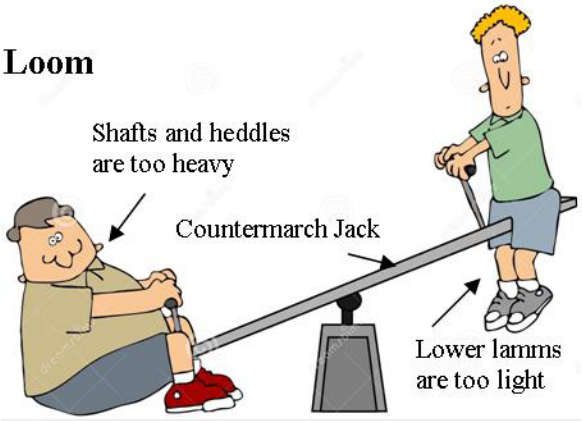
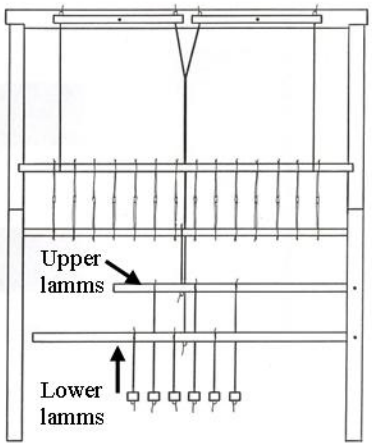
25 Balance of the Countermarch Loom

If you have the same weight on each side of a teeter totter, the board is horizontal and it is easy to move the ends up and down.





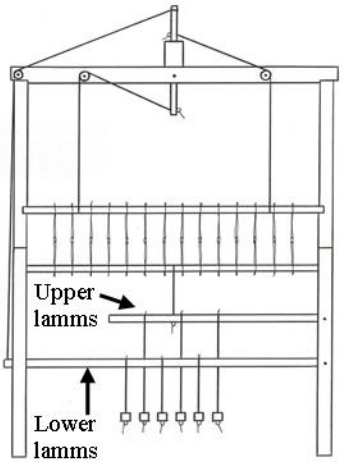
If the weight is not the same, the heavy side falls and it is hard to lift that side.

On the Glimakra looms in these diagrams, one pair of shaft bars, 100 heddles and one upper lamm have a combined weight of approx 1 lb.

The lower lamm weighs approx the same, 1 lb.

When you pull out the locking pins, the shafts do not move.

If your shafts fall, they are not balanced (held up) by the lower lamms.



If your shaft, heddles and upper lamm weigh more than 2 lbs, you should consider making them lighter weight. Only jack looms need heavy shafts.

When a loom is balanced, the jacks stay in place when the locking pin is removed. Horizontal jacks will remain horizontal and vertical jacks will remain vertical. Treadles remain resting about 4 or 5 inches from the floor.

Are your upper and lower lamms the same length?
Often the case with very old looms, the lower lamms would need to be thicker or taller to be heavy enough.

If your shafts fall
Your lower lamms are simply not heavy enough. The warp threads are pulled down and your treadles rise. It is like the teeter totter with one very heavy guy at one end, pulling your shafts down.

You lose the advantage of the countermarch shed
When you have to lift the shafts with the treadle before you can open a shed, it is acting more like a jack loom.

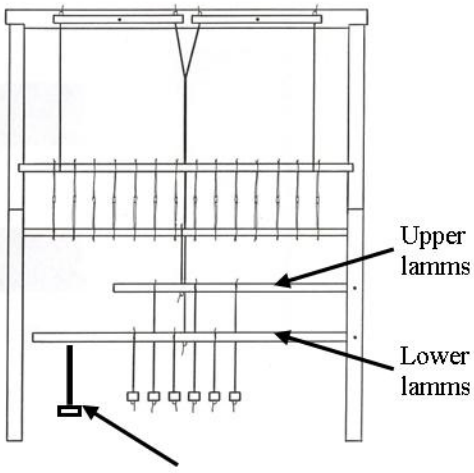
26 Consequences of your loom being out of balance

When your shafts fall, they raise your treadles
To make a shed, you need to lift your shafts up to the normal position so that the countermarch shed can be made. The treadle is sitting higher, so you will lift your foot up to the treadle and push it down as far as the shafts have fallen, just to get the warp threads back to the resting position.

Having your treadles this high is not comfortable
If your shafts fall 2 inches, you need to press the treadle down and lift the shafts two inches, just to correct the position of the shafts. Lifting the weight of the shafts makes it a jack loom in it's action and feel. Then to open the shed, press further on the treadle. You need to move the treadle twice the distance of a balanced loom. Having your treadles this high is not comfortable.

27 Page 11 Correcting the balance

The solution is to add weight to your lower lamms. Put the locking pins back in.
Use an extra treadle. Tie cords from the lower lamms to this treadle.
Some looms need to have weight added to this balancing treadle (equal to the weight of the shaft).



Extra balancing Treadle
It can hang lower than the other treadles

28 **The front shaft might sink** when your front treadle cords are more than a couple holes longer than the back treadle cords.

These heddles are not held taut on the top heddle bar.

The front lamm can be weighted to tighten the heddles

You may find that the front shaft, or the front two shafts will fall 1/4 to 1/2 inch. This is due to the longer cords on the front shafts (see #20).

This may only happen on looms in these cases:

Looms which do not have good loom depth
Looms where the shafts are thick and spread out
On looms where the treadles are wide and spread out
On weaves with many shafts.

This usually does not create a problem in the weaving.
If you want to reduce the movement of the heddles, place your shafts, lamms and treadles closer together.
You can add the balancing treadle just on the front shaft.

Happy Weaving
Joanne