How to design a double weave folded in left side

In Photoshop © the standard way of creating double weaves is to design the weave for each layer, and then superimpose the weaves on top of the other. The easiest is when the ratio between the layers is 1:1, i.e. 1 warp thread for the top layer, 1 for the bottom layer, and 1 weft for the top layer, one weft for the bottom layer. However, if you want to weave a fabric with a folding line in one side, you have to consider the way your shuttle will operate:

You may visualize it like a book lying with the back to the left:

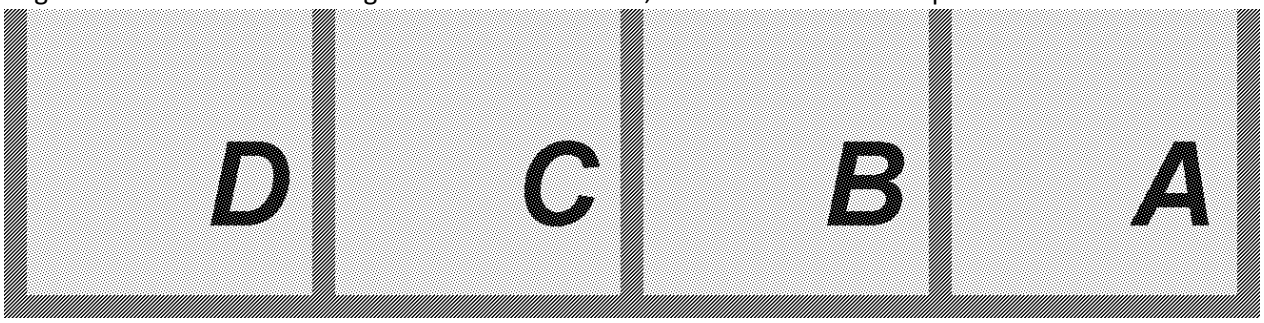
<- Throw the shuttle in the upper layer, going right to left
-> Then, throw the shuttle in the lower layer, going left to right
<- Then, to the lower layer, going right to left
-> Then, the upper layer, going left to right

One method for accomplishing this is to first design the full width of the fabric, the way it will look when cut off the loom and unfolded:



The procedure is as usual, to copy every color to a layer, and assign weaves to them:

Edges are a twill 2-2. The background is weft satin 1-7, and the letters are warp satin 7-1.



Next step is to Flatten the image.

Then Image > Size: Double the design in warp and weft direction (200%).

Now, select the LEFT half (square chooser, fixed size). With the active selection, go to Edit>Transform, and flip selection Horizontally. Then, still with the active selection, go to Image>Adjustments>Invert.

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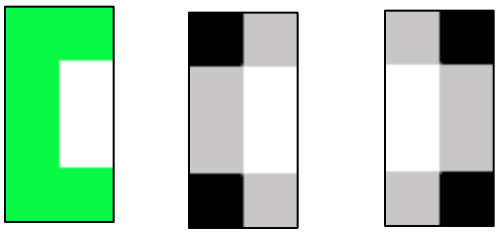
The active selection is then made into a Pattern Fill: Edit>Define Pattern. Name it ‘Bottom layer’.

Now go to Image> Canvas Size, and crop off the left half of the design. You are now back to the correct width, although you only kept the rightmost two letters, A and B.

Now the procedure is identical to when you merge two weaving repeats into a double weave:

Create 3 templates:

File >New > width 2 pixels, height 4 pixels. Background Transparent.
Then select a bright green color and draw as shown below:

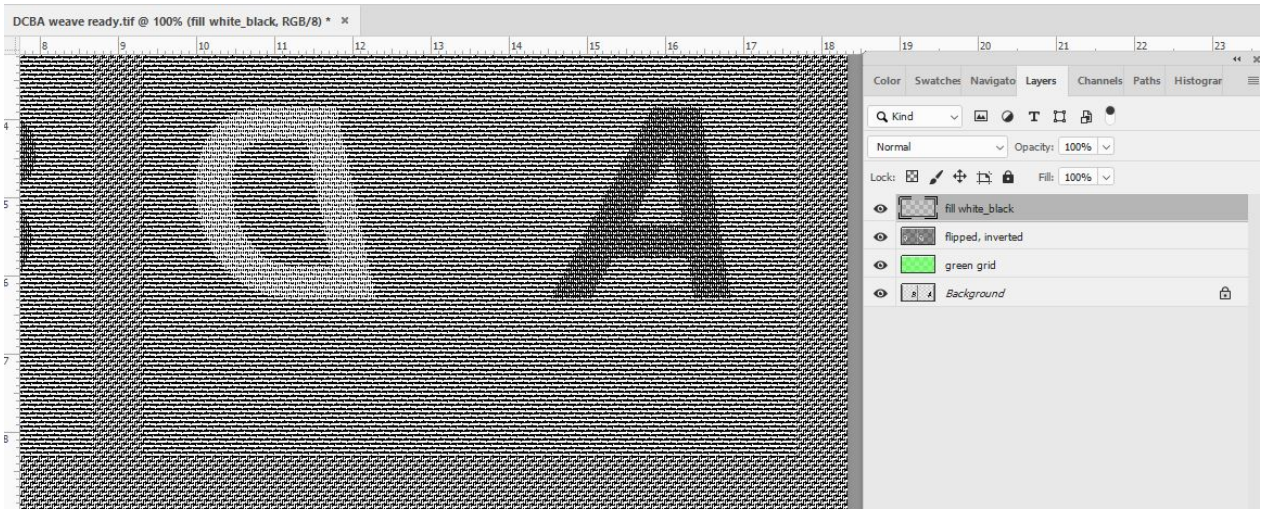


The green grid identifies the warp and weft for one layer. The two figures to the right show transparent as grey. Black and white identifies which warp ends are lifted or lowered for each weft. The figure on the far right will result in the right part of the design landing on top. The left one will result in the opposite.

The reason why the ‘grid’ looks like this, is that we will start with the shuttle in one layer, and when it has reached the opposite side, the shuttle has to go twice in the next layer before finishing the repeat in the first layer.

In your design, go to Edit>Fill and select the Green grid shown above. Then use magic want and select the Green grid. Fill it with the pattern fill you made from the left half, named Bottom layer.

Then deselect. And fill with the rightmost pattern, white_black fill. The result will be like this:



You can use color fills to check if you have resolved this correctly!

Make a weft color fill for 4 colors: 1 cold, 2 warm colors and 1 cold. The warp fill can be two colors only, a warm and a cold.

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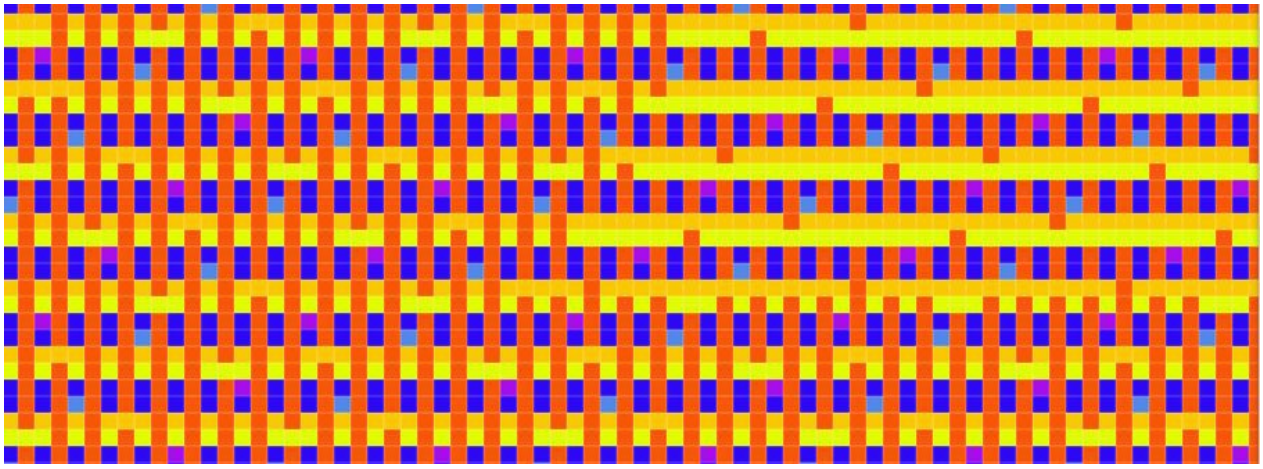


4 weft colors on the left and 2 warp color on the right: 

Simulation closeup:



Even closer:



There are several methods to arrive at this result, but I like this method because it allows you to prepare designs without necessarily knowing whether you want to weave it as a single layer cloth or a double weave 😊 The Easter challenge could be to create a design with folding in both sides!

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