	20	30	40	50

ITEMS THAT CAN BE MADE ON PROJECT NO: 40

Men's Wear	Shirts	Christening Sets (Fine Raw Silk, gold filler thread for decoration)
Suitings	Weskits for everyone *	
Neckties	Women's Wear	Evening Dresses
Jackets	Stoles	Evening Blouses & Skirts with metallic

WARP FOR PROJECT NO: 41

80% worsted, 20% Silk (Gray tones) 30 threads to the inch #10 reed (37½" wide) 1116 ends	15.70	29.90	44.10	58.30	72.50
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Filler Yarn same as warp:

80% Worsted & 20% Silk Blend	12.38	24.75	37.13	49.50	61.88
* 14/1 Flecked Silk	10.95	21.90	32.85	43.80	54.75

OTHER FILLER YARNS THAT CAN BE USED - SAME AS PROJECTS NO: 30 and NO: 31

ITEMS THAT CAN BE MADE ON PROJECT NO: 41

Tweeds (light & medium weight) Dresswear Stoles	Medium weight tweeds using heavier filler Fall & Winter Wear using silk filler & metallic Spring Fabrics (14/1 Flecked Silk Filler)
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SURPLUS YARNS

\* Surplus yarns can be returned for credit only within 10 days after shipment on yarns with asterisks. Deliveries on new dye lots are being made to the plant on these yarns regularly, the reason for the 10 day limit. We cannot mix dye lots.

All other yarns are allowed a period of six weeks for the returning of surplus yarns.

SPECIAL WARPS

We make other warps according to customer's specifications when other than the basic warps are required. Write in for quotations - Free estimates on special warps and fillers.

RETURNING WARP BEAMS FOR REFILL

You may be interested in knowing how one of our customers handled the situation of returning a warp beam to us briefly and effectively: He tied the apron securely around the warp beam with a string in the middle and at both ends. He also tied the adjustable flanges at the other end of the warp beam and placed the address ticket at the same end, tied on through the hole in the warp beam flange. "Fragile" and "Handle with Care" were marked on the reverse side of the ticket. He shipped it Parcel Post and it arrived in perfect condition. We would not advise the use of this shipping method outside of the country.

## THE ART OF MAKING A WARP

The art of making a warp should never be lost, but it is no longer practical nor useful in our modern world.

Three years of research have proven beyond a doubt that warp making at home is expensive.

Here are a few of the facts we have discovered:

More yarn than is necessary is always purchased for fear of running short.

Warps made at home are costly in time and energy.

The yarns used to make these warps are purchased in small quantities. These command top retail prices if good yarns, which are the best and only yarns to use, are purchased.

Most handweavers, because of the prevailing conditions mentioned in previous paragraph, buy in very small quantities or purchase poor grade yarns, especially in the wool and worsted line, because the price is low. Low priced yarns in the wool line indicate yarns made of short wool staples where an abundance of oil must be used to spin the fibre together. In reality the weaver pays for much oil - and the yarn, because of its short fibres, is not as strong and never holds as good a press as a high-grade handwoven woolen material should. There is no reason to handweave materials unless the product is superior in every way to the commercially woven goods.

In ordering yarns the home weaver feels, especially when a good buy in odd lots presents itself, that a wonderful savings is in the making. The average weaver purchasing odd lot material finds himself at the end of a time with numerous odds and ends, colors and varieties no longer available if a project of any length is decided upon. Left-overs are costly in time and effort to handle. The majority of the hand-weavers today are interested in results and accomplishment.

Each home-made warp varies in length from 1 - 1/2 up to 10 yards. Each one of these short warps has the repeated waste of tying on the warp to the apron when starting a new warp and the extravagant added waste at the end of the warp. This waste of yarn makes any project costly.

The added cost of warping equipment and the drudgery involved in making warps and beaming them takes many hours of actual weaving away from the weaver and has very little to offer.

The entire procedure of setting up the loom for every short warp takes away any savings in the purchasing of yarns.