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Patang: The Fighter Kite of Punjab, Pakistan
Material, Structure and Making

Introduction

The fighter kite of Punjab has a unique importance. First of all, it is way different than the conventional kites that we find all over the world and secondly, it is specifically designed to combat. It signifies human creativity and elegance in an encouraging way. The kite makers who hold the precious tradition of knowledge with pride are best satisfied when their fighter kite is appreciated by notable players. Unfortunately, there is a dearth of literature regarding the various aspects of the art of its making, this paper, on the basis of information that has been collected through various interviews with kite makers and players, attempts to fill this gap.

The paper is divided into two sections. The first section informs the reader about the materials that are used in the making of fighter kite. Like the art of kite making the materials are also specific and are classified on the basis of their quality. The selection of a certain quality in turn rests upon the fulfilling of the basic purpose, which is to make a kite that obeys the aerodynamic laws in a precise manner. The second section describes the structure and making of the kite and highlights various important design considerations along with conventions that are preserved through an oral tradition of specialized knowledge.

1. Basic Material

The skeleton of kite is made out of bamboo. The bamboo is usually peeled and cut according to requirements and is acquired from either local sources or is imported from India, Japan, Brazil and Thailand. In the city of Lahore, B?ns?nw?la Bazaar is a famous market from bamboo already cut into pieces is available. The other components of a kite include the kite paper, thread and glue. All these components are selected and used in order to make a kite aerodynamically flawless with minimum possible weight in most cases.

1.1 Kite Paper

Figure 1. Kite papers of different colours.

Kite paper is of various types but usually light weight paper is preferred roughly falling between 16 to 24 grams(Ashraf). The lighter weight is preferred for an easy maneuvering of kite in the air. However, the paper makers keep in mind the air pressure that may cause a rupture. The thickness of the paper and its weight vary according to the required size of the kite(Haider). In kites with larger size, a greater weight and thickness would be the right choice. The sheet of kite paper that is mostly available in market is 20 x 30 inches in size. In local dialect this size of paper equals to a measurement unit 'taa'. The measurement of paper for making a Patang is taken with spread stretched hand called 'gith', which mostly equals nine inches. Mostly, the width of the Patang varies from 3 to 6 giths, however, the players and makers sometimes customize it to greater sizes up to 10 giths. The greater the size, the slower becomes maneuvering(Ashraf). The kite makers of Lahore told that a few decades earlier, the paper imported from Germany and England was the most popular, however, later a relatively cheaper kite paper became available through China, and then, Pakistani manufacturers also started producing bulk quantities(Lali). The local and imported paper is available in different colors which are used in making design patterns in the Patangs.

1.2 Bans (Bamboo)

Figure 2.Bans or bamboos to be cut in thin small sticks to make Shihtir for the kite.

In kite makers' terminology the bamboo sticks that are used to make the

skeleton are known as Shihtir. These are peeled with a sharp knife either flat or round. A good stick is valued on the basis of its strength and elasticity along with tension. The strength matters to stand the air pressure, the elasticity is a feature which is necessary for shaping the bamboo structure and then the tension is important for keeping the kite paper stretched(Shahbaz). The bamboo sticks, after required peeling, are prepared using a heat source, usually a lamp with a flame. The traditional lamp used for the purpose performs three functions, 1) it strengthens the bamboo sticks at certain points, 2) it straightens a stick and creates points for bending it, and 3) it creates black spots on the sticks for decorative purposes.

Figure 3.Thin bamboo-sticks or Shihtiris beingheated on flame to straighten and molded for the kite.

1.3 Dhaga (Thread)

Figure 4.Usage of different types of thread or Dhaga in kite making.

The thread that is used in kite making is made of cotton and is available in two variants. One is the swing thread which is thinner and consists of 2-3 fibers. This thread is used in making small sized kites. For a fighter kite, a thicker thread is used called piquing thread and consists of 5-8 fibers. The brand name for the thinner thread used by Pakistani kite makers is pari marka, while the thicker thread is made by DMC(Hanif). The thicker thread guarantees a reliable flight of the kite, and keeps it stable against air pressure. The thread is used in creating the arrow shaped small-sized top most component of Patang and is used to knot and hang the tail.

1.4 Laiwi (Kite Glue)

Figure 5.Glue or the Lewi.

The glue that is used to prepare fighter kite is of utmost importance since it is the binding ingredient that keeps the components together. It performs various functions and each function has its own distinct importance. For instance, it holds the joinery with a certain strength so that the air pressure and other forces acting on the kite such as drift and drag could not affect the smooth flight. The glue also needs to quickly dry; a feature that is important for efficient production of kites(Butt). It has to be resistant enough to deal with humidity and heat. And then it has to be of a lighter weight. The kite makers have, through oral tradition formulated and preserved a special kind of glue which is made out of wheat flour, salt, sugar and water. The glue preparation takes into account the weather conditions and the glue maker changes the proportion of salt and sugar accordingly; this knowledge is considered specialized amongst kite makers(Ashraf). The method of mixing of the ingredients and their setting time is also something that glue makers keep secret.

2. Structure and Making of Patang

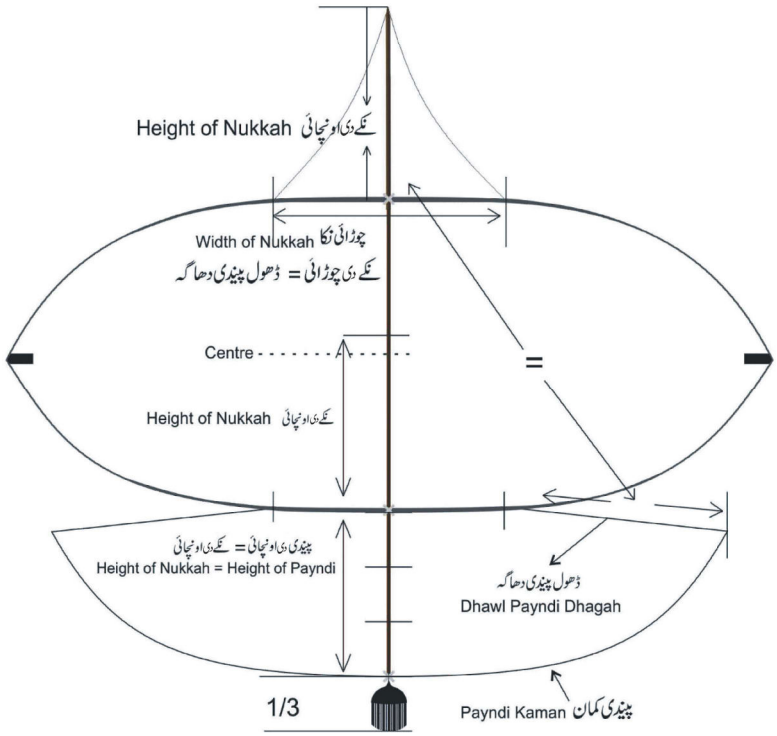

Figure 6. Basic shape, structure and proportions of the patang or the Fighter-Kite.

The structure of the fighter kite is made from four bamboo sticks and consists of four parts, *Nukka, Dhol, Paindi and Phumman. The Nukka and Phumman* are much smaller but highly affective components as compared to the central bigger parts. The central stick which is called the *Gazis* the thicker one and is usually round. Two sticks with equal length called *Kaman Jodi* form the upper part which is called Dhol and then one relatively thinner stick forms the base of the lower part called *PaindiKaman*. The *Gaz* forms the backbone of the fighter kite, the sticks used to create the Dhol are tired to the *Gaz* from center so that on both sides the weight remains equal. A slight mistake in locating the center results into an imbalanced kite. The upper side of the *Paindi* is made using thread instead of stick. The top of the *Gazalso* forms the backbone of the *Nukka* (the arrow shaped top) and the lower side of the *Gaz* is connected to the tail called *Phumman*. Wherever the bamboo sticks are tied, a groove is created within the sticks to make a strong joinery.

Figure 1 Shihtir is being straighten on a lamp flame.

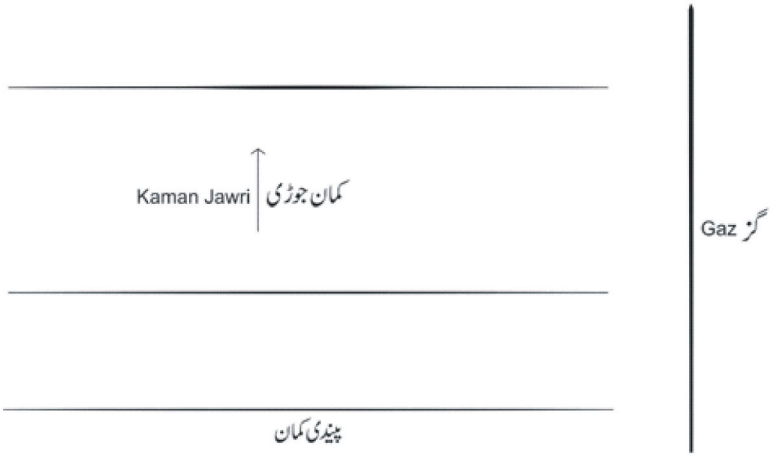

Figure 8. Shapes of kaman Jodi, Paindikaman and Gaz.

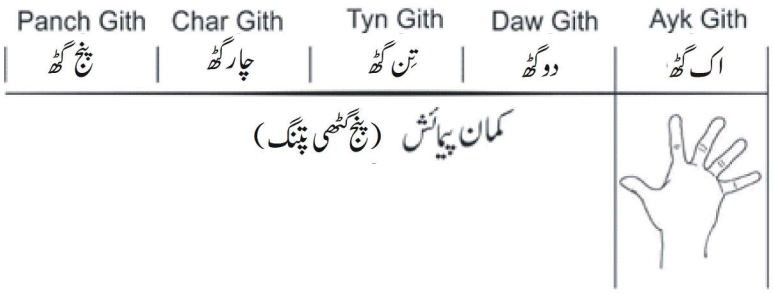

Figure 9. Illustrative details of Gith: the local unit for measuring length and width of kites.

An important convention that is religiously followed by kite makers is that the upper half of the *Gazis* kept thicker than the lower half. This convention serves two functions. One is that the upper part of the fighter kite remains more stable and provides a strength to the *Nukka* that splits the

air. This part takes on the air pressure as the kite is lifted upwards. The lower part of *Gaz* which is thinner gives a flexibility to the *Paindi* which helps in maneuvering the kite. The *Gaz* is made perfectly straight in order to perform the aforesaid functions accurately (Hanif).

2.1 Joda or Kamani Joda

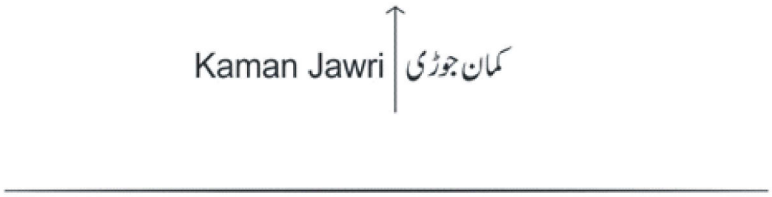

Figure 10. Joda and kamnijoda

Kamani Joda is a pair of sticks equal in length and are used to build the skeleton of the *Dhol*. These sticks actually determine the size of the fighter kite. Since the sticks are curved at a certain angle they are required to be strong and flexible. The sticks are also peeled in a particular way. The central part is kept thick in comparison to outer parts. The upper stick is slightly thicker than the lower stick since it provides strength to the upper joinery attached to the *Nukka* (Lali). The sticks make the central joinery stronger where they connect with the *Gaz*. The outer thinner parts help in maneuvering as when the kite is flown left or right the corners bent according to air pressure. The thinner parts are also made precisely equal since a slight variation in thickness will result into variation in both weight and flexibility. After all, the whole art of kite making is nothing but creating perfect balance. To achieve required bending these sticks are heated on lamp at certain points. The *Kamani Joda* provides another service; on several points the sticks are marked in a way that the fighter kite remains visible even at a greater distance(Shahbaz). The kite makers discard those sticks that does not have consistency. It is of pertinent requirement that the sticks have no weak spots. The *Kamani Joda* on both corners is joined with a binding tape and provides the armature for paper in order to prepare the *Dhol*. The kite makers are of the view that preparing an accurate *Kamani Joda* is a skill that is learned with much experience and is sometimes considered as the litmus test for measuring the proficiency of a kite maker.

2.2 Dhol

Figure 11. Basic shape and proportions of Dhol.

Figure 12. The paper-cut Dhol is being pasted on the basic structure made up of thin bamboo sticks.

The *Dhol* is the central and biggest part of the patang and responds to the forces of drag, drift and lift. Its making is therefore follows a careful and accurate procedure. The *Kamani Joda* forms the armature and then kite paper is placed and fixed over the armature. The kite paper is glued to the armature through first cutting it to a slightly larger size than the armature. i.e. roughly half inch on all sides. The extra half inch is then prepared for folding and gluing by making V-shaped cuts, three inches apart. This process helps in the folding of the paper by avoiding wrinkles. The paper is folded around armature after applying glue and it is kept in view that the main body of the *Dhol* does not have any wrinkle and that the distribution of the paper on both sides of *Gaz* is equal in size and weight. The corners where the Kam?ni Joda meets is an important part, the paper is glued using a paper tape. The principle that is followed in the making of the *Dhol* is to evenly stretch the paper on the armature to ensure a smooth and balanced flight(Haider).

Figure 14. Basic shape of Dhol.

The *Dhol* becomes a 50% component of the fighter kite by size. The fully prepared *Dhol* is then attached with the *Gaz* using thread. This again demands an accurate distribution to ensure the balance of the kite. On the upper side of the *Dhol* is attached the Nukka and the lower side is fixed with the *Paindi*.

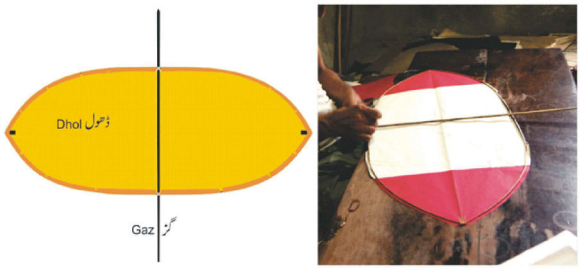

Figure 2 Placement of the central Gaz at the Dhol.

2.3 Paindi

The bamboo stick used to prepare the lower part of the Patang or Paindi are thinner than those used in preparation of *Dhol*. However, the same principle applies that the central part of the stick is kept thicker and rounded as compared to the outer parts. Unlike the *Dhol*, the *Paindi* has only one bamboo stick that is used at the base, the upper part which connects to the *Dhol* uses thread instead of bamboo stick, which gives an extra flexibility to be used in maneuvering(Hanif).

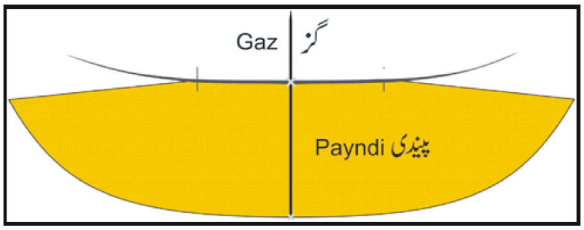

Figure 3 Basic shape of the Paindi

Figure 4 Thin bamboo-stick armature

The thread bearing the tension created by the curved bamboo stick base is then connected to the *Dhol*, while the bamboo stick used at the base is tied to the *Gaz*. The kite paper is then fixed on the bamboo-thread armature using the same technique of V-shaped cuts.

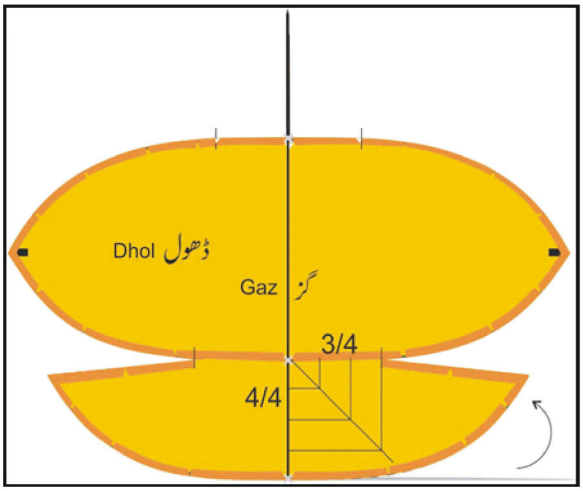

Figure 18. Placement and proportions of the Paindi.

Figure 19. Placement and proportions of the Paindi.

2.4 Nukka

The upper most part of the fighter kite is the *Nukka*, which is the most important component in terms of lift, maneuvering and control. The *Gaz* is

extended till top and the rest of the armature of the *Nukka* is thread based. The kite maker has to be precise in adjusting the tension of the thread as a slight variation may result into lopsided flight of the kite. The upper bamboo stick of the *Dhol* is marked on either sides of the *Gaz* where the base of the *Nukka* rests. When the basic shape of the *Nukka becomes* ready, a U-shaped thread is tiled to both sides of the base of the *Nukka*. This thread helps in balancing slight variations in the weight of the kite that might result into a lopsided flight. This thread also serves the purpose of holding the kite or hanging it.

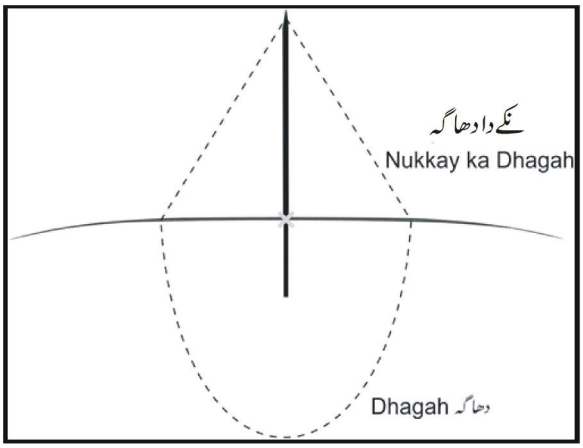

Figure 20. Initial shape and position of the nukka.

Figure 21. Thread-armature of the nukka.

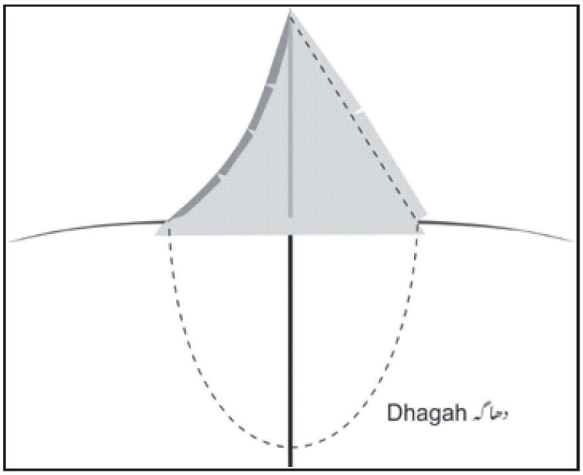

Figure 22. Thread stretched on one side of the Nukka.

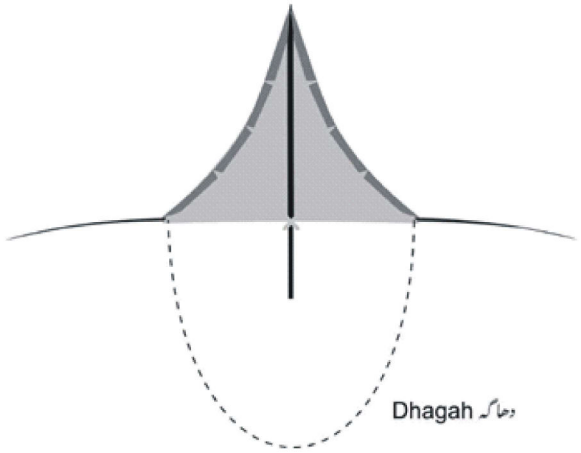

Figure 23. The complete shape of the nukka.

Now a piece of *kite* paper, almost same of the size of the *Nukka*, is placed under it and its lower side is glued to the upper *shihtir* of the central *Dhol*. Usually this joint is pasted together at the backside of the kite where no stick-structure is present. The lateral sloping sides of paper are notched in small cuts so the wrinkles or creases would not appear on the paper surface after being folded over the hanging threads at the both sides from the top most corner of the central *Gaz*.

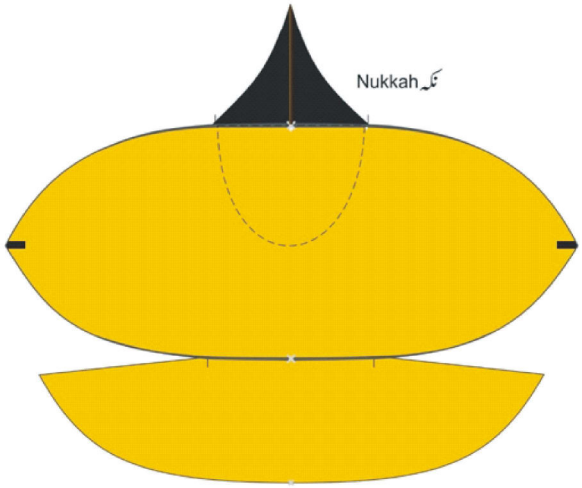

Figure 24. The nukka fixed on the top of the patang.

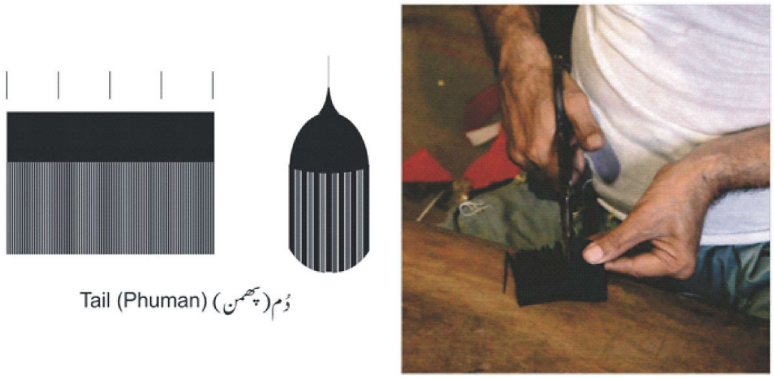

Figure 25. Basic shape and cutting of paper-lace for the phumman or tail.

2.5 Phumman

The *Phumman* is the last part of the fighter kite and it serves decorative purposes, however to some extent it also balances the fighter kite. The *phummanis* connected to the base of the *Paindi* at the center where the *Gaz* is tied to the bamboo stick of the *Paindi*. The *Phumman* is made through a convention of Origami as a kite paper folded many times is cut into strips. The piece is then rolled over in a bell-shaped hanging tied to the center of the *Paindi-shihtir*.

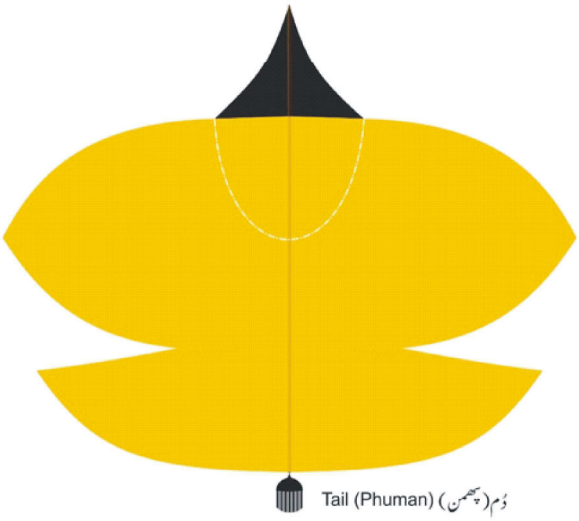

Figure 26. The phumman is finally attached at the bottom aligned with the central shihtir of patang.

2.6 Further Enhancement

Figure 27. Geometrical tiny little shapes of paper-tape (Chaipi), pasted to block the tiny.

At the final stage of preparation, the fighter kite is thoroughly examined to see if there are any weak spots in the making or pasting. The points where the thread knots are tied are repeatedly checked. At the corners wherever there is a possibility of a pore, a special paper tape is used to block air flow. A tiny pore means that under strong air pressure, the kite paper would be torn apart. Once the kite is completely checked, various decorative motifs are used to enhance the beauty of the kite. The design patterns that are used to ornament kites in our region are elaborate and demand a study in their own right. The craftsmen of our region has learned

to make permutations and combinations of basic shapes to achieve region specific design motifs and color combinations. The decorative motifs in the local dialect are called *Panna, dopanna, chaupana* and *Kaliyan* etc. After all these elaborated and meticulous procedures, a patang is finally prepared for its flight.

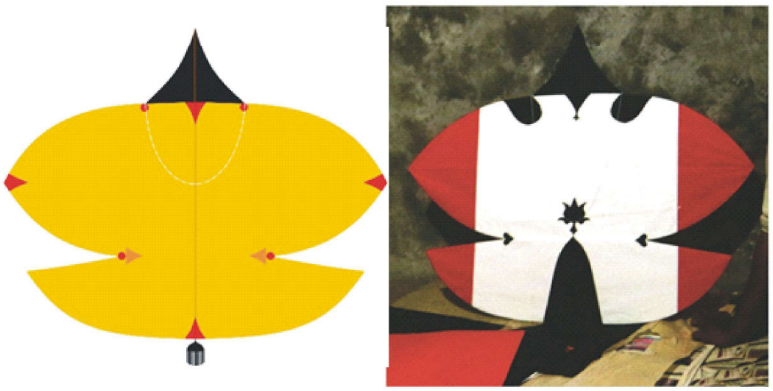

Figure 28. The complete form and structure of the patang.

Conclusion

If we analyze the above structure, we can clearly see that there are certain geometrical and mathematical constants at work. For instance, the measure of the overlapping area between *Dhol* and *Paindi* is equal to the width of the base of *Nukka*. Similarly, the vertical measure of *Paindi* and *Nukka* remain the same, and the *dum* equals to one-third of the height of *Paindi*. The *Paindi's* vertical height is exactly one half of that of *Dhol*. These consistencies evince the initial systemic knowledge base of the tradition of Patang making.

The tradition of oral knowledge that has preserved the mathematical measurements, the formation of structure and the conventions of making is an expression of human invention and codification. Today a kite maker takes pride in the fact that he knows the hidden aspects of the craft and possesses the ability to develop fighter kites that can compete its opponents in even harsh conditions of weather. He always receives accolades from kite players for the finesse he achieves in his art.

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