

## *Design and Production of Woven Rope Embroidery and Patchwork Decorative Wall Hangings*

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**Abstract:** Based on the traditional Chinese patchwork craft "Eight-Pointed Lotus Flower" and the Western patchwork craft "Coin Pattern," a patchwork decorative wall hanging is designed and produced. The overall color scheme adopts traditional Chinese colors of bright red and deep blue, combined with blue printed fabric, and embellished with the craft of woven rope embroidery to create three-dimensional traditional Chinese auspicious patterns "Hui Zi Wen" and "Fu Zi Wen." The overall artwork seamlessly integrates elements from both Chinese and Western designs, achieving a harmonious and unified visual effect, showcasing the charm of Chinese traditional culture, and also suitable for modern daily use.

Patchwork is an ancient handicraft with a history of several thousand years, originating from ancient Egypt and China. People used this craft to repurpose fabric scraps and old clothes, cutting them into different shapes, and sewing them together to create beautiful patterns, ultimately making practical household items such as bed sheets and blankets. Initially, patchwork was for practical purposes, but as time passed and with the development of society, people infused patchwork with more artistic design concepts and various crafting techniques, gradually giving rise to a new category known as "artistic patchwork." Many designers apply artistic patchwork in the field of interior soft furnishings, effectively enhancing the aesthetic and artistic aspects of interior spaces, providing people with a fresh visual experience [1].

Taking an example of a woven rope embroidery patchwork decorative wall hanging, the production process is described in detail. Drawing inspiration from the traditional Chinese patchwork craft "Eight-Pointed Lotus Flower" and the Western patchwork craft "Coin Pattern," a patchwork decorative wall hanging is designed and produced. The overall color scheme adopts traditional Chinese colors of bright red and deep blue, combined with blue printed fabric, and embellished with the craft of woven rope embroidery to create three-dimensional traditional Chinese auspicious patterns "Hui Zi Wen" and "Fu Zi Wen." The overall artwork seamlessly integrates elements from both Chinese and Western designs, achieving a harmonious and unified visual effect, showcasing the charm of Chinese traditional culture, and also suitable for modern daily use.

## 1. Patchwork Decorative Wall Hanging Overview

### 1.1. Finished Size

The finished size of the wall hanging is 178cm x 88cm. The layout diagram and the visual representation of the finished product are shown in Figure 1 and Figure 2, respectively.

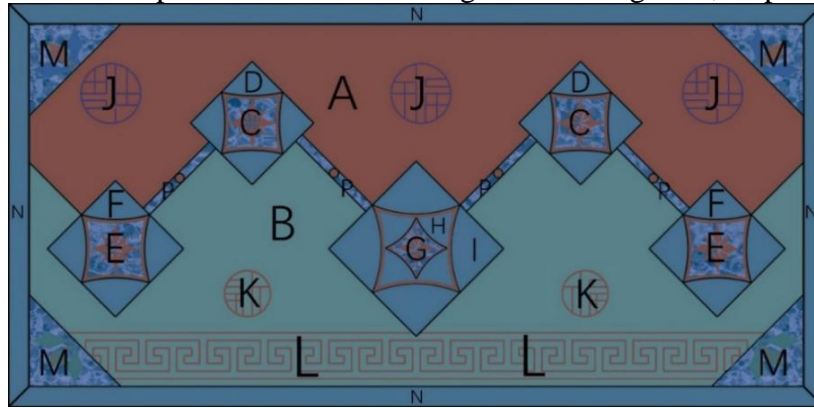


Figure 1: Configuration diagram



Figure 2: Finished picture

### 1.2. Required Materials

The design and production of the patchwork decorative wall hanging can be divided into three main block: the octagonal lotus flower, the coin pattern, and the combination blocks. The materials needed mainly include blue and red printed cotton fabrics, blue and red printed fabrics, batting, fusible interfacing, cotton threads, etc.

#### 1.2.1. Octagonal Lotus Flower Blocks

For the octagonal lotus flower blocks (C, E, G blocks), blue printed cotton fabric, red printed cotton fabric, and black fusible interfacing are mainly used. The specific dimensions are as follows: blue printed cotton fabric - length 2 meters, width 1.5 meters; red printed cotton fabric - length 2.5 meters, width 1.5 meters; black fusible interfacing - length 5 meters, width 1 meter.

#### 1.2.2. Coin Pattern Blocks

For the coin pattern blocks (D, F, H blocks), blue printed cotton fabric, red printed cotton fabric,

and black fusible interfacing are mainly used. The specific dimensions are as follows: blue printed cotton fabric - length 3.5 meters, width 1.5 meters; red printed cotton fabric - length 3 meters, width 1.5 meters; black fusible interfacing - length 8 meters, width 1 meter.

### 1.2.3. Combination Blocks

The combination block (I block) is further divided into six modules: main flower (I block), bottom layer (A, B blocks), five combined flowers (EF, CD, GHI blocks), connecting buckle (P block), "Fu" character cord (K, J blocks), and edging for the bottom of the wall hanging (M, N blocks). The materials needed for the main flower (I block) and the five combined flowers (EF, CD, GHI blocks) have already been mentioned in the octagonal lotus flower and coin pattern block.

For the bottom layer (A, B blocks) patchwork, mainly red printed cotton fabric, blue printed cotton fabric, and black fusible interfacing are used. Prepare red printed cotton fabric - length 1.8 meters, width 0.6 meters; blue printed cotton fabric - length 1.8 meters, width 0.7 meters; black fusible interfacing - length 2 meters, width 1.1 meters.

For the connecting buckle (P block), mainly blue printed cotton fabric and red printed cotton fabric are used. The blue printed cotton fabric is 0.5 meters long, 1 meter wide; the red printed cotton fabric is 1 meter long, 1 meter wide.

For the "Fu" character cord (K, J blocks), blue 60S/2 polyester sewing thread and red 60S/2 polyester sewing thread are mainly used, one spool each.

For the edging of the bottom of the wall hanging (M, N blocks), mainly blue printed cotton fabric, blue printed cotton fabric, and fusible interfacing are used. The specific dimensions are as follows: blue printed cotton fabric - length 2 meters, width 1.5 meters; blue printed cotton fabric - length 6 meters, width 1.5 meters; fusible interfacing - length 2 meters, width 1.5 meters.

## 2. Making the Octagonal Lotus Flower Block

The lotus flower is a common theme in traditional Chinese patterns, and it is widely used in both religious beliefs and artistic expressions in daily life [2]. The octagonal lotus flower is a representation of the lotus flower pattern in the field of patchwork and is one of the classic styles in traditional Chinese patchwork. For this production, two types of printed fabrics in blue, white, and red colors are used, combined through layering, stitching, and inlaying techniques to form a lotus flower pattern with eight petals. The specific process steps for making the octagonal Lotus Block (C, E, G) are as follows:

Step 1: We need to create the base fabric for the octagonal lotus flower, cut a square piece of red fabric with a side length of 20 cm. Also, we cut four rectangular pieces of blue printed fabric and four rectangular pieces of red printed fabric, each measuring 20 centimeters in length and 11 centimeters in width, prepare these pieces for later use.

Step 2: We need to prepare the four pieces of blue and red rectangular printing and dyeing fabrics, each color respectively take out a piece of opposite, the length of the side, the width of 1cm straight, the same method to sew four waiting.(As shown in Figure 3)

Step 3: We need to suture four pending fabric after smooth ironing and then along the seam line folded ironing, pay careful not to reverse, folded rectangular red face, and then fold out the triangle blue printing fabric, red folded inside, ironing flat, sewing 4 pieces of the same size triangle pending, forming figure 3.



Figure 3: Drawing of Octagonal Lotus Flower Block

Step 4: We fold the red base cloth prepared in step 1 along the diagonal, place the vertex of the triangular fold at the center point, put the petals in Figure 3 on the bottom, fix the seam by 0.3cm, sew the four vertices together with a hand needle, pay attention to the thread under the blue printing and dyeing fabric, do not expose.

Step 5: We put the four pieces of triangular fold fixed in Figure 3, and the broken line is a meter line, and evenly measure two equal distances from the center point of the bottom cloth, and mark points A and B respectively. We sew each AB point with A hand needle, and sew the thread in 3 circles to form a full 8 petals. Pay attention to the thread hidden inside and not leakage. In the same way, five octagonal lotus blocks of different sizes are used to form octagonal lotus blocks (C, E, G).

### 3. Making the "Coin Pattern" (DFH) Block

Copper grain is a patchwork of folding flowers, which is made by using origami method combined with the expansion characteristics of the oblique texture of the cloth. The specific steps of making copper grain (D, F, H) blocks are as follows:

Step 1. We need to cut a square length of 20cm red cloth fabric, four length of 11cm square blue cloth, will a square red dyeing fabric folding ironing, four pieces of blue square fabric two positive and negative superposition put the total length of 20 cm, overlap 1 fabric for cm (as shown in figure 4), all ready to use.

Step 2. We need to align the two overlapped blue printed fabrics and the folded red printed fabric neatly (as shown in Figure 4). Note: we should fold the red printed wool edges of the fabric opposite the blue printed fabric and put it in the same way. Put the red printed fabric in the middle and align the wool edges to form Figure 4.



Figure 4: Sewing and placement diagram of copper coin grain

Step 3: We need to take the layered fabric from Figure 4, and on both sides of the width direction, sew a 1 cm wide straight line. Iron the sewn fabric flat.

Step 4: We need to iron the sewn seams flat, ensuring that the blue printed fabric and red indigo-dyed fabric edges form straight lines, ironing is ready for use.

Step 5: We need to open the ironed fabric, fold the red part in the center, with two layers of red printed fabric and two layers of blue printed fabric on each side. We need to pay attention to the two sides of the red Angle should be the same flat, along the four layers of the car seam 1 cm.

Step 6: We opened the stitched step 5 to form the shape of the cross, pressed the seam evenly, turned over the front, showing a center red square pattern, suspended around the red to be used.

Step 7: We need to place the assembled octagonal lotus flowers (C, E, G block) onto the suspended red square fabric created in Step 6. Because it is to form a crescent shape, so we have to put the four sides of the middle into 1 cm, trim into the crescent shape after the four weeks of suture 0.1 cm detail fixed.

Step 8: We need to fold the octagonal lotus flowers (C, E, G block) along the crescent-shaped edges using red fabric, around the open line of 0.1 cm, we need to pay attention to the full line, so that a single copper pattern and octagonal lotus combination flower shape production is completed, forming a (CD block), using the same method to make two small two small combination flower shape, forming five combined flowers (EF, CD, GH block) to be used.

## 4. Make a combination block

### 4.1. Making the Main Flower Block (GHI Block)

We need to prepare a finished block with the coin pattern (H section) and the octagonal lotus flower block (G section) combined pattern. We use the copper grain production steps, the blue printing into blue pure color cloth, red printing for red printing cloth, cutting needs the size of the fabric, copper grain style. We according to the prepared copper grain (H block) and octagonal lotus (G) combination design, placed in the center of the copper grain, with the same method, make the second copper grain edge, complete the main flower (I block) pending.

### 4.2. Making the Base Fabric (A, B block)

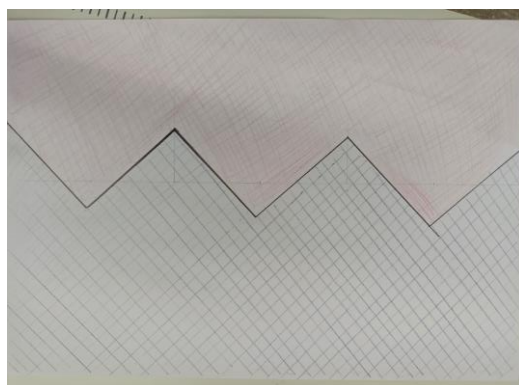


Figure 5: Schematic diagram of the base cloth fabric placement

The base fabric (A and B blocks) consists of two types of fabric. We need to prepare the fabric by cutting the red A-section indigo-dyed fabric (180 cm in length, 60 cm in width) and the blue B-section indigo-dyed fabric (180 cm in length, 70 cm in width). We cut the repair into the shape shown in Figure 5 in a ratio of 3:6. In addition, we should pay attention to leave 1 cm of seam each in the pruning process. The cut red and blue fabrics are stitched with 1 cm seam. After stitching, the seam should be trimmed at the 90 ° corners and pressed smoothly.

### 4.3. Sewing the Combination Flowers to the Base Fabric

For the assembly and combination of the coiled rope and embroidered patchwork decorative wall hanging base fabric, We need to place the five assembled floral blocks (EF, CD, GHI block) onto the base fabric, as shown in Figure 6. According to the proportion of painting powder along the cloth position, in the shape of five square sides into the position of the small square, along the small square edge cut excavation five square hole, five combination flowers into the corresponding square hole, is relative do a centimeter seam, corner make right Angle, trim after joint iron flat.

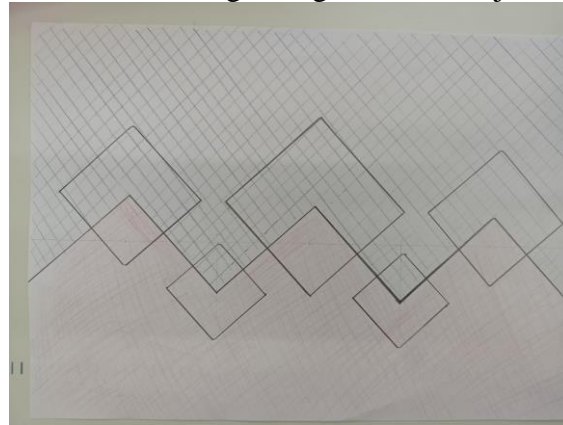


Figure 6: Schematic diagram of the combination of flowers

### 4.4. Making the Connecting Buckle (P block)

In the coiled rope and embroidered patchwork decorative wall hanging, the connecting buckle is a traditional Chinese fastener commonly seen on traditional clothing. To maintain the overall integrity of the entire artwork, we use blue indigo-dyed fabric to encase the one-character buckle, Not only play the role of making the finishing point, but also make the plate rope embroidery patchwork decoration wall hanging more beautiful.

Here's the method for creating the connecting buckle: We need to prepare four long strips of red indigo-dyed fabric cut at a 45 ° angle, each measuring 2.8 cm in width and 50 cm in length. Then we use the hand needle to fold the two sides of the long strip to the center of the reverse side twice, and the left and right opening of the needle stitching into a straight line, and finally use the stitched woven strip, making four one-word buckle to be used.

Method for creating the connecting strip: We need to prepare a blue indigo-dyed floral fabric and cut it into a straight strip measuring 5 cm in width and 80 cm in length. Then the front relative stitched a centimeter, suture out the front, trim into eight equal length. We used two sections to wrap the head and the button respectively, and the section near the head inserted 0.5 cm of the head with tweezers, and used the hand needle to complete four groups of plate buckle. Secondly, we sewed 4 groups of wrapped buttons at the joint of red fabric and blue fabric, and stuffed wool edges at both ends into the center of the suture intersection of three pieces of fabrics. Finally, we fixed the whole word buckle by the dark seam process, and the final completion effect is as shown in Figure 2.

### 4.5. Making the "Hui Zi Wen"(L) and "Fu Zi Wen" (J) Blocks

The "Hui Zi Wen" is a traditional Chinese decorative pattern, named after its resemblance to the Chinese character "Hui". It evolved from the "Yun Lei Wen", one of the oldest decorative patterns in China, characterized by continuous spiral lines forming either circular or square patterns. The circular patterns are called "Yun Wen," while the square patterns are called "Lei Wen." [3]

For the "Fu Zi Wen," it is a type of traditional auspicious pattern, representing the materialization of traditional Chinese culture and an artistic form depicting the nation's history.[4]

The artwork is decorated with the "Hui Zi Wen" pattern at the bottom and the circular "Fu Zi Wen" pattern at the top. For their creation, the "Pan Shen Xiu" technique is used, which is a form of three-dimensional embroidery. Embroidery is an ancient craft with a history of over 4,000 years, and it has evolved into various styles. Three-dimensional embroidery is one such technique, emphasizing the aesthetics rather than the practicality of the embroidery.[5]

To create the "Pan Shen Xiu," the first step is to twist the printed cotton threads into ropes. The process involves combining four strands of thread into one and then twisting them together. Two people hold the ends of the four strands about 5 meters apart, with one person securing one end while the other person twists the other end in the original winding direction. After twisting for a while to form a strong rope, the middle point of the rope is pinched, and then the two ends are brought together, pulled along with the middle point, and twisted in the opposite direction to eliminate the tension in the rope. Finally, one end is folded, and the other end is tied with a knot to complete the creation of the rope. Use the same method to make red and blue twisted ropes for later use.

In the coiled rope and embroidered patchwork decorative wall hanging, once the size and positioning of the "Hui Zi Wen" (L) and "Fu Zi Wen" (J) patterns are determined accurately, mark them in their respective positions using a heat-erasing pen. We will complete the prepared rope according to the pattern of the car seam, burn the joint with the head, pay attention to the selection of color line, and then use the same method to make the word pattern, as shown in Figure 2.

#### **4.6. The production of the wall hanging bottom, the four corners (M block) and the package edge (N block)**

The decorative wall hanging made from coiled rope and embroidered patchwork features octagonal lotus flower decorations with hollowed-out corners to complement the right-angled shape. Each lotus flower at the corners is only made as a half (M-block), and the method for creating octagonal lotus flowers has been explained earlier in this document and will not be reiterated here.

The base of the coiled rope and embroidered patchwork wall hanging consists of three layers. The middle layer is made of acrylic-padded cotton, while the bottom layer is composed of a single piece of indigo-dyed fabric, which completely envelops the artwork. After laying down the three layers of fabric, they are securely attached with hand stitching and set aside.

The edge of the coiled rope and embroidered patchwork wall hanging is bound (N-block). The binding process involves the following steps: 1. Cut a 17 cm wide and fabric strip at a 45 ° angle with a length equal to the circumference of the wall hanging. 2. Place the right side of the angled strip against the back of the wall hanging and sew all four layers together with a 1 cm wide seam around the entire circumference, ensuring to leave the joints at the corners. 3. Create a triangular binding strip at the corners, pressing it flat and folding it to the front side of the artwork by 5 cm, then stitch it with a 0.1 cm visible seam around the entire edge. With this step, the entire production of the coiled rope and embroidered patchwork decorative wall hanging is completed.

## **5. Conclusion**

Patchwork is an ancient folk handicraft that has appeared in both China and the West. Different artistic styles have been developed based on the cultural differences of various countries. The wall hanging combines the traditional Chinese "Eight-Petal Lotus Flower" with the Western traditional "Coin Pattern" in an innovative design. It also incorporates three-dimensional embroidery and connecting buckles. Through the fusion of craftsmanship, the use of updated materials, and innovative design themes, traditional crafts are endowed with a new artistic style and cultural connotations.

With the development of the times, energy conservation, environmental protection, and sustainable development have become hot topics. In the selection of raw materials for patchwork, it may be considered to use pure natural fabrics and plant dyeing techniques in the future. Combining the inherent love and cherish concept in patchwork, this will have a certain promotional significance in spreading the concept of sustainable design and promoting the cultural connotations of green fashion.

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