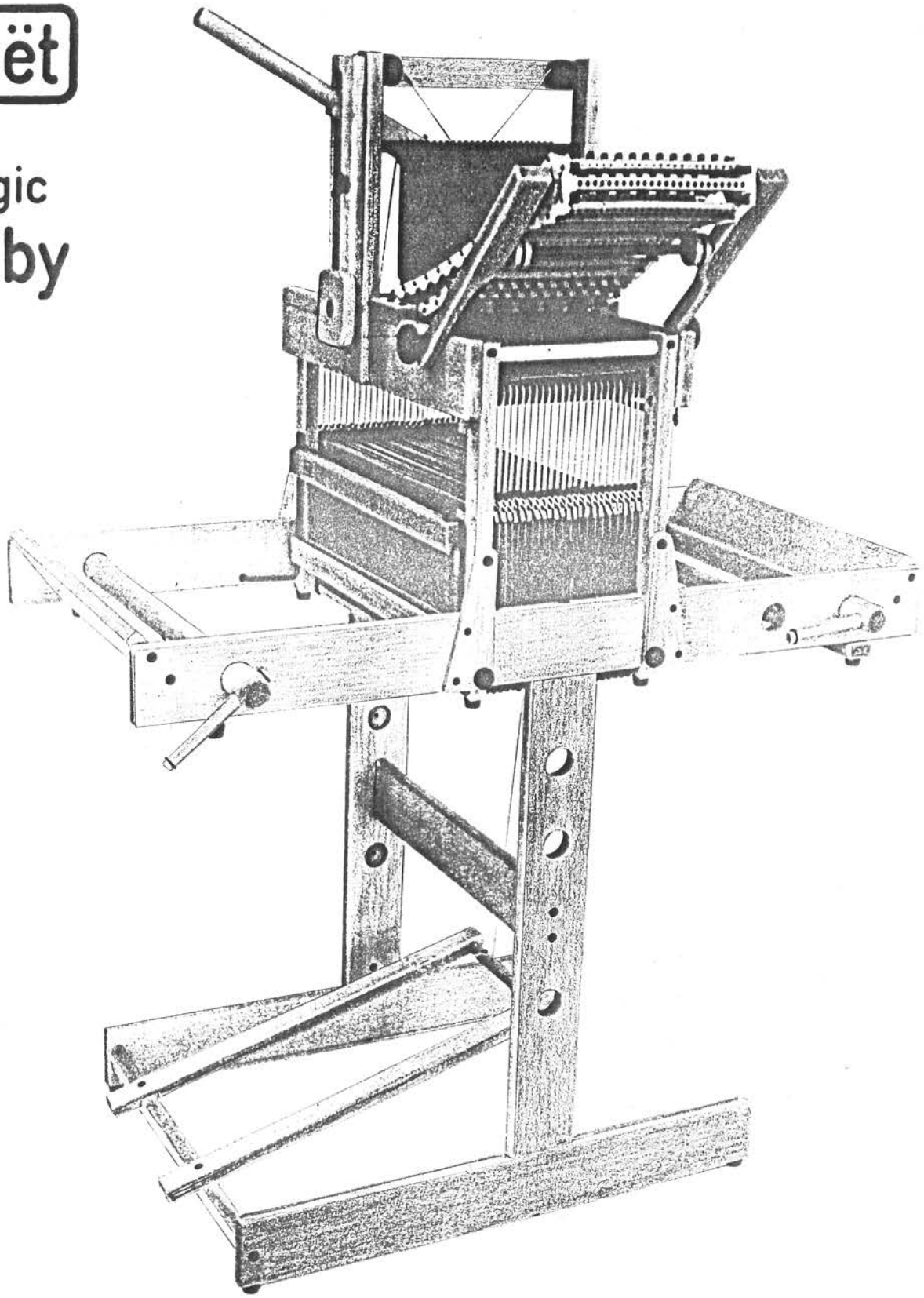
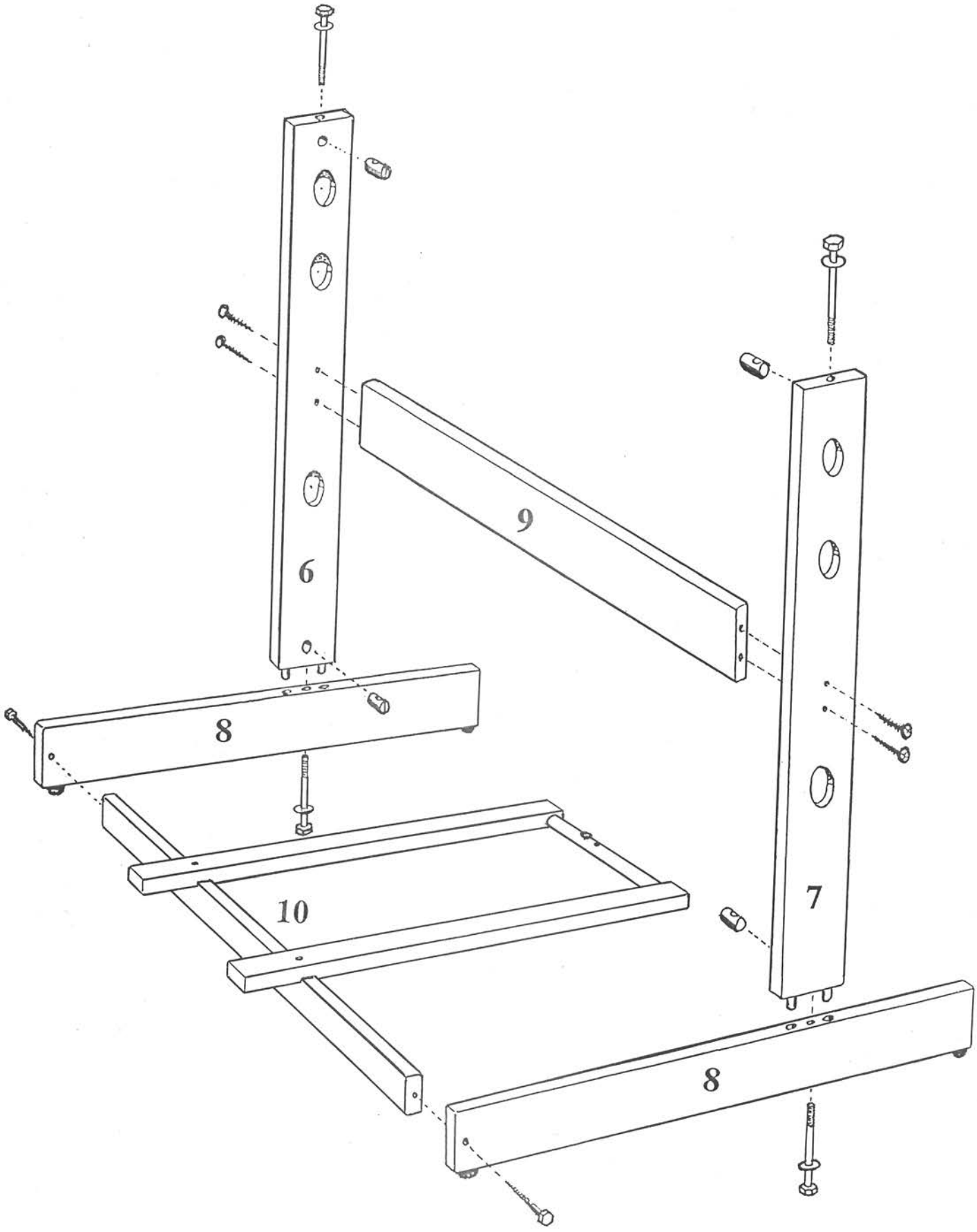
louët

magic dobby



User Manual

Contents:


6
9
8
10
7
8

Assembly of the floor stand

* Hardware bag 1, containing:

4 screws	5 x 50 mm
4 bolts	M6 x 120 mm with washer and barrel nut
2 lag bolts	6 x 60 mm
1 cord	147 cm texsolv cord (58")
1 screw driver	
1 wrench	10 x 13 mm

Important: Take care to install the barrel nuts properly; the threaded holes should line up with the vertical holes in the wooden members **6** and **7**. The slot in the barrel should face outward, it indicates the direction of the threaded hole. Use a flathead screw driver to adjust the position of the slot if required. If the barrel nut is installed backwards, it can be difficult to get the nut out of the members **6** and **7**. (Hold the member with the barrel nut downward and gently tap the wood.)

1. Assemble the vertical members **6** and **7** to the feet **8**, using two M6 x 120 mm bolts, two washers and two barrel nuts as shown in the drawing. Watch the location of the right and left verticals in relationship to the feet. The open holes in **7** for the warp and cloth beams are on the right side of the loom.

2. Use the 5 x 50 mm screws to attach the horizontal member **9** to the verticals **6** and 7. Only tighten these screws when you are sure the floor stand rests on a level surface.

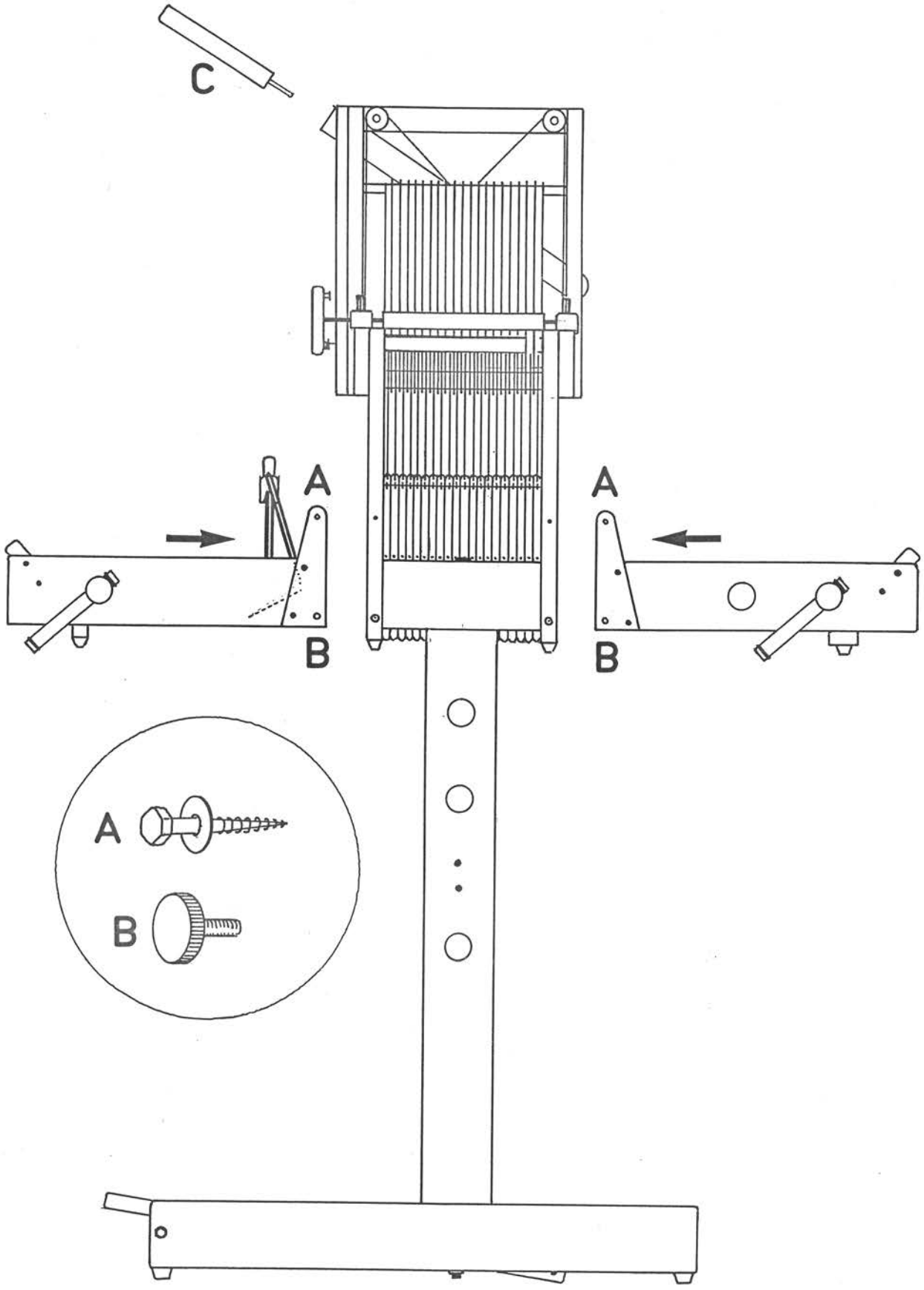
3. Use the 6 x 60 mm lag bolts to attach treadle **10** to the floorstand. Do not tighten these screws as the treadle must move easily.

Mounting the loom on the stand

Use the remaining two M6 x 120 mm bolts, washers and barrel nuts to mount the loom onto the floor stand.

1. Place the washers over the bolts and insert the bolts through the holes in the short sides of the loom. Insert the barrel nuts into the holes of verti cal members **6** and **7**.

2. With an assistant if possible, lift the loom and carefully position it so that the 120 mm bolts fit in the holes of the stand. Than tighten the bolts firmly.


C
A
B
A
B
A
B

Attaching warp and cloth beam sections to the loom

* Hardware bag 2, containing:

4 Lag bolts 6x35 mm
4 Washers
4 Black plastic knobs M6
2 Nails

1. Take the section with the cloth beam and beater and hold it in place at the front of the loom. Put the nails through the holes A and into the corresponding holes in the uprights of the castle. The cloth beam section will now stay in place and the nails can be replaced, one by one with the lag bolts and washers in next step:

2. Hold the section in place while you remove one nail. Make sure to keep the holes in the cloth beam section and the castle section lined up while you install the lag bolt. After the lag bolt has been tightened, turn the bolt back a quarter turn. This will allow the cloth beam section to pivot freely when you want to fold up the loom for traveling or storage Repeat on the other side of the loom.

3. Now use the plastic knobs B to complete the installation of the cloth beam section.

4. Repeat the same sequence with the warp beam section.

5. To remove the round dowels that block the shafts, take the texsolv cords off the lower screw heads. Use these round dowels again when you are traveling with he loom.

Note:

Handle C needs to be attached to the lifter only, if the loom is to be used as a table loom, that is if not using the treadle.

Folding the loom

1. Unscrew and remove the four black plastic knobs on both sides of the loom.

2. Fold the cloth beam part of the loom up, while you pull the beater forward. This prevents the beater from becoming jammed under the front cross member of the loom.

3. Use the looped texsolv cord, on both sides, to tie-up the cloth beam section in the folded position. On the right hand side, this is easiest done around the end of the cloth beam.

4. Repeat this with the warp beam section

Suggestions:

* Do not lift the loom by the folded front or rear section. Lift by the round bars on the top sides of the loom.

* Prevent losing the black plastic knobs by screwing them back into the holes right away.

* Before you can fold the loom with a warp on it, relax the warp tension somewhat. When you fold the loom out again, be careful not to get the warp threads tangled up. Beware of the knob for the program bar guide.

Treadle cord

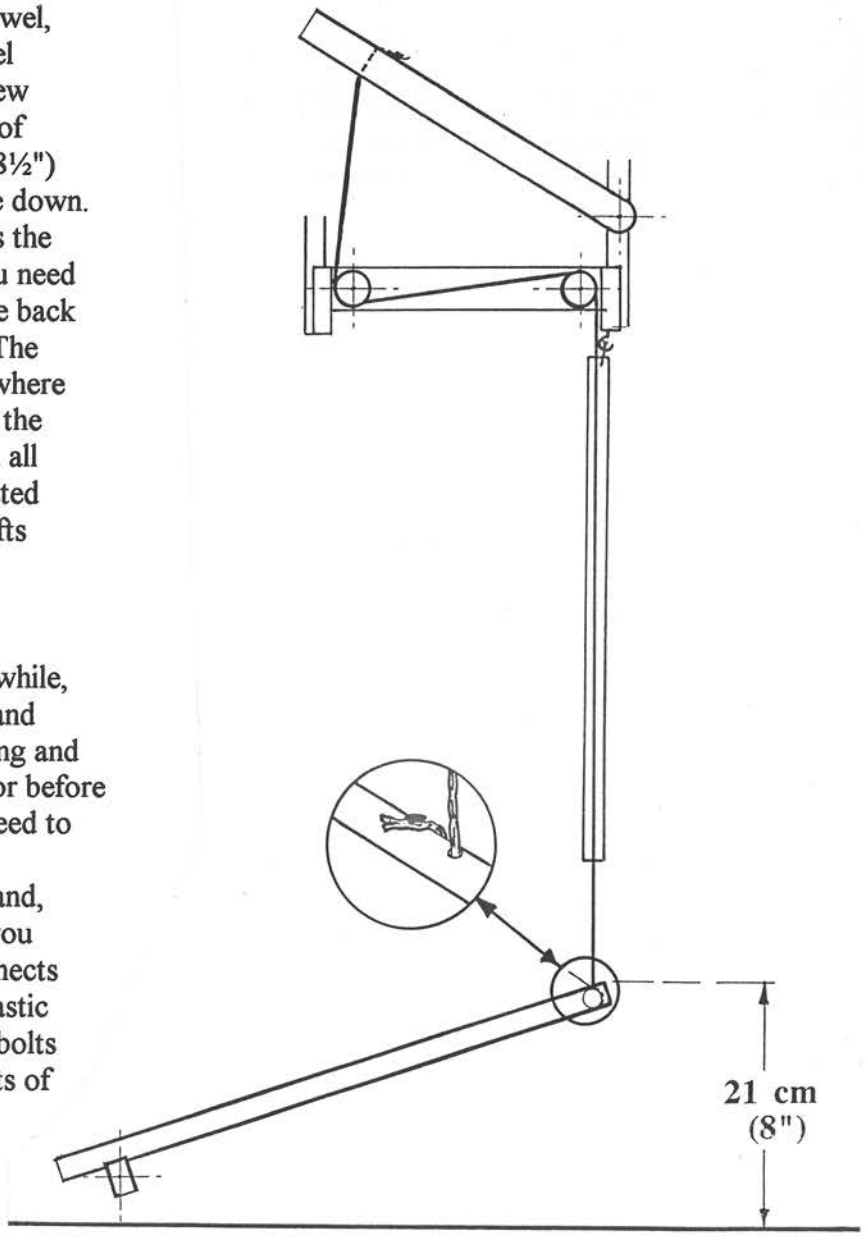
* Cord from hardware bag 1
* Plastic strip

1. Attach the cord to the screwhead on the lifter.

2. Stick the other end of the cord through the hole in the lifter and guide it over the rollers. The cord now hangs down at the back of the loom.

3. Guide the cord through the plastic strip. Keep the short cord on the plastic strip on the upper end. Attach the short cord to the hook in the castle. This plastic strip prevents the warp from being damaged by the cord moving up and down.

4. Attach the cord to the treadle by bringing the end of the cord through the hole in the top of the treadle dowel, wrapping the cord around the dowel and attaching the cord over the screw head on top of the dowel. The end of the treadle has to be about 21 cm (8½") above the floor, while the shafts are down. If the weight of the treadle prevents the shaft from lowering all the way, you need to adjust the horizontal spring in the back of the loom by one or more holes. The maximum position of the spring is where the hook on the spring just touches the roller, when the lifter lever is pulled all the way down. If the spring is adjusted tighter than required, lifting the shafts requires more force than necessary.



Notes:

* After the loom has been used for a while, the treadle cord will stretch a little and requires adjusting: If you are weaving and find that the treadle touches the floor before the lifter is all the way down, you need to shorten the cord.
* If you remove the loom from the stand, you can use it as a table loom, but you have to remove the cord which connects the treadle with the lifter and the plastic cord guard. Make sure you put the bolts and washers back into the barrel nuts of the stand so you will not lose them.

Lifting lever guide

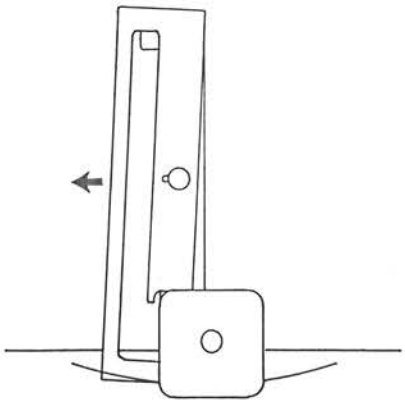
The lifter guide has two functions:

1. To block the lifter when used by hand, in the lowest position. This will keep the shed open.

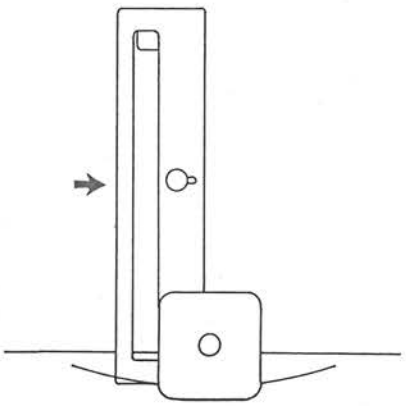
2. To lock the shaft selector knob of the dobby when the shed is open.

Note:

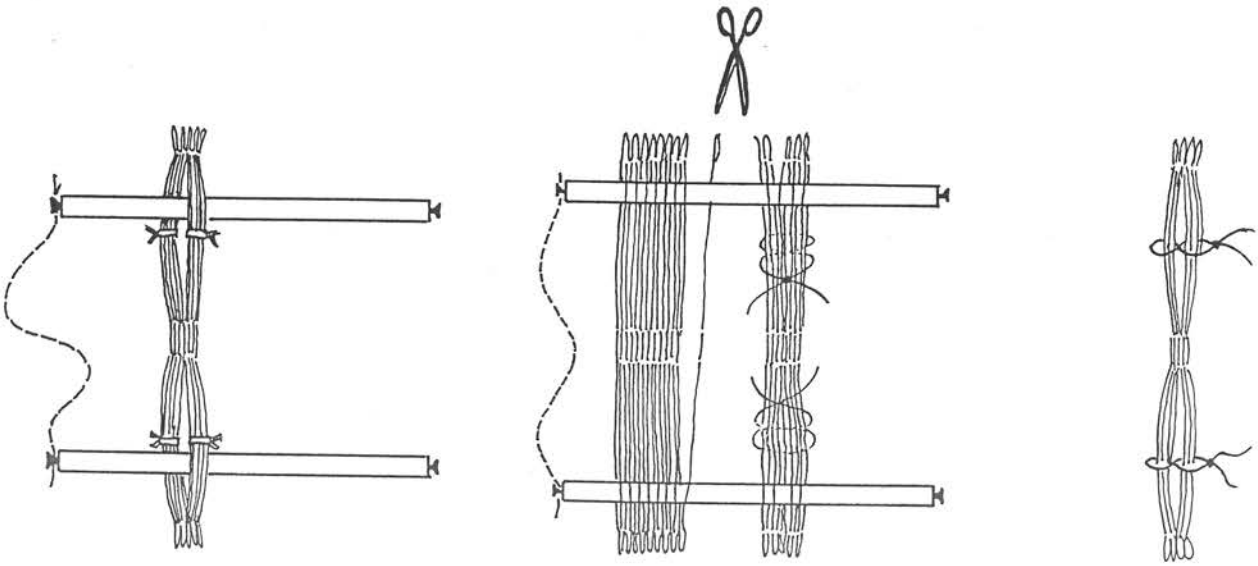
When you use the foot treadle, you do not need to block the lifter in its lowest position as you can keep the shed open with your foot. The lifter guide can be positioned for hand or foot operation by loosening a wing nut on the back side, moving the guide to the position required and then tightening the wing nut again.

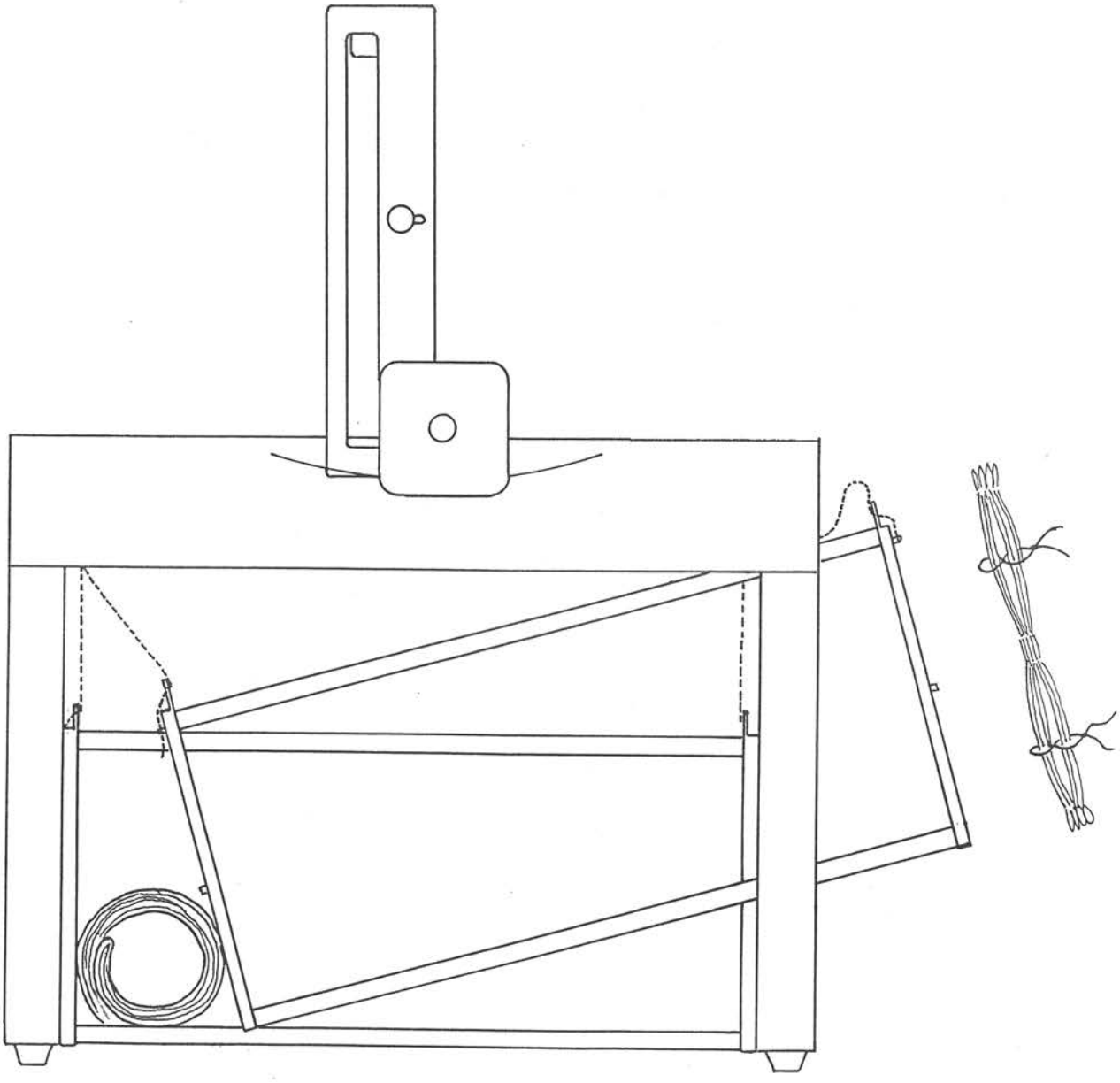


Position for hand operation:
Move the guide far enough to the left that the lifter just sticks behind the point of guide.



Position for foot operation:
Move the guide all the way to the right.





Putting the heddles on the shafts

* Heddles, (205 mm, 8") in bundles of 100 heddles

1. Put two sticks through the openings of the bundle of heddles. This could be any sticks, cross sticks, tie-up sticks, lease sticks, or like in the sketch, the blocking sticks. Put them on a table and untie the twist ties.

2. Count the required number of heddles for the shaft. Use twist ties to secure this new bundle of heddles in four places.

3. Use a sharp pair of scissors to cut the connecting link between the new bundle and the remaining bundle. Remove the new bundle from the sticks.

4. Lift the shaft which needs the heddles and then slide it out of the castle.

5. Carefully remove the upper side of the plastic shaft ends. Shove the heddles over the top bar of the shaft. Repeat this for the lower plastic shaft end.

6. Remove the twist ties from the bundle of heddles and put the shaft into the castle.

Tips:

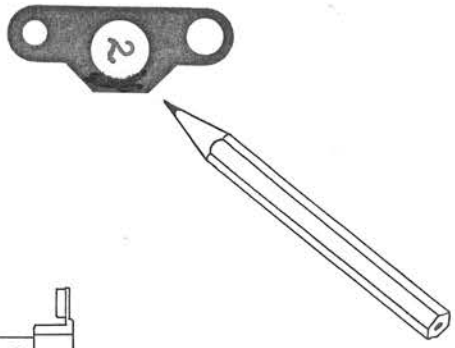
* Add the heddles to one shaft at a time. Use a buffer (A rolled-up issue of handwoven in the drawing) to keep the shaft outside of the castle.

* Several weavers have customized their loom to make it easier to distinguish the shafts while hreading. This can be done by identifying the individual wooden heddle bars. Some weavers like to color the bars, some like to number the bars and some others have just identify ed the un-even bars.

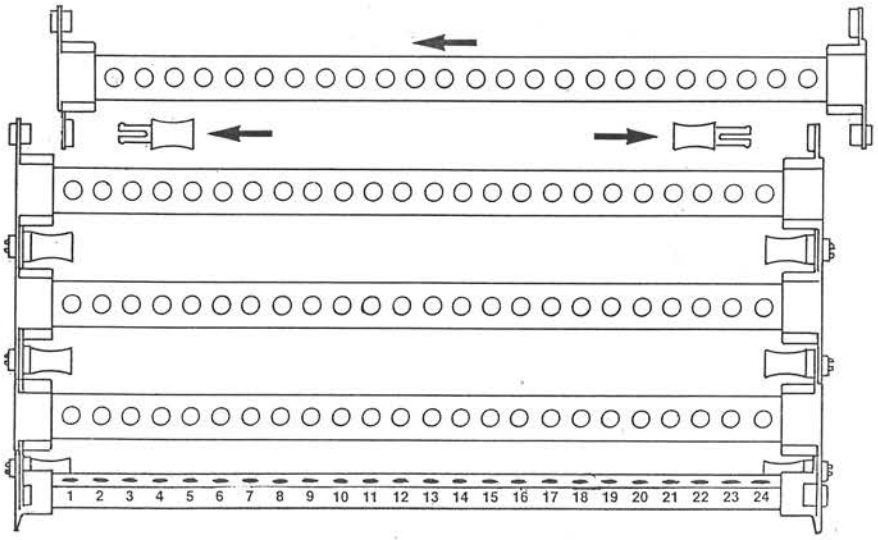
Program bars

The holes in the program bars are numbered. The round white stickers can be used to number the program bars. This will help immensely in keeping track of where you are in the peg plan and will also assist in telling you whether you are advancing or reversing.
The program bars are coupled together as shown on the drawing. Pegs are used to lock the hinge points.
The loom is supplied with 30 program bars, which is sufficient for a pattern with 30 different steps. Additional program bars, in quantities of 10, including the plastic program pegs, are available as an extra.

1. Attach the round stickers on all program bars on the plastic coupling pieces beside the # 1 hole. Afterwards you can use a pencil to number the stickers.



2. The chain of program bars can now be pegged. You can also do the pegging with the chain in place on the loom.



Tips:

* Leave a blank bar in the chain to act as a reminder to reserve or repeat a section of the program. The bar without pegs will not give a shed, the signal for a change.

* If you need to weave a tabby, only two bars are required. Just turn the operating knob forward and then backwards to weave the two tabby picks.

* When weaving blocks that are usually separated by tabby, peg only one block of each section of the pattern, separated by the blank bar. It is easier to weave "back and forth" and skip from e.g. A to C block, then go back to B than it is to have one hundred plus bars. You could color code the blocks with tiny stickers so A would be equal to red ect. You will find that weaves like Summer and Winter or overshot will be much easier woven in this way. Similarly you may find that it is easier to maintain a base from which you only have to change a couple of pegs as you might do if weaving a motif in Summer & winter where there is only a slight pattern change from block to block.

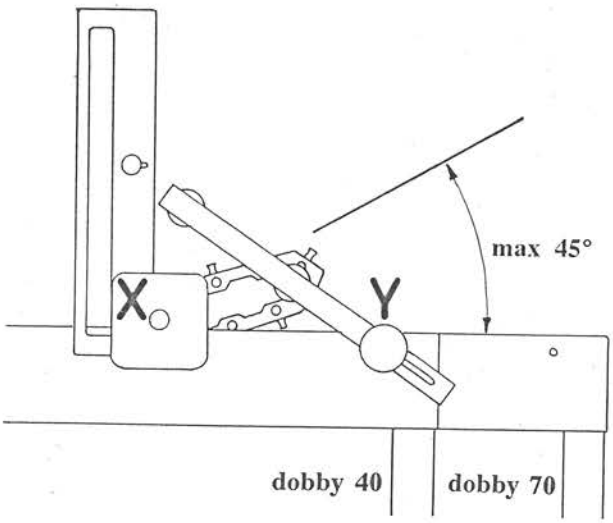
Installing program bars

1. Put the chain of program bars around the square bar of the selector X. It helps if you turn the selector knob with one hand and feed the chain around the bar with the other hand. The plastic couplers on the end of the program bars have a extension which has to fit around the end of the square bar. If you have not installed any pegs in the first two bars, it will be much easier to install the chain.

2. Install the guide for the program bars at Y: Remove the carriage bolts, washers and large plastic knobs from the guide. Depending on the number of program bars, there is a choice of two connection holes for the Magic Dobby 70. Put the carriage bolts through the holes from inside the loom and then through the slots in the guide. Put the washers over the carriage bolts and tighten the plastic knobs tight enough so that the square heads of the bolts are pulled into the wood. Then you can loosen the plastic knobs a little so that the guide can be moved easily.

3. Put one end of the chain around one of the roller shafts and couple the chain together. Make sure to select rollers that will result in the chain making an angle of less than 45 degrees from horizontal. This will depend on the number of program bars used.

4. The chain of program bars can now be tightened with the plastic knob Y. The tension in the chain needs to be sufficient that the square bar of the selector X is able to move the chain along when the selector is used, also when the program bar has a lot of pegs.



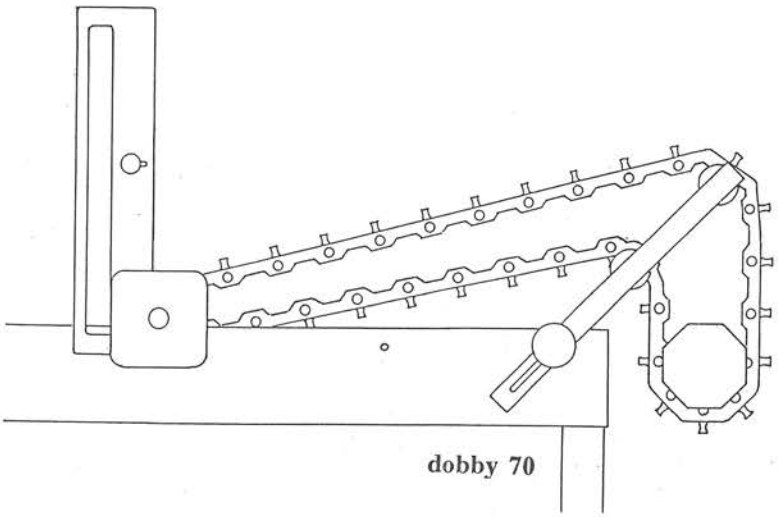
Suggestions for the chain guide with different numbers of program bars:

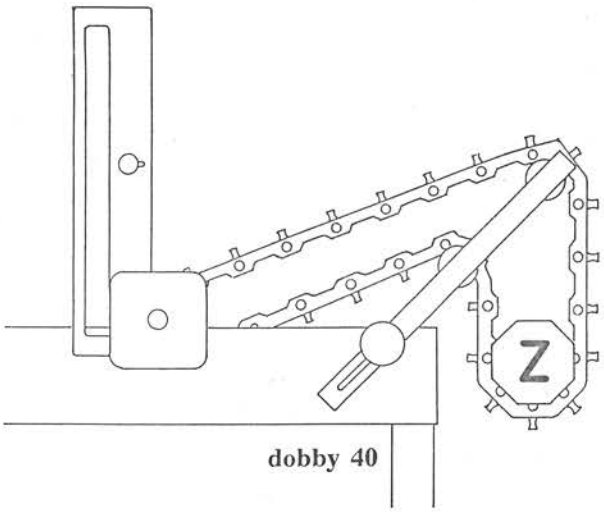
40 cm (16") loom:
* 12 to 24 program bars - around the lower roller shaft.
* 22 to 32 program bars - around the upper roller shaft.
* 26 to 34 program bars - around both roller shafts.

70 cm (28") loom:
* 12 to 24 program bars - around the lower roller shaft. The guide has to be installed in the holes closest to the selector X.
* 22 to 32 program bars - around the upper roller shaft. The guide has to be installed in the holes closest to the selector, the same as above.
* 32 to 44 program bars - around both roller shafts. The guide has to be installed in the holes farthest from the selector.

If more than 34 program bars are required on the 40 cm (16") loom or 44 program bars on the 70 cm (28") loom, put the chain of program bars around the upper roller shaft and adjust the guide so that there is a loop of program bars hanging around the two shafts. This loop needs to be weighted to keep tension on the chain of program bars. The weight should turn with the chain.

A weight is available as an accessory. Using up to about 80 program bars, the chain has sufficient weight of its own. With 100 program bars, the loop will reach the ground. To prevent somebody from stepping on the program bars and to prevent the bars catching on a rough surface such as a carpet, you can put the chain in a cardboard box or support it on a smooth surface. The chain can be extended to about 120 program bars.





Suggestions:

* When the chain guide has to be removed, like when you need to put the guide in different holes (Dobby 70), you can easily remove a carriage bolt by loosening the black plastic knob and pushing against the nut until the bolts move out of the wood.

* It is important to reinstall the carriage bolts in the same holes with the square heads of the bolts lined up with the square mark previously made in the wood. If this is not done correctly, the wood will not be able to hold the carriage bolt properly.

* Periodically check that the pegs which secure the joints between the program bars are completely pushed into the holes. Also check whether the bottomparts of the joints run on the outside of the rollers of the guide and not in grooves of the rollers.

Raddle

The raddle is mounted on the back of the loom, under the spring. You can remove the raddle from the loom by turning the wooden blocks on the underside. These wooden blocks can be used as feet if you want to put the raddle on a table when you are placing the warp threads in the sections of the raddle.

The raddle has two sections per centimeter (5 spaces per inch).

Suggestion:

After placing the warp threads in the raddle, place a strip of tape over the top of the raddle to lock the threads into the raddle.

Beater and reed

To change the reed, loosen the two black plastic nuts on top of the beater bar. This releases the bottom beater bar and allows you to replace the reed. Make sure not to over tighten the plastic nuts. This will bend the bars of the reed.

We supply reeds for the 70 cm (28") loom which are 4 3/4" high and for the 40 cm (16") loom which are 4 1/8" high. If you use reeds on these looms which are not as high as the reeds supplied with the loom, the bottom of the reed will become higher in relationship to the warp threads. this reduces the shed. If required, you could put some wooden spacers in the groove of the upper beater bar. This will lower the reed in relationship to the warp.

Adding or moving a warp beam or a cloth beam

There is room for one extra warp beam in the warp beam section. Instructions on how to install it are included with the purchase of the extra warp beam.

There is limited space for large warps as well as the fabric that is woven on them. Cutting off individual pieces of fabric as they are finished will help make more room on the front beam. If you are using the warp sticks, replace them with paper (wall paper cut to fit the width of the loom works well) or plastic blind strips to cut down on the amount of space needed to wind on the warp.

If the loom is permanently used on the stand, you can also install the beams in the uprights of the stand, where there is more room for warp and cloth storage. The cords of the beams are long enough when the beams are installed in the stand to bring the warp close to the heddles so that there is a minimum of warp wastage. The top holes in the stand are for the cloth beam, but can also be used for a warp beam. The holes under the cross member can be used for warp beams. If you do not relocate the cloth beam, you can actually have five warp beams in the loom and stand. The number of back beams is limited to two so with more than two warp beams being used, more than one warp will have to run over a back beam.

To relocate the beams to the stand, you need to remove the loom from the stand plus:

1. Remove the round handles from the beams that are to be relocated: Remove the rubber band from one end of the handle and the handle will slide out.

2. On one side of the loom, loosen the screws holding the stationary back beam and front beam by about 5/8".

3. On one side, take the screws out of the bar with the rubber buffers. You need to remove the buffer.

4. Bend the sides of the loom which hold the beams far enough apart so that you can slide the beam out of the blind hole in the loom side. Pull the end of the beam up, above the side of the loom.

5. The other side of the beam can now be pulled out of the loom. Because of the angled position of the beam, the beam will jam in the side of the loom so you will have to turn the beam to edge it out.

6. Tighten all screws into the stationary front and back beams of the loom and reassemble the bar with the rubber buffer.

7. Loosen the screws in the cross piece of the stand, on one side of the loom, by about 5/8" and install the beams, reversing the order that they were removed. Tighten the screws in the stand again. Install the beam handles.

8. Now relocate the ratchet brakes on the stand. Do not tighten them too much. Allow them to turn freely.

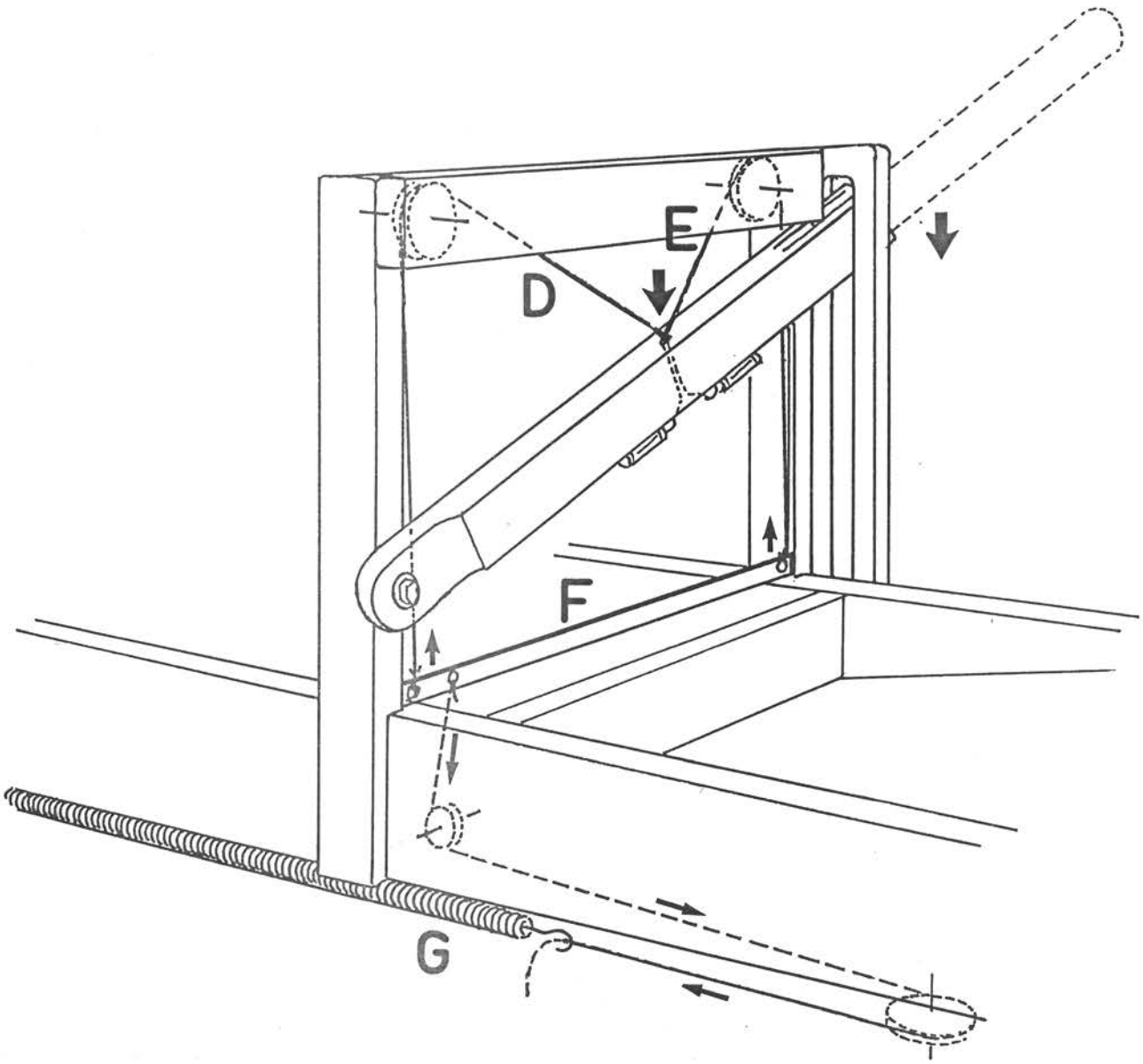
9. Install the loom on top of the stand.

Shaft height adjustment

The dobby hooks are plastic parts which are pushed by the pegs on the program bars. Dobby hooks which are pushed, "present" themselves to a "knife" which will pull the connected shafts up when the treadle is pushed down or the hand lever is pulled down. Dobby hooks which are not selected by a peg on the program bar, will stay in place because the weight of the shafts will keep them into their neutral position.

The height of the shafts is adjustable with cords attached to the dobby hooks. During the assembly of the loom, the shafts have been adjusted to the proper height and an allowance has been made for a slight stretching in the cord. Variations in the cord lengths on both sides have been corrected with short metal pins which have been installed in the cords. By putting a pin through one hole of the cord and out of next hole, the cord has effectively been shortened a bit.

The plastic shaft ends have a small round extension facing the outside of the loom. When the shafts hang at their proper height, these plastic extensions are positioned about 1/8" above the wooden frame of the loom. If these plastic extensions touch the wood, then the shafts may not pull the dobby hooks back into their neutral position. This might cause the knife to lift these shafts, while they are not selected by a peg on the program bar.


D
E
F
G

Lifter operation and adjustment

When the lifter lever is pulled down by hand or by foot, the knife **F** goes up. The knife then pulls up the shafts that have been pegged on the program bar. The knife slants upwards resulting in the back shafts being lifted higher than the front shafts. This results in a even shed.

When the shed is closed again, by releasing the lifter lever by foot or by hand, the knife goes back down and rests on both sides on the wooden rails of the castle support. The horizontal spring **G** pulls the knife down and has to overcome the weight of the lifter and the treadle. This means that the spring can be adjusted with less tension when the foot treadle is not attached, as when the loom is used as a table loom. When installing the foot treadle, it is usually necessary to adjust the spring a little tighter, by hooking the spring one or more holes further along the cord. The lifting lever cords **D** and **E** are adjustable in length with plastic nuts on the under side of the lifter. The cords have been properly adjusted, but after a while an adjustment might be required.

Adjust cords D and E as follows:

When the knife is pulled to its lowest position by the spring and rests on the wood, the cord **D** needs to be adjusted so that the lifter lever rises to its highest position. If you tighten the cord too much, the knife will come up in the back. Tightening the spring does not help, because the highest position of the lifter prevents the downward movement of the knife. Because of the location of the attachment of the spring cord to the knife, the cord has the greatest pull at the rear. Cord **E** on the front of the knife, will not be as tight as cord D while the knife rests on the wood. Cord **E** however should not be slack as that, while operating the lifter, knife rises at the correct angle for an even shed. Also, excessive slack may cause the cord **E** to come off the roller.

Summary:

1. Tighten the spring so that the lifter lever and the treadle (if used) are pulled up.

2. Adjust with the plastic nut on the underside of the lifter cord **D** so that when the lever is in its highest position, the knife rests on the wood.

3. Tighten cord **E** in the same way, again keeping the knife resting on the wood. Cord **E** will have less tension than cord **D**.

It is a good idea to periodically check the cords of the lifter and the treadle. They should remain on the rollers !!!

Troubleshooting

* **The wrong shafts are lifted,**
  the dobby hooks go up with the knife without the program pegs pushing the dobby hooks.

  Possible causes and corrections:

1. The knife does not come back to its lowest position. This causes the dobby hooks selected in the last pick not to come back to their neutral position and the knife stays engaged with these dobby hooks. When the knife does not come back to its neutral position resting on the wood at both front and back, check whether the cords which connect the lifter lever to the knife are too tight or the spring does not create sufficient pull on the knife to bring it down. It is possible that the cord which is connected to the spring does not fit properly over the rollers or that the spring has to be slightly tightened by hooking the spring to a different hole in the texsolv cord.

2. The cords of the shafts do not run properly over the rollers.

3. Check to see if any shafts are hanging on the sides of the frame of the loom preventing the dobby hooks from taking their neutral position. Adjust these shafts a little higher, by making the adjustments as described in the section "Shaft Height Adjustment."

* **One or more shafts fail to return**

  Possible causes and corrections:

1. The cords of the shafts do not fit properly over the rollers. Adjust them properly.

2. One of the shafts hangs at an angle and jams in the loom. Level it properly.

3. You turned the selector knob to its next position before the knife was back in its neutral position and the shed was closed. You can also recognize this error because the lifter does not lift properly and the same shafts are lifted in the next shed.

* **Shafts are hard to lift**

  Possible causes and corrections:

1. The spring on the back of the loom may be tightened more than needed. Adjust as described in the section "Lifter Operation and Adjustment."

2. Check to make sure that the cord from the treadle to the lifter lever and the cords from the knife to the lifter lever fit properly over the rollers.

* **Program bars do not advance properly**

Possible causes and corrections:

1. Tighten the chain of program bars.

2. Check that the bars pass freely over the rollers without obstruction.

* **Shed is too small**

Possible causes and corrections:

1. The reed used is not high enough.

2. The lifter lever does not return to its highest position, even when the knife is pulled down all the way. Tighten the cords between the lifter lever and knife, as described in the section "Lifter Operation and Adjustment." Check that the cords run properly over the rollers.

3. The treadle is hooked up too low. When the treadle is pushed against the floor, the lifter lever has to be in its lowest position. Shorten the treadle cord until the treadle does not touch the floor.

* **Shuttle drops through the warp**

Possible causes and corrections:

1. When a shed is formed where only a few warp threads stay down, the weight of the shuttle is supported only by a few threads. These warp threads will have a tendency to be pushed down by the weight of the shuttle.
When the shuttle travels from one side of the llom to the other over the remaining warp threads, it can slide between two warp threads. The possibility that this happens will increase when the shuttle is shorter, heavier and the point of the shuttle is lower. This is a point to consider when selecting a shuttle.

2. To avoid the problem it may helps if, before pegging the dobby bars, the drawdown is examined to see whether the black or white squares predominate. If black predominates, peg the white squares in the peg plan. This minimizes pegging as well as avoiding the shuttle problem.

Glossary

barrel nut: a cyclindrical nut commonly used in the bolted assembly of wooden parts.
beater: the loom part which compresses the weft threads to form the cloth carriage
bolt: bolt with an oval head under which is a square section. This square is forced into the wood when the nut is tightened on the bolt, preventing it from turning.
castle: the part of a loom which contains the shafts.chain guide, a support for the dobby bars, designed to keep them aligned with the bar selector.
chain of program bars: an assembly of several dobby bars linked together.
cloth beam: the part on which the woven cloth is wound, usually at the front of the loom.
dobby hooks: the devices which transfer the peg pattern to the harness lifting mechanism.
dobby knife: the bar which lifts the selected hooks and the harnesses connected to them.
dowels: cylindrical wooden rods.
harness: American equivalent of the word shaft
lag bolt: like a large wood screw, but with a square or hexagonal head.
lifter: the assembly consisting of the lifter lever, guide, cords, knife, hooks,etc.
lifter guide: a part on the front of the castle with a slot for the lifter lever and a notch for holding the lever down.
lifter lever: the hinged arm at the top of the loom, connected to cords which raise the dobby knife.
peg plan: a weaving diagram showing the arrangement of the pegs on the dobby bars.
pegs: the parts which fit into the dobby bars and move the hooks so that they will be lifted by the knife.
plastic strip: a warp protector.
program bar: same as dobby bar.
program bar weight: a cylindrical weight used in the loop of the longer dobby chains.
raddle: a comb used to keep warp threads in order while warping the loom.
ratchet brake: a toothed wheel and stop used to prevent rotation of the warp or cloth beam while there is tension on the warp.
reed: used in the beater to form the cloth and maintain the spacing of the warp threads.
round white stickers: small labels for the dobby bars.
rubber band on handle: a means of keeping the handle from sliding out of the beam.
selector knob: a square wooden knob used by the weaver to advance the dobby chain.
shaft: a frame with heddles through which part of the warp is threaded. These threads are lifted each time the shaft is raised.
shed: the opening in the warp threads when the shafts are raised.
shuttle: the carrier for the weft thread.
spring: wire coil used to exert pull.
stationary back beam: the loom frame part over which the tensioned warp passes at the back of the loom.
texsolv cord: braided polyester cord with regularly spaced openings.
texsolv heddle: braided polyester loop which controls one warp thread.
treadle: foot operated lever for raising shafts.
treadle cord: a cord between the treadle and the lifter.
warp beam: similar to the cloth beam except that it is wound with the warp threads prior to weaving, and is usually at the back of the loom or in the floor stand.
washers: used to protect softer material such as wood from damage due to nuts and bolts.

Weaving on a dobby loom

What is a dobby loom?

A dobby loom has a mechanism or electronic device that lets you put a pattern "in memory" so that you can weave a simple, or complicated pattern without having to change tie ups or choosing a treadle for each stand. For example an eight shaft loom with ten treadles has only ten shaft combinations available without having to change one of the combinations manually. There are many more combinations that can be used to vary a pattern so the dobby offers a means for expanding these pattern combinations by electronic order with the addition of program bars.

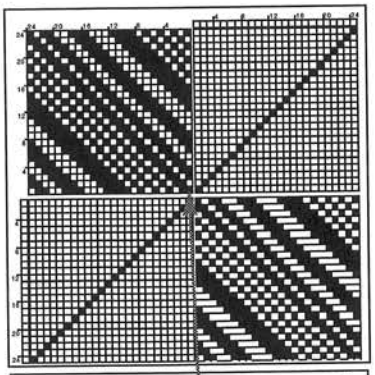


Fig.1 Traditional drawdown with tie up Treadle #1
1,3,5,7,8,9,10,11,15,16,17,20,21,23,24

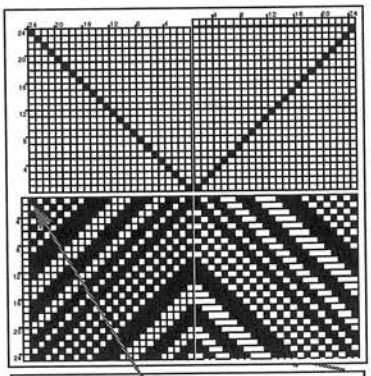


Fig. 2 Peg plan bar #1
1,3,5,7,8,9,10,11,15,16,17,20,21,23,24

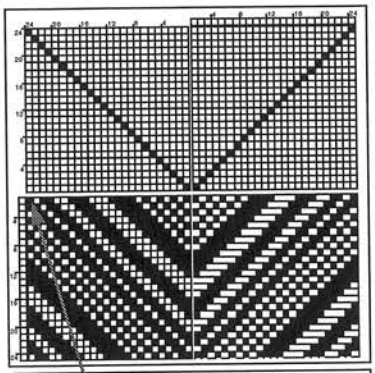


Fig. 3 Peg plan bar #1
1,2,3,4,7,8,9,13,14,15,16,18,20,22,24

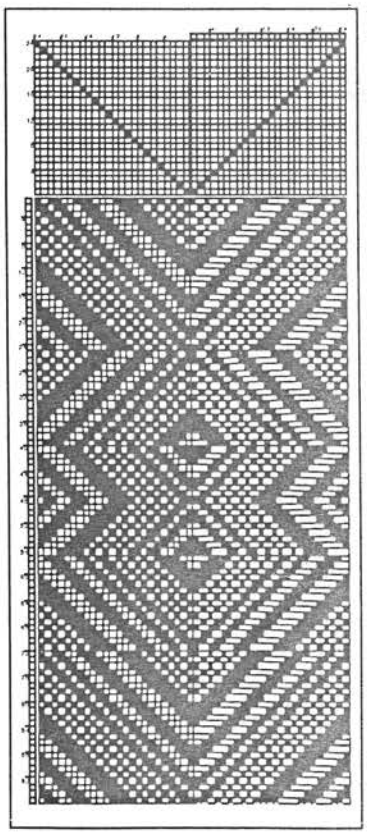


Fig. 4 Extended peg plan using the same base 24 x 24 pattern

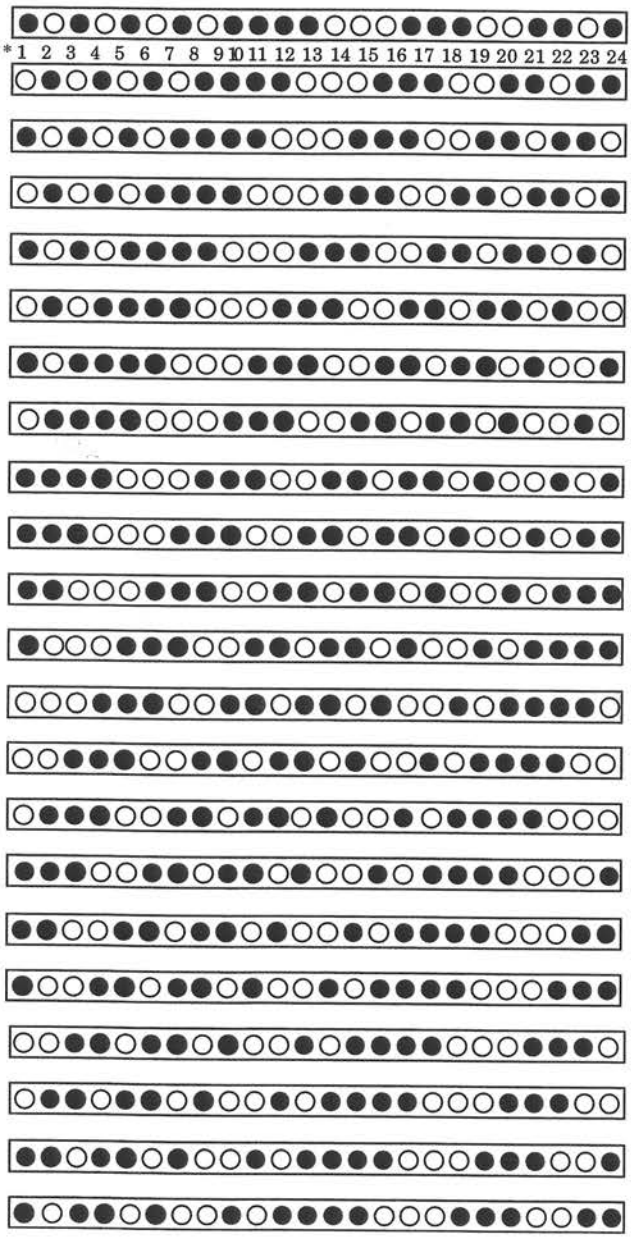
Pegging the loom or setting up the pattern on the computer.

Each harness or shaft that must be lifted for a jack loom, lowered for a counter balanced loom or both as in a countermarch loom carries a number of individual ties that are attached to one treadle. These are usually represented on a drawdown on paper in a vertical column (Fig. 1). For example shafts 1,3,5,7,8,9,10,11,15,16,17, 20,21,23,24 are tied to the first treadle in the tie up of the traditional drawdown. The shafts are numbered vertically up and the treadles horizontally to the left. The warp and weft threads are also numbered: warp from left to right and weft, down and to the left respectively.

If you wish to "transfer" a tie up to a peg plan, rotate the tie up 90° to the left for the peg plan.

Pegging the dobby loom

Fig. 5 * The numbers 1>24 below the pegging are not accurate but indicate the order in which the bars should be pegged.



On a dobby loom horizontal bars replace vertical treadles. Think of the first bar as if it were your first treadle and start pegging from the left indicated by the number 1 on the bars. Peg the holes as in Fig. 5: 1,3,5,7,8,9,10,11,15,16,17,20, 21,23,24. Continue pegging as in Fig. 5 until all twenty-four bars are completed. If the pattern of pegs is identical to the pattern of ties in the traditional tie up then the drawdown flips. The first treadle, 1,3,5,7,8,9,10,11,15,16, 17,20, 21,23,24 now becomes the first bar and is pegged 1,3,5,7,8,9,10,11,15,16,17, 20,21, 23,24 as shown in the black squares on line one of the pegging area. Notice that with a point threading that the ascending threading of the draw-down will always be a mirror image of the peg plan and that the descending threading will look like the peg plan. You do not have to peg a reflected peg plan as it is easier to reverse the chain and work back from twenty-three to one.

The pegs in dobby bars usually number from left to right but you will notice that some computer or paper drawdowns are numbered right to left. In any case peg #1 lifts harness #1. This may not make a difference to the outcome of your pattern if it is balanced. It may be a concern if you are expecting a pattern with a definite orientation. You should be able to adjust your hand or computer drawdowns to suit yourself as there are many methods used by computer programmers and weavers. Some thread from right to left, some from left to right, but the bottom line is that you want to produce the pattern as you "see" it. The pattern becomes quite apparent when the pegging is completed. The pegs activate shafts to raise the threads and the empty holes leave the threads down. To compare these with a treadle loom, the pegs activate the shafts as does a treadle that has been tied up for a rising shed loom.

Some hints that may help in pegging the bars:

Use the least amount of pegs possible. For example, find out if there are more black squares or white squares. If the number of white squares is less, peg using the white spaces or squares. This will produce the other face of the fabric on top but will save you time and energy in the pegging process.

If you are pegging a long pattern like a Summer & winter which consists of several blocks of perhaps A pattern, a tabby, B pattern, b tabby, B pattern, a tabby, A pattern b tabby followed by another block of patterns, etc., make a notation of the blocks on paper so you can refer to them if necessary. Then peg only the A Block, B Block, C Block etc. leaving a blank bar between each block. You can then weave through the A Block and then advance to the C Block, turn back to the beginning of the B Block and weave through it or weave in whatever sequence that you have planned. This saves having to have hundreds of bars and pegs. An easy way to keep track of your blocks is to write the numbers on paper so you know that Block A is composed of bars 1,2,3,4,5,6,7,8; Block B is 9,10,11,12,13,14,15,16; Block C is 17,18,19, 20,21,22,23,24 etc. The wonderful thing is that you can have twenty-two blocks on 24 harness Summer & winter!

If you are planning a project in Summer & winter or similar block weave using a series of motifs, you may find it easier to peg one full block and then change only the few pegs necessary for the pattern change. This sometimes means only having to change three or four pegs instead of the whole block. For example, you may want to make a cat into a dog or a circle into a block for a child's scarf or blanket.

The dobby is ideal for pegging patterns with long sequences of repeats. Many patterns consist of two, three and four bars which are slid as a group to the left by one or more steps and repeated this way until 24 or a multiple number of bars are pegged. Pegging these can be a formidable task unless some system is devised to help keep track of the pattern. Try pegging the first block of four bars. Block off the first peg (or number of pegs to be shifted) on the left and start pegging the second block of four bars. You are then looking at the pegs and spaces and not counting numbers. At the end of the bar, look back at the first peg(s) to fill in or skip the needed hole(s).

Often the block of pattern will be shifted over by two or more spaces so it is much easier to start by blocking off the spaces than to get mixed up trying to count pegs and holes. The base block can vary from one to several bars and then moved over by a defined number of spaces.

Threading in a straight draw or a point draw will produce the most versatility on a twenty-four shaft loom. Many of the intricate threadings and weaving "systems" that have to be done on fewer harnesses may be done with twenty-four shafts on a straight draw. There is a myriad of combinations to be done using extended peg plans.

Color offers another element that can become integrated with the varied patterns on a twenty-four harness loom. Look at your peg plan and plan divisions for warp color variations or gradations.

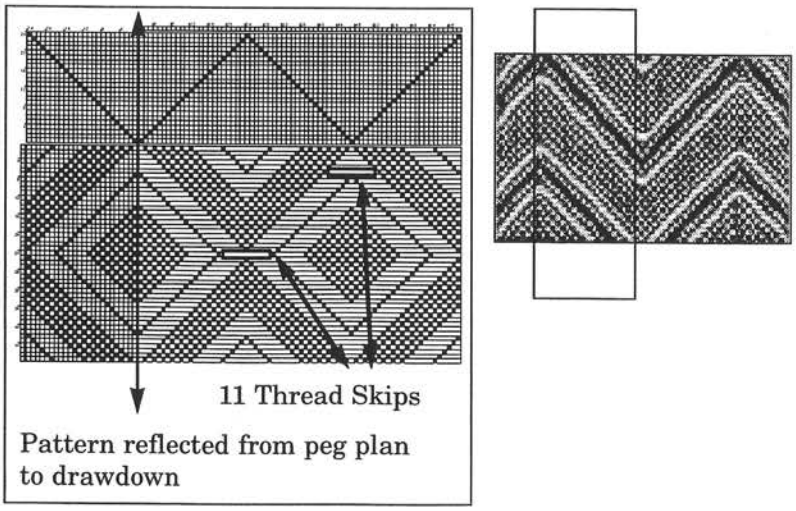
Depending on the type of yarn and the sett, control over length of skips is a major factor in producing a well constructed fabric. Warp skips as well as weft skips should be examined. If it is necessary to shorten the length of a skip, experiment with its appearance by removing or inserting a peg where it will be least conspicuous but give stability. Sometimes adjoining skips will hide a longer skip if a peg is placed one or two spaces to the right or left of the center of the skip.

Experiment with two patterns woven so that the motifs flow into one another but change the character in some way. An example would be using a pattern with a predominance of tabby background and flow it into one with fairly long skips but keep the lines going in the same direction. This will extend the length of the peg plan. Try repeating and reflecting patterns to give border effects. Mix patterns to achieve more complicated patterns.

Some patterns seem to have excessive skips but generally the long skips can be reserved for the back of these fabrics. An upholstery or pillow covering only needs to be displayed on one side. It may also be necessary to adjust the sett and yarns to accommodate some of the patterns. The finer the thread, the closer the sett-the shorter the skip.

#8 Twill has an 11 thread skip-fine for a straight twill threading but when a point twill is used the skip over the point encompassing shaft #1 and #24 becomes too long. Look at the peg plan and count the spaces or pegs. Decide on a maximum skip and if the number of spaces or pegs when reversed exceeds the maximum number, remove or insert a peg(s) to "plug the gap".

To view only the one repeat of the pattern, mask off the areas formed by the point twill threading as seen in the box drawn over the scan to the left. This view will give and idea of what the pattern would look like if the threading were done as in the computer drawdowns.
Remember in the drawdowns, that the dark or black squares represent warp threads and the light ones, weft threads. If there is confusion flip the peg plan left to right to change the direction of the line flow; flip the peg plan top to bottom to weave from bottom to top; peg the white spaces instead of the black spaces.



Pattern reflected from peg plan to drawdown