Some Six Harness Twills.

The threadings given above are eight variations of six harness twills. They have many uses, and may be used for different kinds of fabrics, such as dress material, upholstery, all linen luncheon sets, rugs etc. Of course the threads used determine to some extent these uses. Some of my Wayne University students have threaded the loom just as the threadings are given, up to a center, and then reversed back to the beginning. Then we tried many different tie-ups, and different orders of weaving some of the tie-ups, to produce some most unusual textures.

The threading drafts are threaded into the loom just as given above, one thread on each harness as written. The numbers indicate the harnesses of the loom. It is possible to only use two or three of these threadings if desired, instead of all eight of them. You probably will enjoy making a sampler of these as we did. For the results are really thrilling, so many unexpected things come out on using the different tie-ups. This kind of experimentation is very much worth while.

No. I is the 6 harness twill. It requires 30 threads for the repeat as given from A to B. Of course there are just 6 warp threads in one repeat.
No. II is a reverse twill and requires 30 threads for the repeat B to C.
No. III requires 34 warp threads for the repeat from C to D.
No. IV is a broken twill, and requires 34 threads for the repeat from D to E.
No. V is a twill with the pattern block 5x6 increased by P threads. The repeat from E to F is 30 threads.
No. VI from F to G requires 36 threads for one repeat. H to I is 5 threads added to balance the joining of pattern VI and VII.
No. VII. from I to J, is essentially the same as No. III, except that the pattern blocks have been increased by two threads which will make the weft thread skips longer.

No. VIII is similar to No. II, except that the 1x6 pattern blocks have been added. A suggestion for more threadings to write would be to take some of the threadings above and increase some of the pattern blocks and leave others as they are.

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Nellie Sargent Johnson 12439 Mendota Ave, Detroit 4, Mich.
To make a six harness sampler it is possible to use almost any kind of warp desired. Carpet warp can be set at 12 or at 15 threads to the inch and wefts of coarse materials such as cotton or wool rug yarn for rugs; or Home-craft soft spun cotton; heavy Germantown yarns would make excellent bags and upholstery materials at these settings in the reed. Color could also be introduced into the warp too if desired. A finer sampler could be made using 20/2 cotton warp. This could be set at either 24 or 30 threads to the inch. Wefts on this would be correspondingly finer threads such as - mercerized cottons No. 50, 100, or 200 single strand cottons; No. 18/2 linens etc. One repeat as given will require 255 warp threads. Or if K is used as a center for the whole threading 509 warp threads. In the latter case, thread from A right through to K, and reverse back from K to the beginning at A.

Explanation of the 6 harness loom tie-up. There are many combinations of the harnesses on a six harness loom, as any number of harnesses from 1 to 6 can be used. At Figure No. 1 given below is the loom tie-up draft for one harness tied to its corresponding lamm and this lamm tied to one treadle. This is indicated by one black square. The numbers at the left side of this diagram, going up vertically, are the harnesses from 1 to 6. Figure 1 is the front harness, and 6 is the back harness, on the loom. The numbers on the diagram at the top going across horizontally are the treadles. Treadle No. 1 is on the left hand side and the 6 at the bottom is front of the loom. Figure 2 at the bottom of the tie-up drafts give the order of using the treadles to weave the patterns. One weft shot is used on each of the treadle combination.

![Diagram of 6 harness loom tie-up](image)

At Figure No. 2 is shown the tie-up using 2 harnesses tied to one treadle, namely harnesses 1 & 2 tied to treadle 1. Lamm from harness 2 & 3 tied to treadle 2. Lamm from harness 3 & 4 tied to treadle 3. Lamm from harness 4 & 5 tied to treadle 4. Lamm from harness 5 & 6 tied to treadle 5, and lamm from harness 6 & 1 tied to treadle 6. Or this same tie-up at Figure No. 2 can be tied up one lamm of each harness tied to one treadle as indicated on Figure No. 1 tie-up, and woven by using both feet, one foot on each treadle and bringing them down both at once.

There are four different ways in which the tie-up at Fig. No. 2 can be woven. This is shown at A, B, C, and D, below the tie-up draft. Always remember that the numbers below the tie-up drafts refer to the order of using the treadles. This is very important.

Plain weave or tabby weave, as it is often called, is not indicated on the tie-up at Figure No. 2 although it is on several of the tie-up drafts which follow. This requires that three harnesses be tied up to one treadle. One plain weave results when harness 1, 3, and 5 are tied to one treadle. And the other plain weave is made by tying harnesses 2, 4, and 6 to the other treadle. On a six harness loom the full tie-up with the plain weave would require 8 treadles. It is easy to use the single tie-up and use 2 treadles with two feet at the same time, but it is bit difficult to use three treadles at one time on the tie-ups which use three harnesses at one time.

Understanding the tie-up drafts is an important part of a weaver's technical knowledge, and one should know just what is meant by all of these technical terms. A careful study of all of the above information will prove to be very useful. Take it step by step, each word is important. A six harness loom offers many more possibilities than a four harness one, and is not nearly as common as it should be. Try out some of these and let me hear from you.