

XI READING THE PATTERN

The draft indicates the threading of the warp, the manner in which we tie the harnesses to the treadles (the tie-up), and the treadling sequence.

Let us start with the most simple threading which is called the Twill threading or the regular threading.

THE THREADING DRAFT

Each harness is represented by a horizontal space. The harnesses are numbered from one to four, and the one nearest the weaver as he is seated in front of the loom is always number one.

The heddles are shown as crosses in the vertical space. We read the draft from right to left.

The threads are held in order by the cross on the lease sticks.

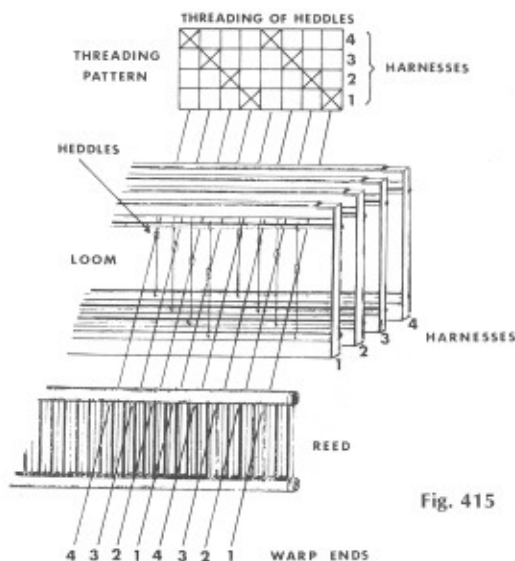


Fig. 415

Pick up as follows :

- 1st warp end, thread through 1st heddle on No. 1 harness
- 2nd warp end, thread through 1st heddle on No. 2 harness
- 3rd warp end, thread through 1st heddle on No. 3 harness
- 4th warp end, thread through 1st heddle on No. 4 harness
- 5th warp end, thread through 2nd heddle on No. 1 harness
- 6th warp end, thread through 2nd heddle on No. 2 harness

Continue in this manner, repeating the basic draft until all the warp ends have been threaded.

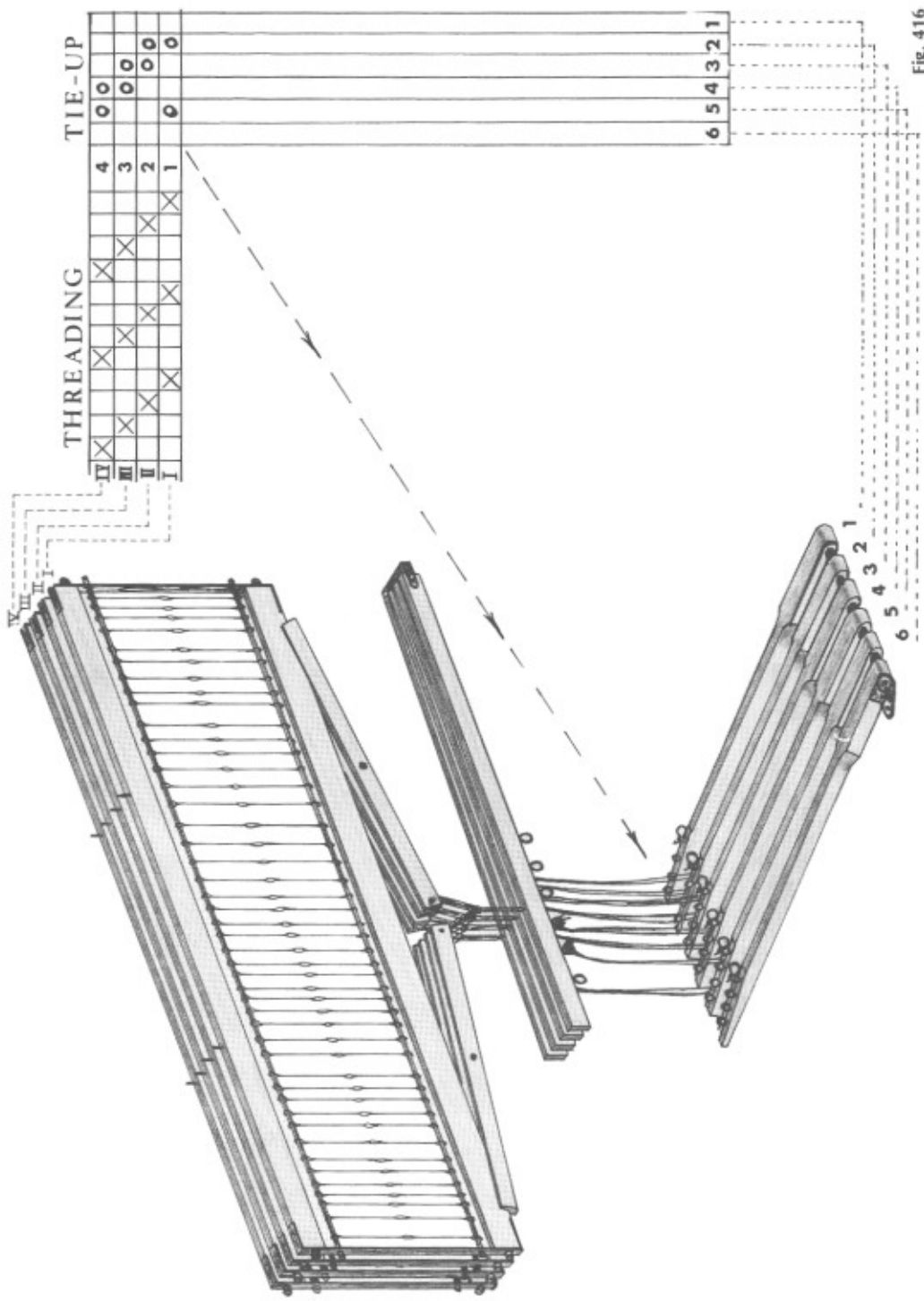


Fig. 416

With this threading, the warp ends are divided equally between four harnesses.

We raise harness 1, throw the shuttle from the right hand side, beat, then let the first harness go back to its initial position.

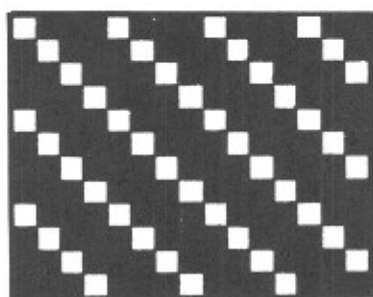
Raise harness 2, throw the shuttle back from left hand side, beat, let it go back to its initial position.

Raise harness 3, throw the shuttle from the right hand side, beat, and repeat the same procedure as before.

Now operate harness 4 in the same manner, throwing the shuttle from left to right.

Repeat the same movements, starting with harness 1, then 2, 3 and 4, and continue.

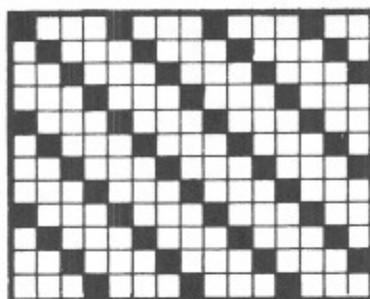
This weaving gives you a single twill.



**Right side
Weft effect**

Fig. 417A

Fig. 417B



**Reversed side
Warp effect**

As you have only one thread raised out of four threads, this pattern shows mainly the weft thread on top of the material. (Fig. 417A)

If you look at the other side of the material where there is only one thread of the warp covered by the weft, it gives you a warp effect. (fig. 417B)

The harnesses combined with the treadles create the space between the warp threads through which you pass your shuttle. This space is called a "shed". The action of throwing the shuttle through the shed is a "pick" or "shot".

The next three pages will show you the TWILL threading. With it, you can make more than 64 different textures. You will maintain the same threading and tie-up for all of them, merely change the succession of your treadling.

But instead of operating one harness at the time, you will now operate two harnesses at the same time to open the shed.

At this point, we must now investigate the tie-up procedure.

THE TIE-UP DRAFT

The tie-up is the way the harnesses are tied to the treadles. It is generally at the right of the threading draft. One space between horizontal lines indicates a harness. One space between vertical lines indicates a treadle. (fig. 416)

These following examples show you how to make a variety of patterns on your four-harness loom all with the same threading and the same tie-up. **ONLY USE YOUR TREADLES IN A DIFFERENT SERIES TREADLING.**

This tie-up draft indicates that harnesses 1 and 2 are tied to treadle 2. Harnesses 2 and 3 are tied to treadle 3. Harnesses 3 and 4 to treadle 4, and harnesses 1 and 4 to treadle 5.

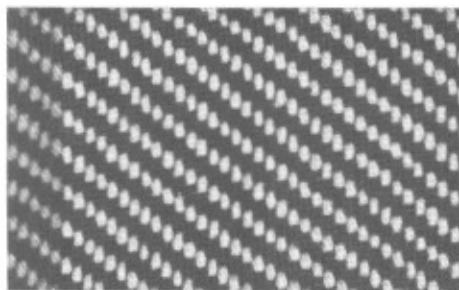


Fig. 418

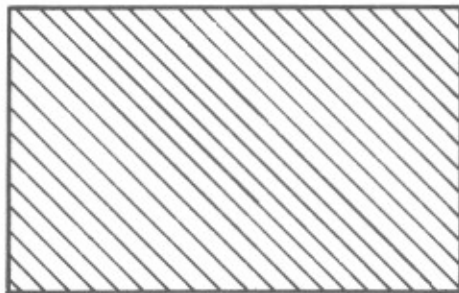


Fig. 418A

The way the treadles are tied up, if you press them regularly as follows: 2-3-4-5-2-3-4-5-2-3-4-5, repeat, you get twill.

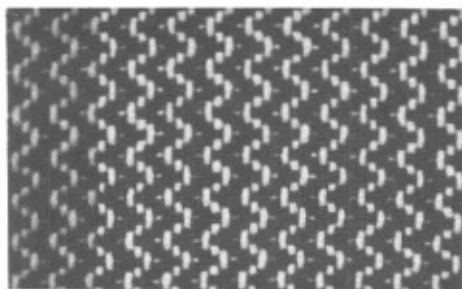


Fig. 419

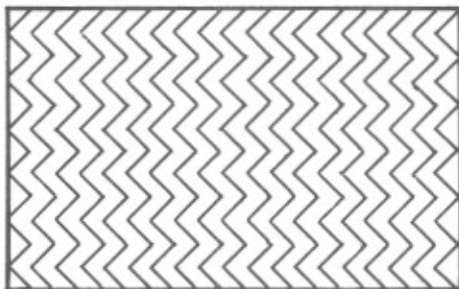


Fig. 419A

If you press them on round trip as follows: 2-3-4-5-4-3-2-3-4-5-4-3-2, repeat, you get broken twill.

THE TREADLING DRAFT

Operating the harnesses in the order indicated by the figures on the tie-up is called treadling.

This diagram shows us in which order to use the treadles. It is always found under the tie-up draft, and is read downward.

If you work on a loom on which the harnesses are operated independently, follow the spots on the tie-up plan to find the harnesses to be used.

Threading				Harnesses				Tie-up												
								4												
								3												
								2												
								1												
								Treadles				6	5	4	3	2	1			
				Thread of 1st shot														Treadling		
				" 2nd "															1	
				" 3rd "															2	
				" 4th "															3	
				" 5th " same as 1st															4	
				" 6th " " 2nd															5	
				" 7th " " 3rd															6	
				" 8th " " 4th															7	
				" 9th " " 5th															8	
				" 10th " " 6th																
				" 11th " " 7th																
				" 12th " " 8th																
				" 13th " " 9th																
								Repeat												

Fig. 418B

If you reverse the treadling from right to left and left to right by following the treadling figures, you will get a vertical pointed twill.

				Thread of 1st shot													1	Treadling		
				" 2nd "																2
				" 3rd "																3
				" 4th "																4
				" 5th " same as 3rd																5
				" 6th " " 2nd																6
				" 7th " " 1st																7
				" 8th " " 2nd																8
				" 9th " " 3rd																9
				" 10th " " 4th																10
				" 11th " " 3rd																11
				" 12th " " 2nd																12
				" 13th " " 1st																13

Fig. 419B



Saw Dent Twill

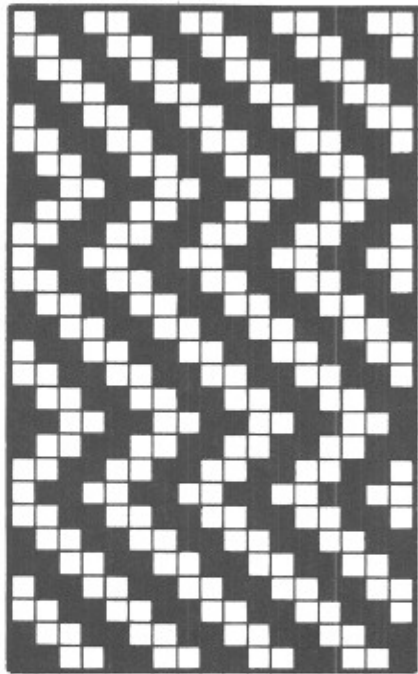
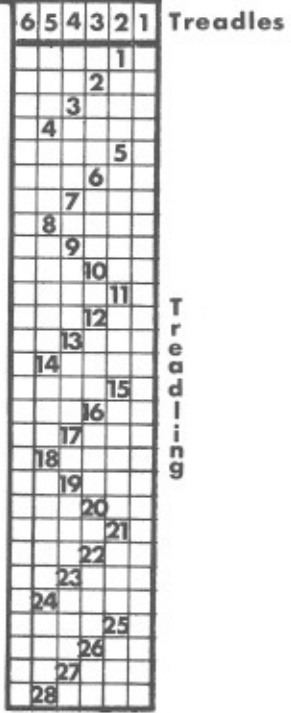


Fig. 420



Broken Twill

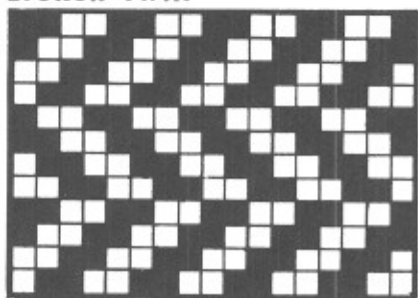


Fig. 421



Vertical Herringbone

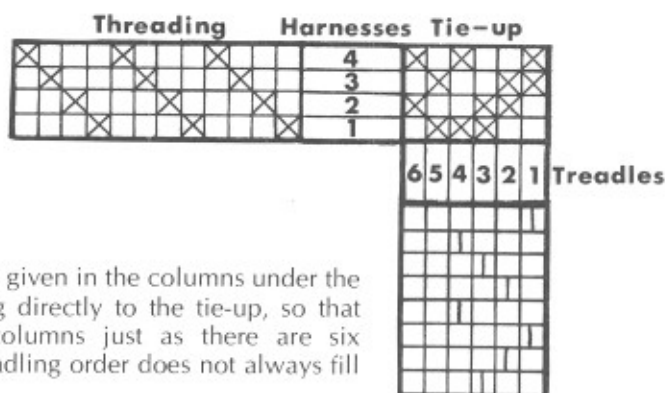


Fig. 422



Repeat

TREADLING



The treadling order is given in the columns under the tie-up draft, corresponding directly to the tie-up, so that there are six treadling columns just as there are six treadles. However, the treadling order does not always fill the six columns.

The treadling symbols vary because they are subject to each author's choice. Often a vertical stroke is used and is placed in the column corresponding to the treadle.

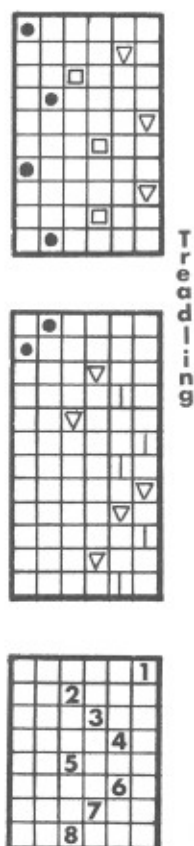
Sometimes, you find symbols to indicate the treadling. These symbols represent the color of the thread to be passed through the shed.

- ▽ dark blue
- yellow
- tabby

Tabby is often marked only once at the top of the chart. This indicates that a shot of tabby thread is passed through the shed after every row of pattern thread. The tabby treadles are then used alternately.

Treadling directions are greatly simplified by writing the figures in the columns in numerical order, that is for one pattern, then you repeat. The numbers represent the treadling order.

Similarly, space on the draft and the time to fill in the columns are saved by simply writing the treadling draft in a horizontal line, 1-4-3-2-4-1-2-3-1-4-3-2-4 etc. This is the same pattern as the previous one, only that the numbers represent the treadles.



Repeat

Fig. 423

TABBY

When doing a TABBY MATERIAL on a four-harness loom, it is important to use all four harnesses. If only two were used, there would be too many heddles on the same harness. By using twenty-four threads per inch (2,5 cm.) (96 threads per 10 cm.), twelve heddles per inch (48 heddles per 10 cm.) will rise at each treadling. The heddles will be so close that they will wear out the threads by friction. Using inserted eye heddles, the treadling will become almost impossible because the threads will not pass between the heddles of the opposite harness. By using the four harnesses, six heddles per inch (24 heddles per 10 cm.) will rise at each treadling. The threading should be a twill 1-2-3-4, with the tie-up 1-3 and 2-4, treadling alternately. This also applies to 8, 12 or 16-harness looms, except for certain threadings which require crossed threads for a good tabby.

Tabby has another task to fulfil in weaving. It is used to link all the warp threads together when making a loosely woven material or double weave. It is found mainly in Overshot and Summer and Winter weaves where the same treadling is repeated many times. In Overshot, the weft thread of the design is always thrown through the same shed, therefore a tabby is placed between the picks of the design, otherwise the material would not hold together properly.

Tabby is then usually woven with a very fine thread, similar to the warp thread, since it should not be seen as it is not included in the design.

Depending on the method used or the design to be achieved, a tabby shot can be thrown after each design pick, which is usually done, or it can be woven after two, three or even four weft threads; this varies with the crossing of warp threads and weft threads and the length of the floats in the warp.

In Overshot weaves, this book shows how tabby tied up to the two left treadles, that is on treadles 5 and 6. When weaving, the left foot remains on these treadles, sliding from one treadle to the other. The design is woven with the right foot. If the same treadling is used 6 times, the right foot should not be removed so that no time will be lost in finding the treadle to depress it again. Usually, in Colonial Overshot and Summer and Winter, a tabby pick (one shot of tabby from the right hand side, the next shot of tabby from the left hand side) is thrown between the repeated picks of the design in colored thread.

When there are two weft colors, one for each unit, use as tabby the weft color that is in evidence in the next unit, but not the same color as the weft that is presently being woven; the tabby should not appear.

On pattern drafts, in most books, the term "tabby" is used.

Changing the tie-up produces other structures on the twill threading draft.

To produce tabby or basket weave on this threading, simply alternate on the two treadles show in the tie-up.



Fig. 424A

Threading				Harnesses Tie-up																		
	X		X			4				O												
		X		X		3				O												
			X		X	2					O											
				X		1					O											
												6	5	4	3	2	1					
												Treadles										
Thread of 1st shot																		1				
" 2nd "																		2				
" 3rd " same as 1st																						3
" 4th " " 2nd																						4
" 5th " " 1st																						5
" 6th " " 2nd																						6

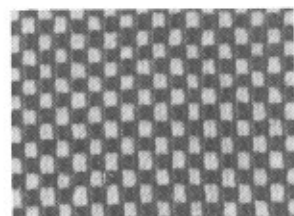


Fig. 424B

						4				O												
						3				O												
						2					O											
						1						O										
												6	5	4	3	2	1					
												Treadles										
Thread of 1st shot																		1				
" 2nd "																		1				
" 3rd "																						2
" 4th "																						2
" 5th "																						3
" 6th "																						3

Fig. 424

To obtain basket weave keep the same threading as for tabby but change treading to 1-2 and 3-4; push down treadle 1, thus depressing two consecutive warp threads, and throw two weft threads through the same shed or opening.

The tabby, although the simplest weave in theory, is difficult to execute because the beating with a reed or comb must be very regular or any error will stand out badly.

From a practical point of view, placing more than two parallel threads in the warp in a basket weave is not recommended as the fabric might have long loose threads and be weak.

DOUBLE FACE WEAVE

This fabric has many possibilities, and to write about all of them would fill a book by itself. Here we shall only give you the simple technique of it.

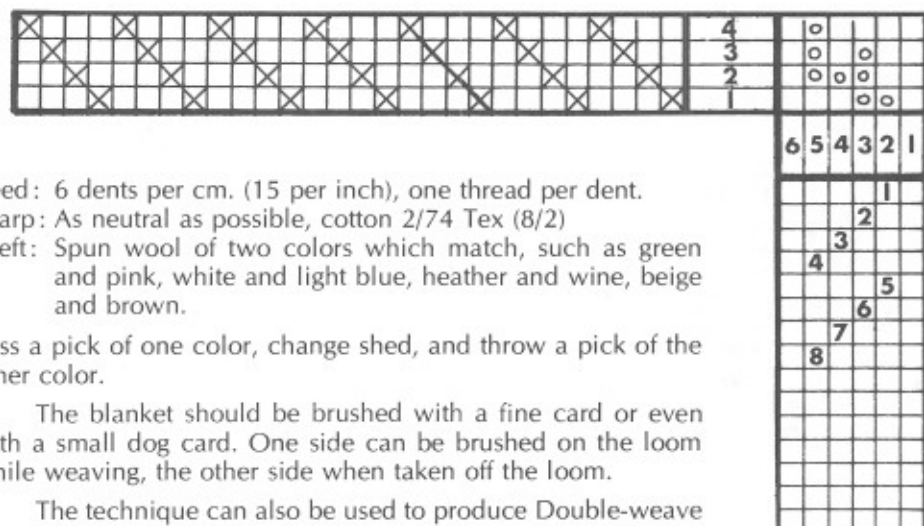
The material can have two entirely different colors on either side.

It is woven on a four-harness loom and mostly in tabby. Other textures can be made, but it requires great experience on the part of the weaver*.

To acquire a different color on each side you use two shuttles.

This technique can also be used to make stripes of various colors or large squares without tabby nor float.

To understand the technique, here are instructions to make a warm, woolen, reversible blanket or would a reversible cape or coat be more appealing to you?



Reed: 6 dents per cm. (15 per inch), one thread per dent.

Warp: As neutral as possible, cotton 2/74 Tex (8/2)

Weft: Spun wool of two colors which match, such as green and pink, white and light blue, heather and wine, beige and brown.

Pass a pick of one color, change shed, and throw a pick of the other color.

The blanket should be brushed with a fine card or even with a small dog card. One side can be brushed on the loom while weaving, the other side when taken off the loom.

The technique can also be used to produce Double-weave for rags with ground-face, decoration, using the pick-up technique, etc.

Fig. 425

* Much more of this technique will be found in «Master Weaver Library». (Volume 15 — Double Weaves) (Expected published in 1981).