

# Technology of Velvet Construction

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One of the most outstanding advances in the art of velvet weaving has been the introduction of the chiffon transparent velvet, having the merit of a light weight cloth suitable either for street dresses or exquisite evening gowns and wraps, likewise as lining or ornamental adornment for an evening ensemble.

Little is known by the casual observer of textile fabrics and even by those who are manipulating and transforming the woven velvet fabric into wearing ensembles, about the technic and the painstaking process that confronts the producer of such fabrics. It is the purpose of this article to describe the method pointedly and review in technical terms the procedure of how to create and obtain a serviceable transparent chiffon velvet.

## Construction

The method of operation in its most modern form is the construction of a cloth adapted for double velvet weaving.

In the operation of double cloth weaving a knife attachment is provided for, that cuts and separates the pile to form a top and a bottom velvet cloth. The ground in both cases represents a plain weave, the pile represents a stitching thread being cut and separated by the knife as it traverses in between the top and bottom cloth, see Fig. I.

Figure I shows clearly the principle of construction to weave the double velvet fabric and how the knife (c) cuts the interlacing pile (b).

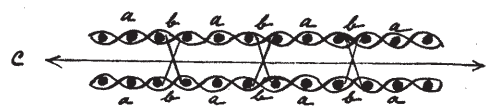


FIG. I

a. represents the binder of the ground weft.  
b. represents the pile as a stitching thread being cut by  
c. representing the knife traversing in center between top and bottom cloth.

Great care must be taken in the adjustment of the top and bottom cloth, a positive height of the tuft must be maintained throughout the length of the piece which in this particular case consists of 13/64ths of an inch. Any deviation from that rule will cause what is known as a high and low pile. The lay-out of one of the most prominent constructions of the transparent chiffon velvets is as follows:

### Warping disposition:

Ground: 7140/1 ends of 3 thd. 13/15 den. Japan crepe 65 turns.  
Pile: 3570/1 ends of 100 den. 40 fil. viscose rayon 5 turns.  
Edges outside 102/1 ends 60/2 spun silk on each side of cloth.  
Binders in center 6/1 ends 60/2 spun silk on each side of cloth.  
Edges inside 138/1 ends 60/2 spun silk on each side of cloth.  
Warped as follows:

102/1	60/2 spun	Edge outside
6/1	60/2 spun	Binder center
138/1	60/2 spun	Edge inside

1/1	3 th. crepe left		Ground	} 8/1 crepe X 892 = 7136/1 + 4/1 ----- 7140/1
1/1	3 th. crepe left	1/1	Pile	
1/1	3 th. crepe right		Ground	
		1/1	Ground	
2/1	3 th. crepe right		Pile	
		1/1	Ground	
1/1	3 th. crepe right		Pile	
1/1	3 th. crepe left	1/1	Ground	
1/1	3 th. crepe left		Pile	
		1/1	Ground	

1/1	3 th. crepe left		Ground	} Left inside edge enter as follows:
1/1	3 th. crepe left	1/1	Pile	
1/1	3 th. crepe right		Ground	
		1/1	Ground	
		1/1	Pile	} repeat 34 times + 2 ends left over = 138 ends
			Ground	
			Pile	
			Ground	

138/1	60/2 spun		Edge inside	} Right inside edge enter as follows:
6/1	60/2 spun		Binder center	
102/1	60/2 spun		Edge outside	

Construction of Cloth:

Width of cloth in reed 44.70 inches, finished 39 inches.  
 Reed Ground: 42/4/1 per dent } total 6/1 per dent  
 Reed Pile: 42/2/1 per dent  
 Reed Edges 42/6/1 per dent  
 Reed Binders: 42/6/1 per dent  
 Filling: 116 picks per inch 3 thd. Japan rev. crepe 45/45 turns  
 Entering in harness:  
 Ground, inside edge and binders on 4 shafts  
 Outside edge on 4 shafts  
 Pile on 2 shafts  
 drawn in as per Fig. II.

1st end on 6 shaft  
 2nd end on 4 shaft  
 3rd end on 5 shaft  
 4th end on 3 shaft  
 } repeat 34 times  
 + 2 ends left over  
 = 138 ends

Right outside edge enter as follows:  
 1st end on 10 shaft  
 2nd end on 8 shaft  
 3rd end on 9 shaft  
 4th end on 7 shaft  
 } repeat 25 times  
 + 2 ends left over  
 = 102 ends

The body and pile enter as follows:  
 1st end on 6 shaft body top  
 2nd end on 2 shaft pile  
 3rd end on 4 shaft body bottom  
 4th end on 5 shaft body top  
 5th end on 1 shaft pile  
 6th end on 3 shaft body bottom  
 } repeat 1784 times  
 + 4 body  
 + 2 pile  
 left over  
 = 7140 body  
 = 3570 pile ends.

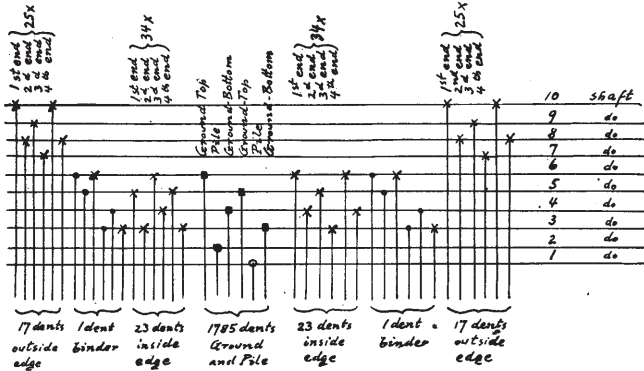


FIG. II

The position of the pile as shown in harness draft of Fig. II, prevents the pile ends from rolling into the wrong binding position, holding the tuft in its proper binding relation in between the ground ends. In entering the ends into the heddles of the harness, special note has to be taken that the succeeding ends on both edges, outside and inside edges, follow the repeat of the 4 shafts in each set and not the repeat of the 6 ends per dent.

Left outside edge enter as follows:  
 1st end on 10 shaft  
 2nd end on 8 shaft  
 3rd end on 9 shaft  
 4th end on 7 shaft  
 } repeat 25 times  
 + 2 ends left over  
 = 102 ends

Fig. III represents the corresponding weave pattern as applied to the harness draft shown in Fig. II.

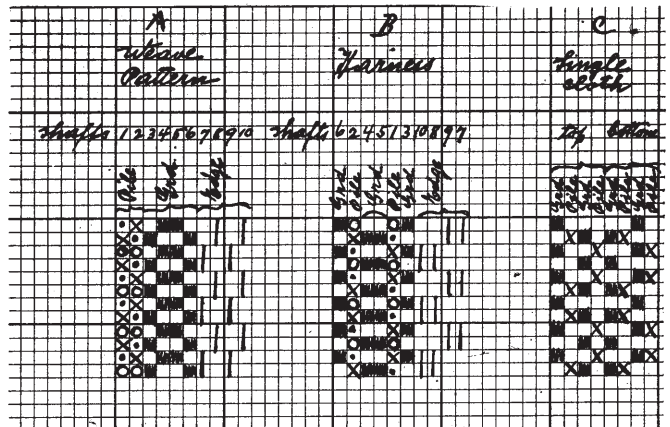


FIG. III

A is the weave pattern used for the set-up of the cams that manipulate the rise and fall of the shafts to weave the cloth.  
 B shows the position of the warp threads as they lay side by side drawn in in the heddles of the harness.  
 C shows the weft of the single, top and bottom cloth, after separation by the knife that cuts the pile in the center, delivering two pieces off the loom.

(To be continued)