

A Terry Towel Like a Turkish Carpet

Given by Jane Eisenstein, written by Augusta Uhlenbeck



1. Towel face Turkish Carpet design



2. Towel back Turkish Carpet design

Jane Eisenstein sent this terry towel, with a design like a Turkish carpet made by Fieldcrest (USA), to me. Why was a terry towel sent to France? Is it because perhaps they don't have terry towels in France? Actually we have very nice ones, but none like this one.

The history started on the forum of the jacquard weavers. Somebody asked something about loops. Jane was answering that she has a terry towel with three colour loops, common stuff in the 1970s. I said that that was almost impossible because there is always a problem with the third loop warp, which has to be, put somewhere, the cost of the material ... Jane said that it wasn't, etc.

Around 1990/1991,¹ I was involved in a discussion on the problem of making terry towels with three loop warps with three colours plus the mixed colours. The conclusion was that it was too expensive, too heavy, too complicated to weave, too complicated for the designer, the lack of pure colours—and it wasn't made.

The design was inspired by the Turkish carpets at the end of the 1960s, early 1970s. The French firm "Jalla" also made this kind of design in same period. Several borders were decorated with flowers; the central field was decorated with flowers and stars, and the medallions with the "cartouches" (an oblong or oval figure inside the medallion).

The design is made on a 1/4 format and then multiplied in the width and height on the jacquard loom. Straight lines and little flowers are made in one of the three pure colours. The most important parts, the field, the medallion, and the large border are made with the mixed colours. There are no knotted fringes to finish the towel. Seamed towels with a "liteau",² the decorated part at the end of the towel, were fashionable in the late 1980s, early 1990s. Nowadays you again see fringes on the French towels, and the hem and header has disappeared.

The firm Fieldcrest made this towel. The question is: who is/was Fieldcrest and do they still make terry towels? Virginia Davis, who put this question on her website, received the following answers:

"Fieldcrest Mills was founded in 1893 in what is now Eden, North Carolina; Fieldcrest Mills bought Cannon Mills in 1986, creating Fieldcrest Cannon; Pillowtex Corporation bought Fieldcrest Cannon in 1997; Pillowtex shut down in 2003." There is a short history in the archives of Southern Textile News that can be found at the website (see bibliography at the end).

Although their headquarters were in New York City, at least one of Fieldcrest's main mills was in a small town in Virginia called Fieldale (don't know which came first!), a few miles west of Martinsville and Danville VA, near the North Carolina border. (Danville was the home of Dan River textiles—that whole area was huge in the textile industry.) Pillowtex that went Chapter 10 a few years ago, bought Fieldcrest.

I believe that they were bought by Li and Fung (I am not sure of spelling). They are producing the 'Fieldcrest towels' called

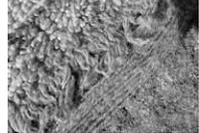
Royal Velvet. That is the only part they bought. They are in California and Thailand, and are the biggest sourcing company (no mills) in Southeast Asia”.

I was grateful to find out this information. I asked several French and Belgium technicians if they knew something about this three loops technique, hoping that they could explain it to me, so that it would not be necessary to analyse it completely. Nobody knew anything, just like barren land. That is what you can call a technical textile disaster. The only technical explication that I have found is in the Flemish course of Daniel de Jonghe and a Flemish technical book from 1952.³

The visual examination

The front side, figure 1, has more loops than the backside, figure 2! The label is on the front. Is this a mistake? I do think so. For this quality, the product is disqualified and cheaper. It is a heavy weight and fine quality towel with luxurious measures. There is a small selvedge that suffered during its terry life, due to the non-plied weft.

In the figure 3 there are two selvedges that are not seamed. The towel was woven with this width on the loom, and not two side by side or more.



3. Selvedges

Measurement: L X W: 105 x 64 cm, including the selvedges. Selvedges: 0,5cm

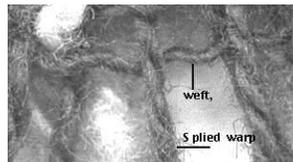
Material: combed cotton.

Weight: The towel weights 380 grams. That is also the weight for other high quality towels nowadays. The way to obtain that weight can be different; higher loops, heavier yarns, the “liteau”

Is always in weft effect and is thus heavy.

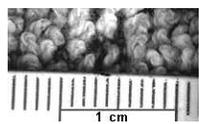
The Colour Effects: There are three pure colours and three mixed colours. The pure: 1) blue, 2) white, 3) green. The mixed one: 1) blue with white, 2) blue with green, 3) white with green. That makes six effects.

Loop Warp: S plied Ground warp: S plied Weft : Simple yarn S twisted.



4. macro warp:weft

Looking at the length direction of the towel, there is never a three colour loop above the other two, but it gives the illusion that it does. The three colours are working 2 by 1 or 1 by 2.



5. loops/cm

Height of the Loop: 0,3 cm.

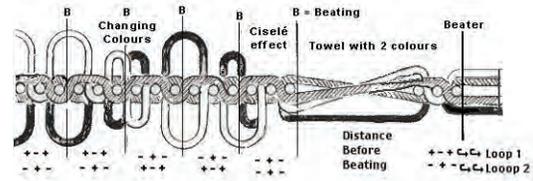
Loops/cm², Density height: 9 white, 9 blue, 9 green = 27 loops

Density width: 5 white, 5 blue, 5 green = 15 loops.

Total loops in a cm²: 27 X 15 = 405 loops. A good quality towel has around 250 loops /cm²

Construction: Warps and Wefts

A terry cloth has a minimum of: 3 warps -1 ground, 2 loops and 1 weft.⁴ However, in this case there are 4 warps- 1 ground warp and 3 loop warps.



6. 6 design of schema 2 loops and the beating

The Loom:

To obtain the loops in the fabric, you need a special loom: a high tension for the ground warp and a low tension for the loop warp. It is not a velvet structure—loops made with the velvet rods—instead the loops are made by the beater.⁴ A minimum of two warp beams were used: one for the ground warp under high tension and one for the loops, under low tension. I think that three warp beams were used, one for the ground weaves, one for the white and blue loop warps and one for the green loop warp. The beater together with the different tensions forms the loops. Not all the loops are the same height. If the loops change place, a different height will be the result.⁴

The six effects with three (A, B, C) coloured loops.

1. Loop A at the front and B and C at the back (pure colour)
2. Loop B at the front and A and C at the back (pure colour)
3. Loop C at the front and A and B at the back (pure colour)
4. A and B on the front and C at the back (giving mixed colours)
5. A and C at the front and B tot the back (giving mixed colours)
6. B and C at the front ant A at the back (giving mixed colours)

And there are six coloured effects in the towel.

How was it done?

That was the intriguing question. Between what I learned during my textile education in Flandres (Belgium) and France, heard in the 1990s, and have seen, I was skeptical.

It gave the illusion that the three loop warps were used together, but was it really done that way? Weavers are great illusionists! It is certain that they used technical tricks to obtain the desired effect. The easiest parts to analyze were the selvedges. The weave structure: a warp rep, a normal structure for a terry towel.

The same structure is used in the ground weave, which is the normal way to do it.

Number of warps/ wefts and the warp proportion between ground loops:

There are seven warp ends in the following proportion: one loop warp white/one ground warp green/one loop warp blue/one ground warp green/one loop warp green/ two ground warps green = seven warp ends = four ground warps / three loop warps.

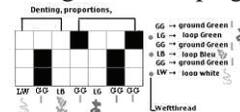
8. denting and proportion

There are three threads in one dent and four threads in the next dent.

Density in warp and weft/cm

Ground and loops together: Five times the threading rapport of seven threads = 35 threads/cm

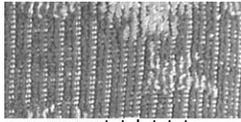
Weft: 24 threads /cm



A Working of the loops in the mixed colour effects.

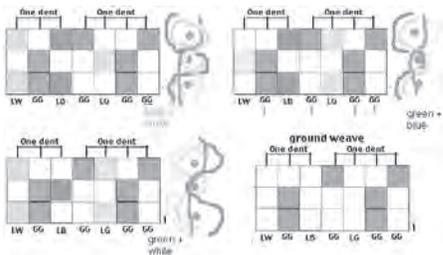
When the blue and white are working at the front side, there is a flat effect at the back.

Because the three loops are put in two separate dents, they are working side by side and not on top of each other. The three loops are putting in two separate dents; they are working side by side. When the blue and green are working together at the front side, there is a flat effect at the back and vice versa.⁴



back of the towel | flat effects (ciselé)

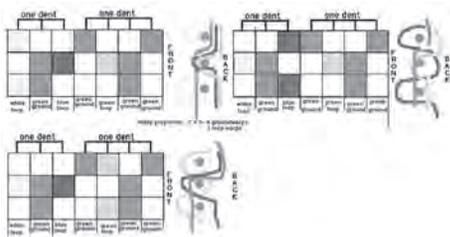
9. the flat effect at the back



10. weaving drafts of the mixed colours

B. Working of the loops structure and denting in the pure colours effects.

One colour is up at the front side; a flat effect is at the back. The two others have a flat effect in the front and loops at the back. The surfaces of the pure colours are small.



11. weaving draft of the pure colours

The weave gamut⁵:

effect	Warps			weft	
	ground warp	loop white	loop blue		loop green
pure white	■	+	-	-	green 3 green 2 green 1
pure green	■	-	-	+	green 3 green 2 green 1
pure blue	■	-	+	-	green 3 green 2 green 1
mixed blue/white	■	+	+	-	green 3 green 2 green 1
mixed blue/green	■	-	+	+	green 3 green 2 green 1
mixed white/green	■ 3 2 1	-	+	-	green 3 green 2 green 1

Legend: + = warp up ■
- = warp down □

Conclusion:

There are three colours in three loops. Two loops are always working together, and that gives the illusion that there were three independent working loops. See the weave gamut, the designs A and B and denting.

As far as I am aware, towels with three independent working loops were never made in Western Europe. Perhaps In the USA ? If you have that famous and really exceptional towel...?

Terry towels for a long time (twenty years and more) have been made in low-cost countries like Indonesia, Turkey (Bursa). That is probably also the reason why even these (Jane's)—technically not so easy—are now industrial vestiges in the textile world.

You are never sure if the analyses and the thinking processes behind it are 100% correct if they have not been tested on the loom. If you are not in agreement with my analyses it could be the onset of a nice discussion on the subject⁶. uhlenbeck-textile@wanadoo.fr

Footnotes:

- The discussion took place in the North of France .
- Image what in French is called "liteau" Header. If you have an other word for the "flat- or ciselé effect, please don't hesitate to let me know.
- Het Jacquard Weven van Ontwerp tot Jacquardweefsels. 1970. Daniel de Jonghe and M. Tavenier , Hoger Rijksinstituut voor textiel en Kunststoffen Gent (Be)
- "Rationele Bindtechnieken van de weefsels" O. va Looken. Gent (Be) 1952. Design of the working of 2 loops, 3 effects on the loom.
- Image from "Atlas van het jacquardweven van "Ontwerp to jacquardweefsels" 1970. Daniel de Jonghe and M. Tavenier, Hoger Rijksinstituut voor textiel en Kunststoffen Gent (Be)
- A weave gamut reflects the action of the warp with a weft in jacquard weaving. A British textile engineer gave this word to me in 2005. In French the name is "carte de lecture" and in Dutch (you never know ...) "effecten kaart"
- See article; Complex weavers No. 77, January 2005 page 44. Three members of the Complex Weavers who knew a lot about the towel contacted me, and they were sure it was a blanket. That is for another time.
- Weaving designs: made by the author with Point Carré, Rennes. Fr. <http://www.pointcarre.com>
- Thanks to:
 - Jane Eisenstein for the fun that we have had with the towel.
 - Virginia Davis for putting the question on her website.
 - The people replying to the question.
 - Joëlle Hoffman- Huttin, who told me that in South Dakota, not far from the Rushmore Mountains there is a town called Roubaix . It was Pierre Wibeaux, born at the French town Roubaix, who founded this town around 1889. You can admire his statue at 812 W. Orgain Avenue, Wibaux, Montana.
 - That nice person who took the towel with her from the USA to France
- Website for textile archives: <http://www.textilenews.com/archives/080303.html>