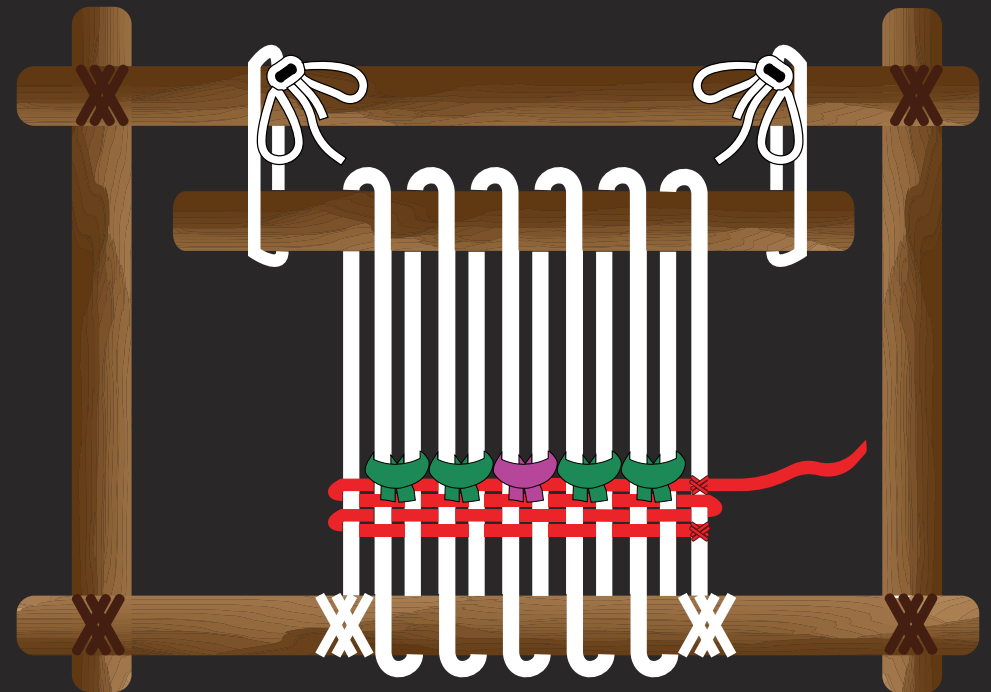


Illustrations - How Rug are Woven

This is an excerpt from my eBook, it will provide you a high level presentation about how handmade rugs are woven using illustrations. From origins of the first fabrics woven by man by interlacing/interlocking warps and wefts, followed by the addition of hand-tied knots to produce the first rugs.

To someone new to this subject, it can provide a foundation to build on the concepts introduced throughout my eBook, *The Art of Oriental Rugs - A Weaver's Perspective*. You can find more information about how rugs are woven in Iran (Persian) using text, pictures and videos on:

Bofandeh.com



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Origins of Fabric Weaving

We will begin our journey from the creation of the first fabrics. The technique of interlocking strings to make a solid and durable structure in fabrics is also a foundational principle of how rugs are structured. This section is not intended to be an accurate historical account, it is only to

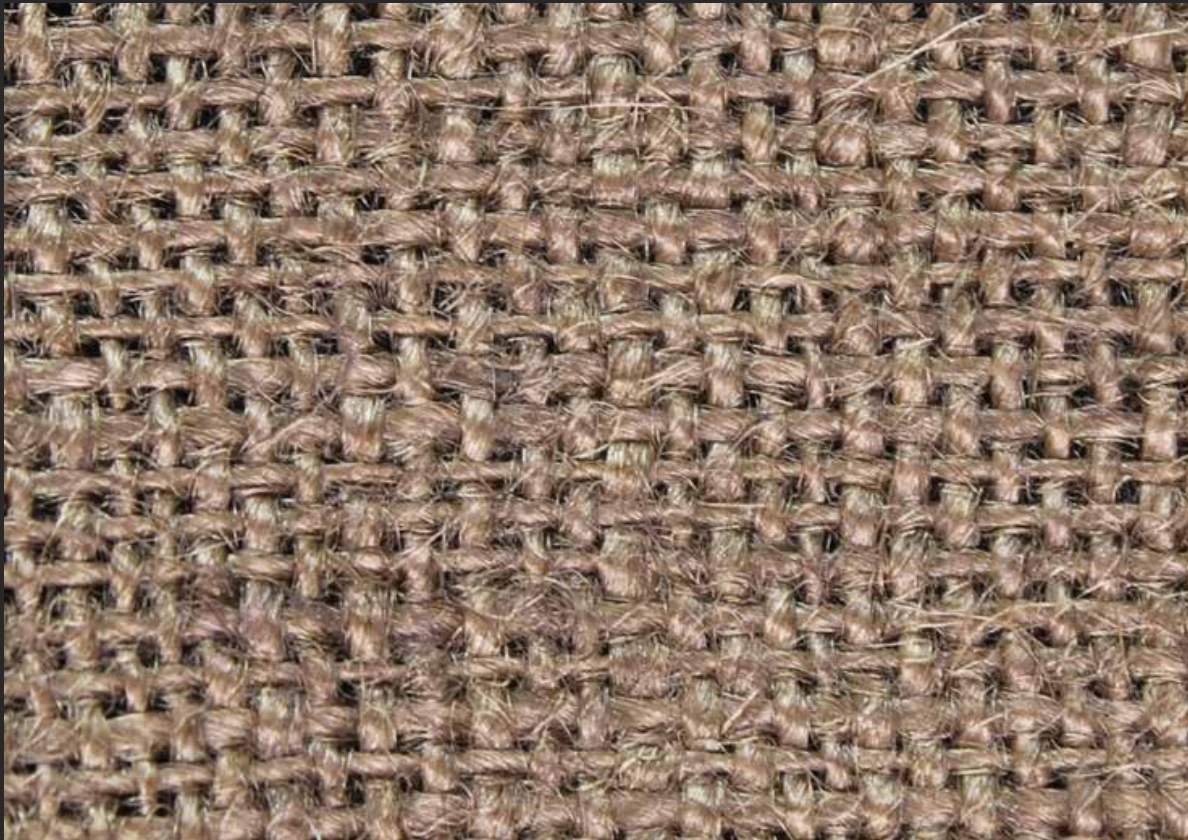
demonstrate a point which will become more clear later in this book.

Below is a simple but sturdy frame structure necessary to build a foundation on, called a Loom.

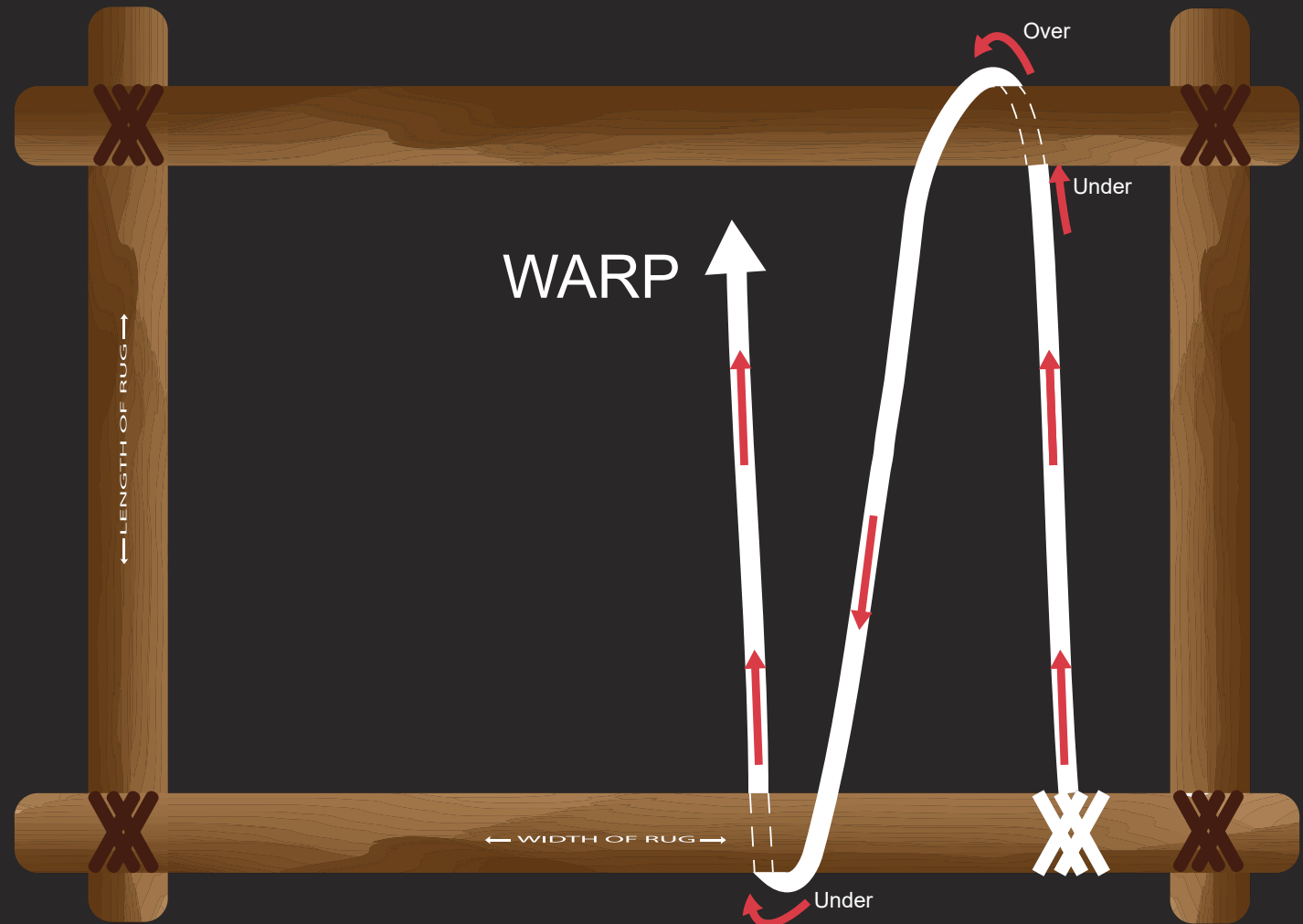
Loom



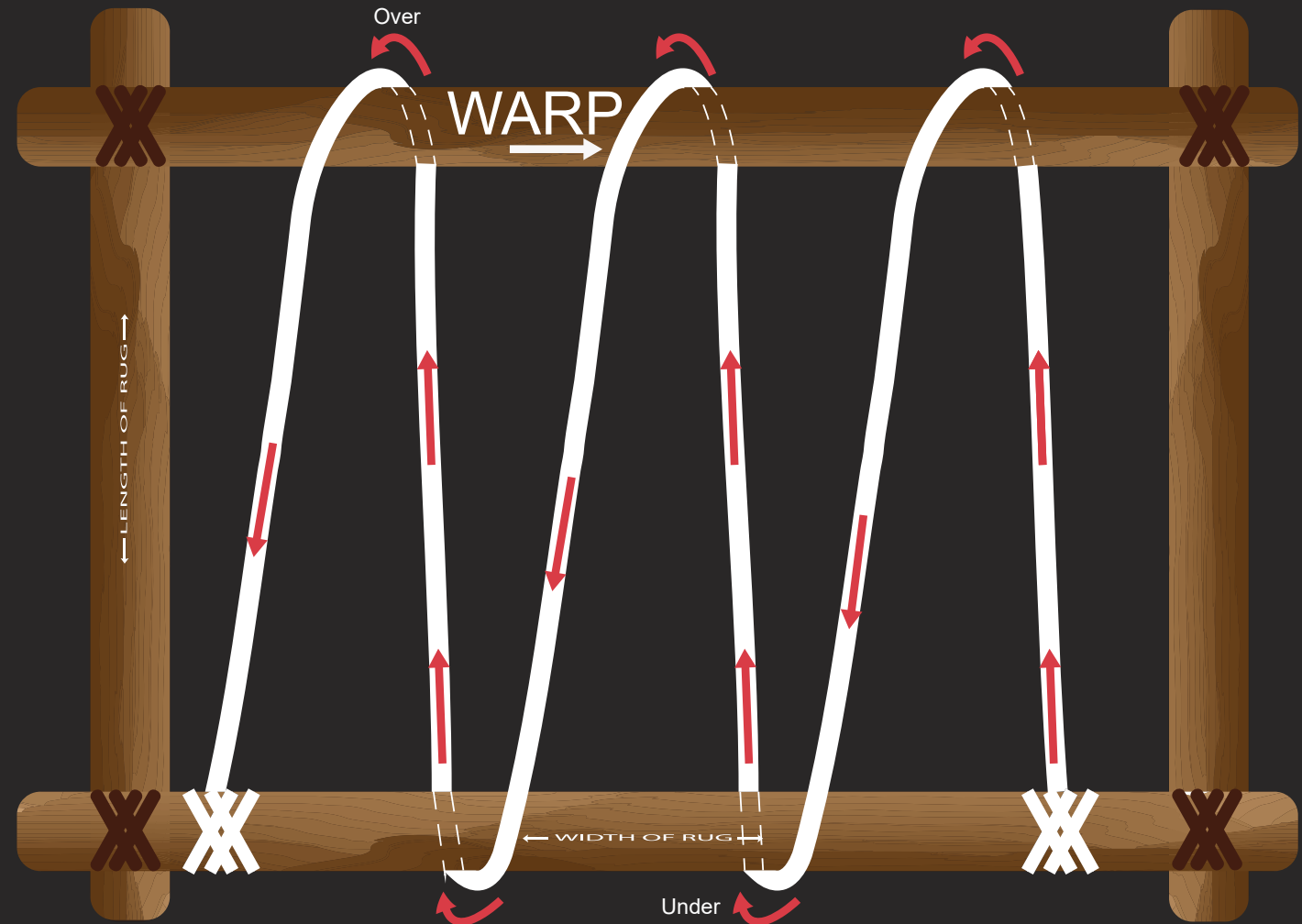
Shown below is a piece of burlap, a good example of the over/under process of the wefts and warps. This process creates an interlocking mechanism which is secure, pliable and durable. This is the foundation of the early man-made fabrics.



We begin with wrapping strings around the horizontal pieces of the loom. The loom must be a sturdy frame able to handle the pressure exerted by the strings. White strings going up and down the frame (Loom) are called the WARP.

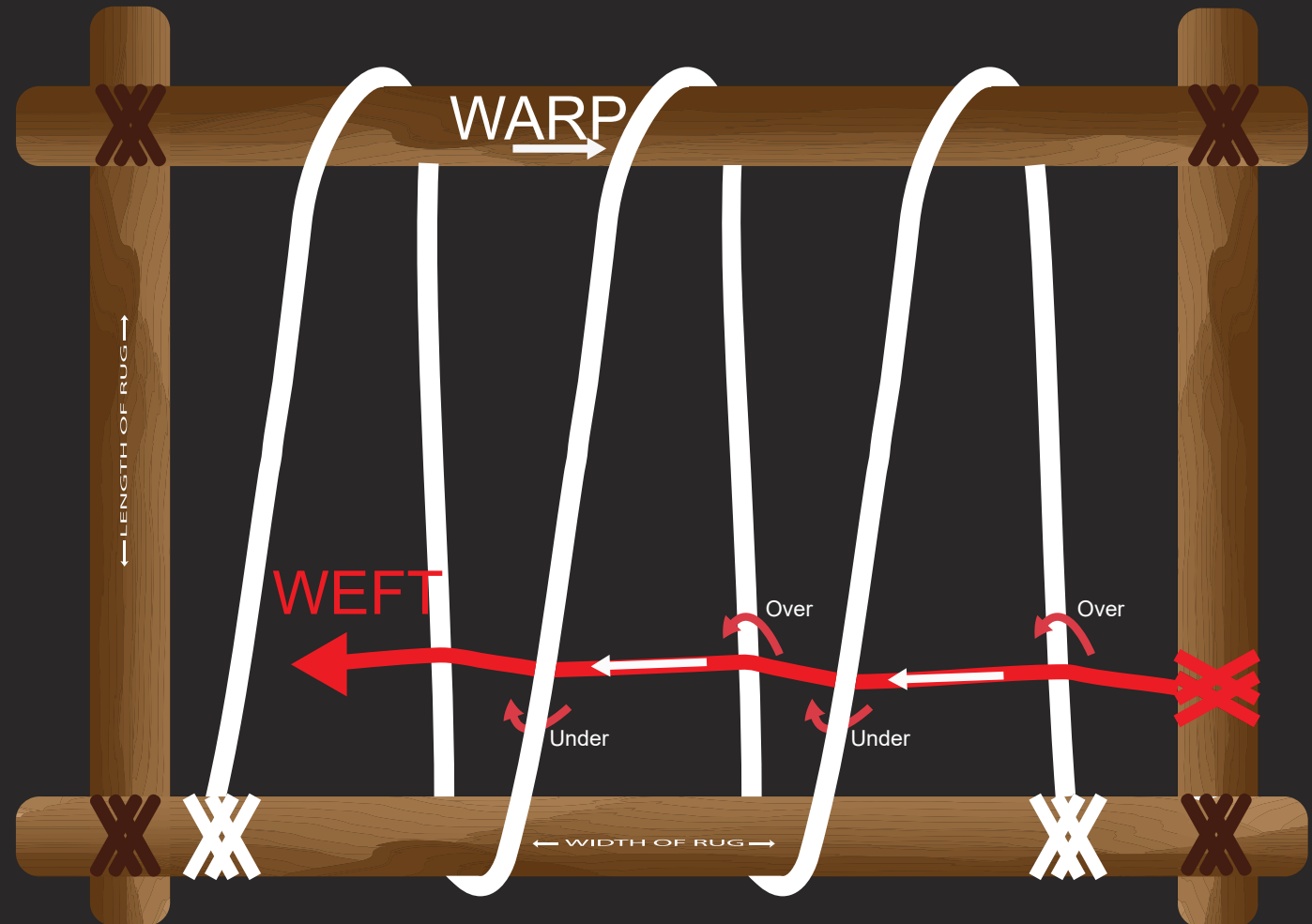


We continue to wrap the warp around the loom and tie it down to keep secure.



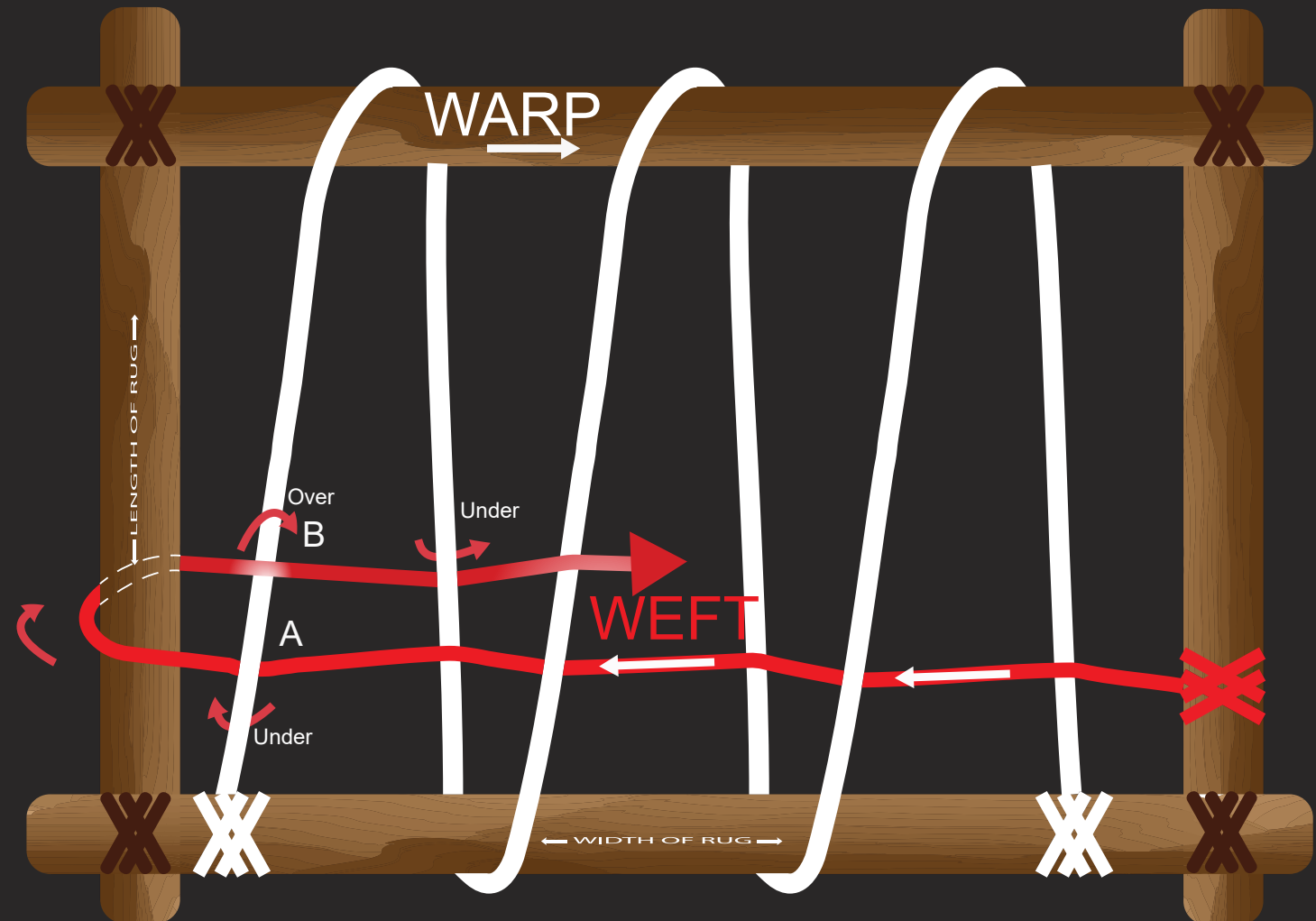
Once the warps are complete, we begin to add strings going from side to side. Red strings going from side to side on the frame are called the WEFT. Note how the weft alternates through the warps creating an interlocking

structure which provides support. In this case we started by going over the first warp, it could have started by going under as well. What matters is to be consistent once the process begins.

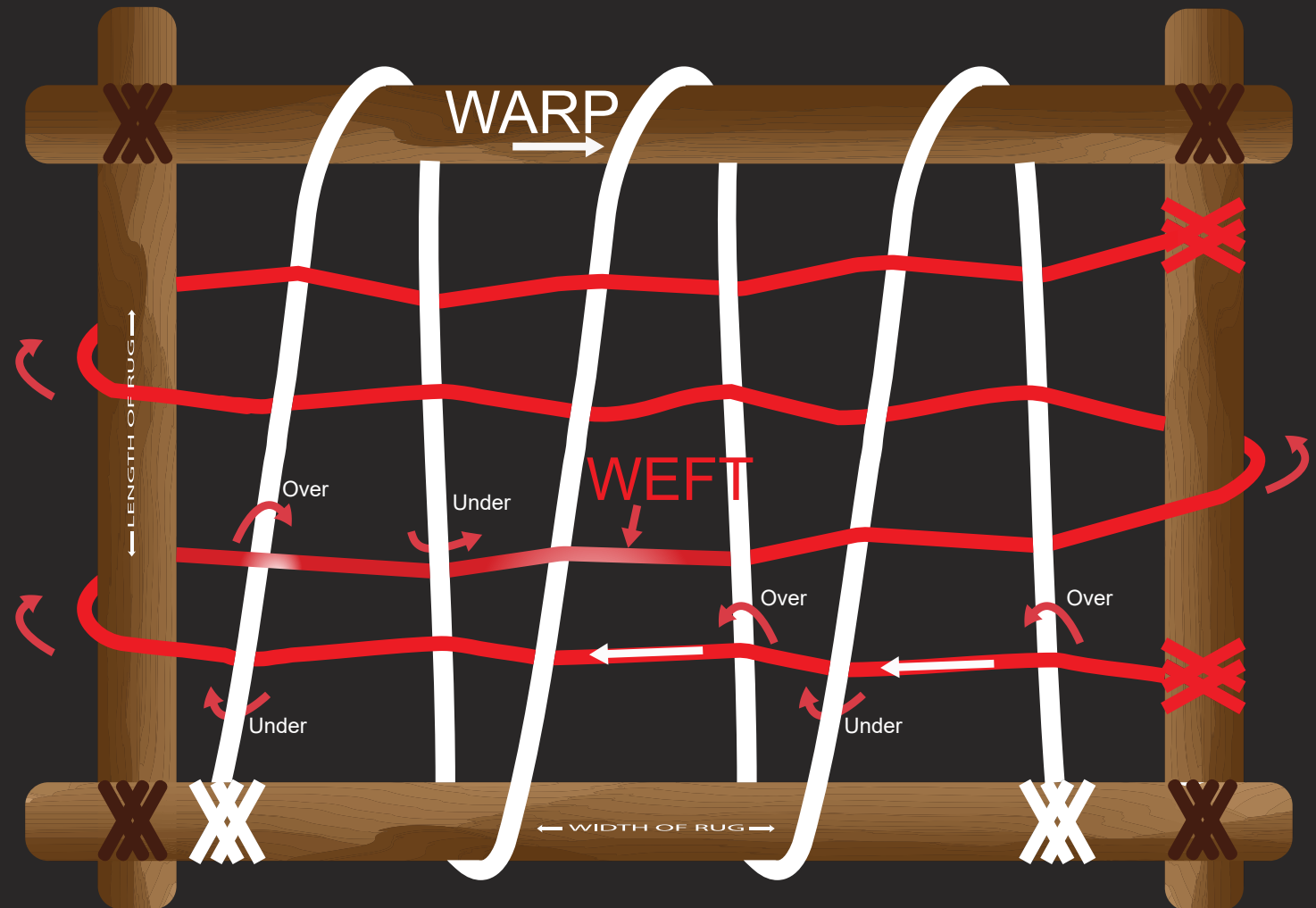


Weft continues to be added alternating from right to left and vice versa. In this example, when it reaches the last warp string (A) it is going UNDER and once it goes around

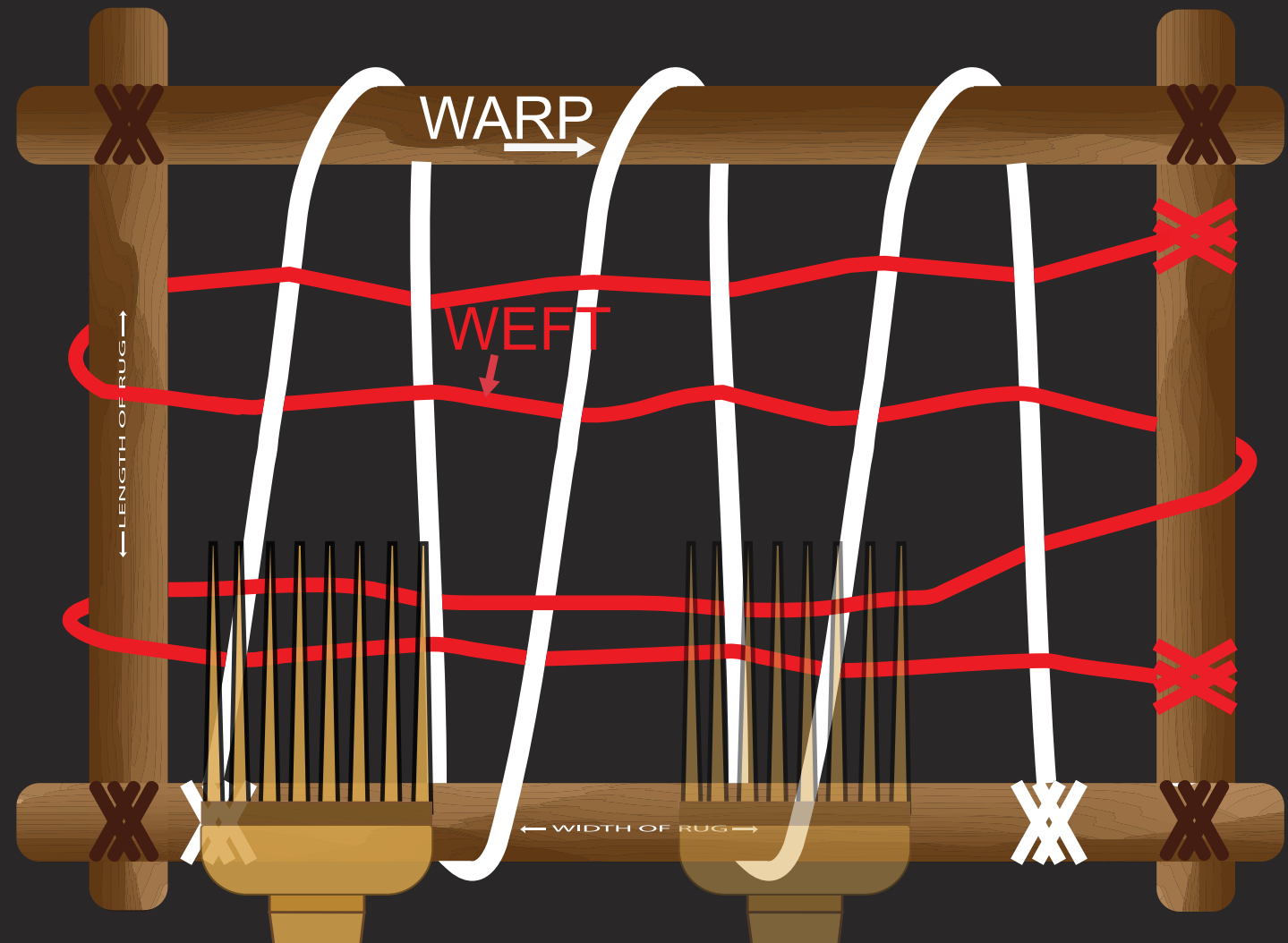
the loom frame, it must go OVER the warp string (B). The alternating of the over/under must stay in sequence.



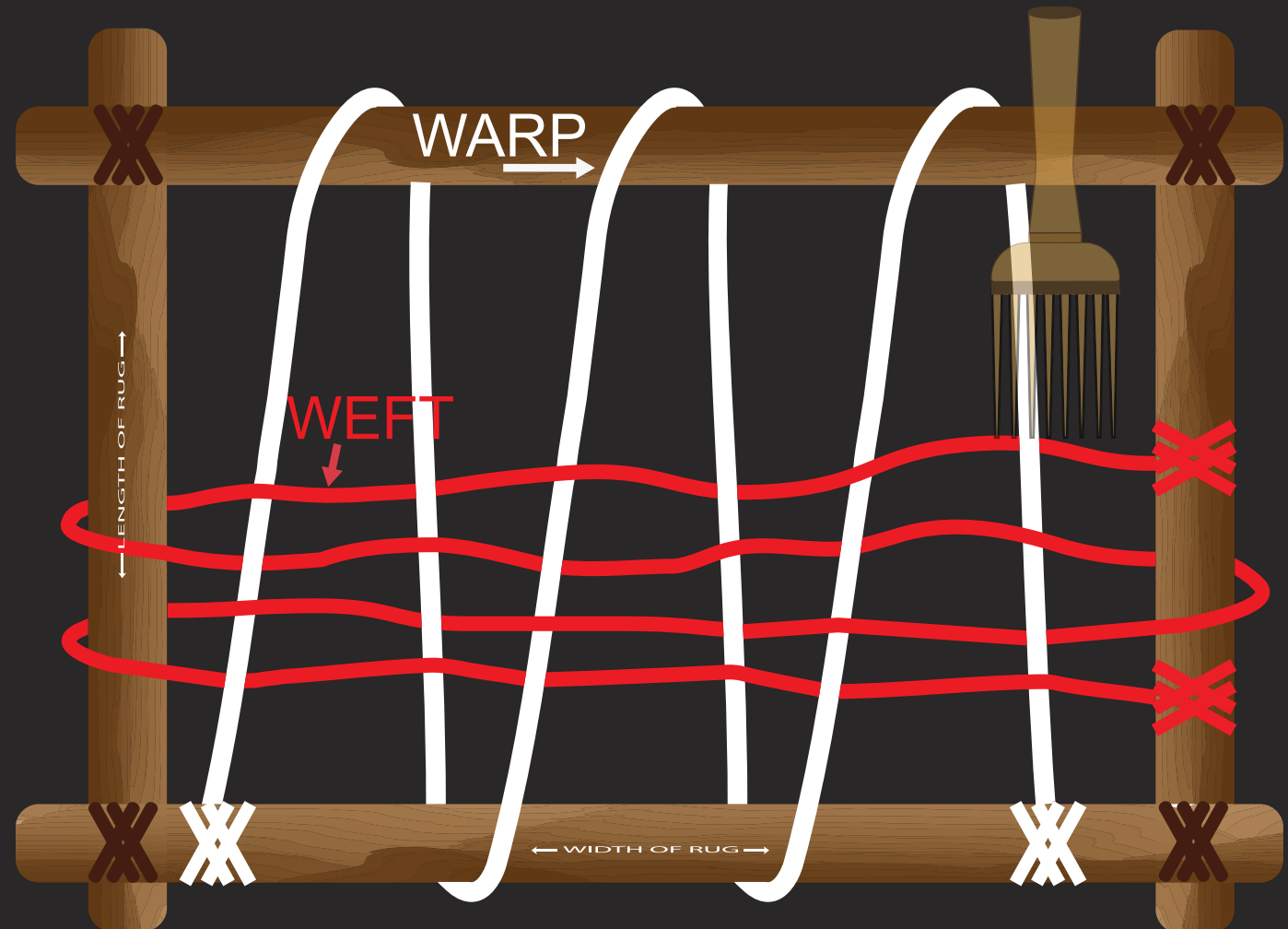
Weft is added until they reach the predefined number and is tied-off on the frame.



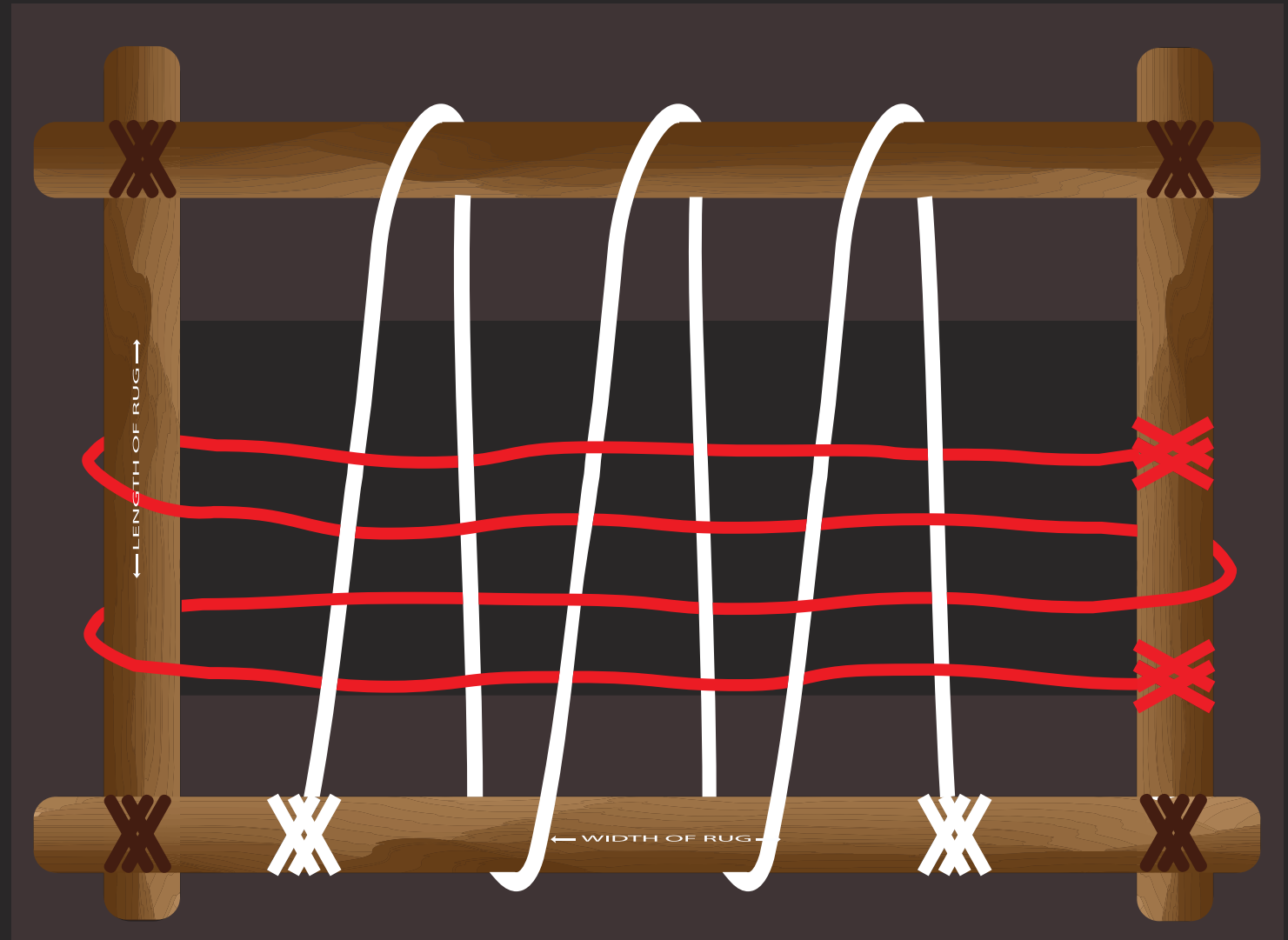
Along the way, a comb-type tool is used to push down the weft material to reach the desired spacing between the wefts.



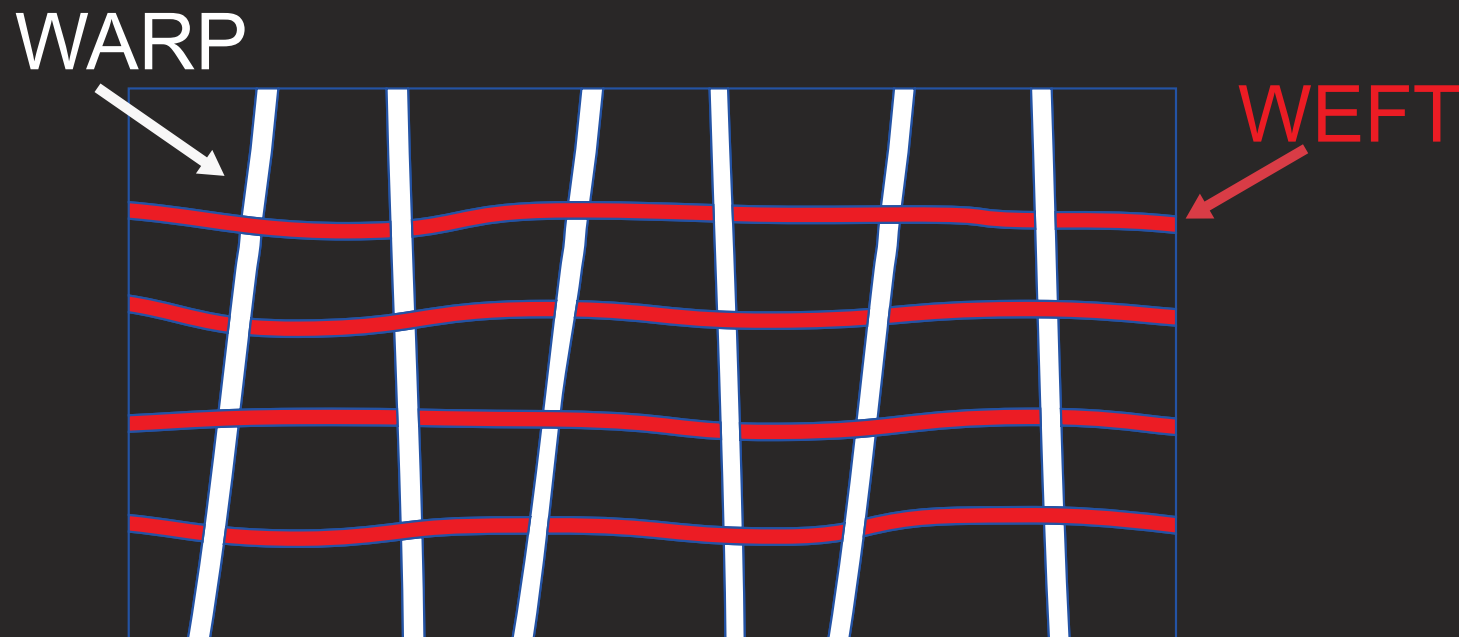
We continue with the comb tool to push down the weft material to reach the desired density.



What we have here is the principle used to make the early fabrics including clothing, bags etc. We will isolate a portion of the woven fabric as shown below to continue with our demonstration.



Up to now, we've been examining how the first fabrics were made using the interlocking technique. We continue our journey isolating part of the fabric we made. We are interested in the structure created by the interlacing of the wefts going back and forth while going over and under the warps. We will now discuss how this principle was used to bring about handmade rugs.



There are two major types of knots in handmade rugs,
Persian and Turkish (called "Azari" in Iran)



Persian (Asymmetric)



Turkish (Azari) (Symmetric)

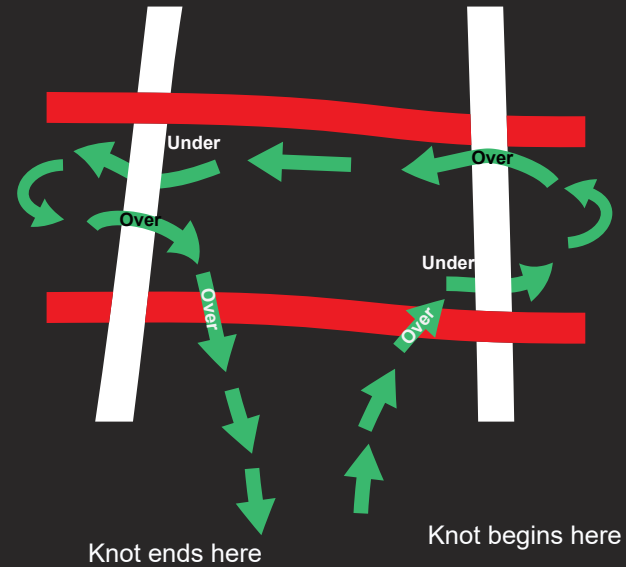
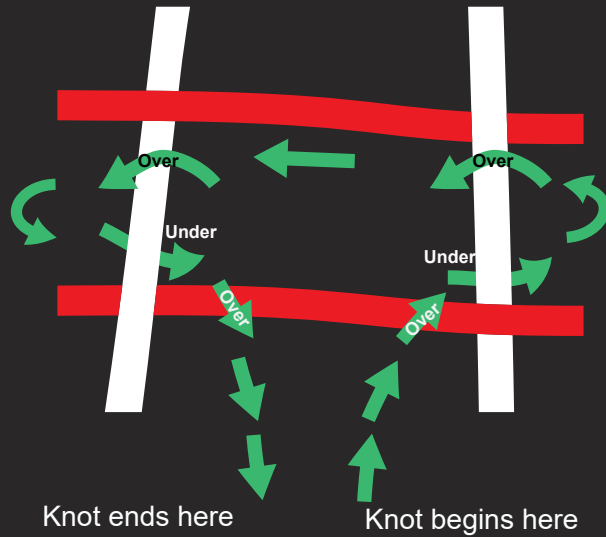
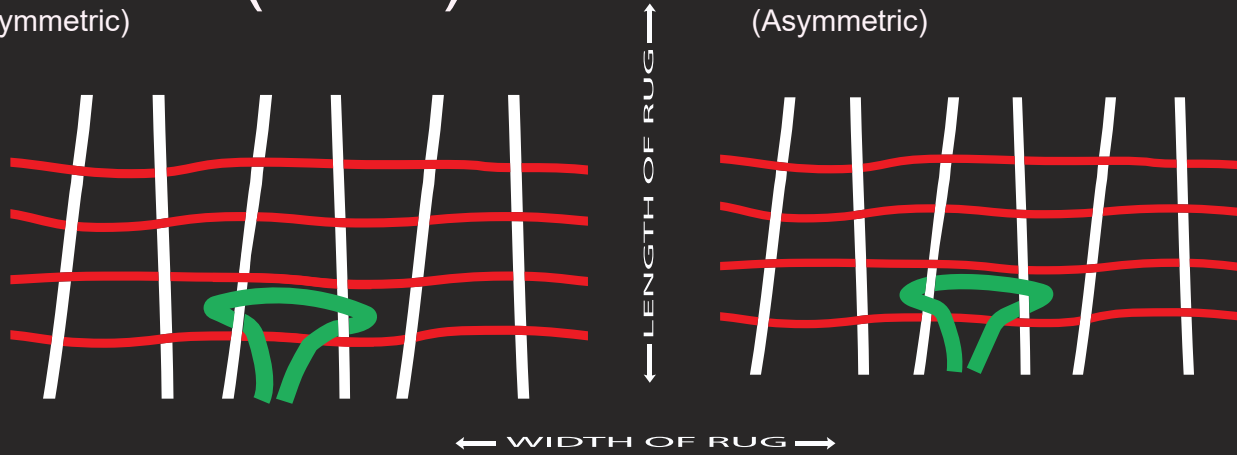


Turkish (Azari) Knot

(Symmetric)

Persian Knot

(Asymmetric)

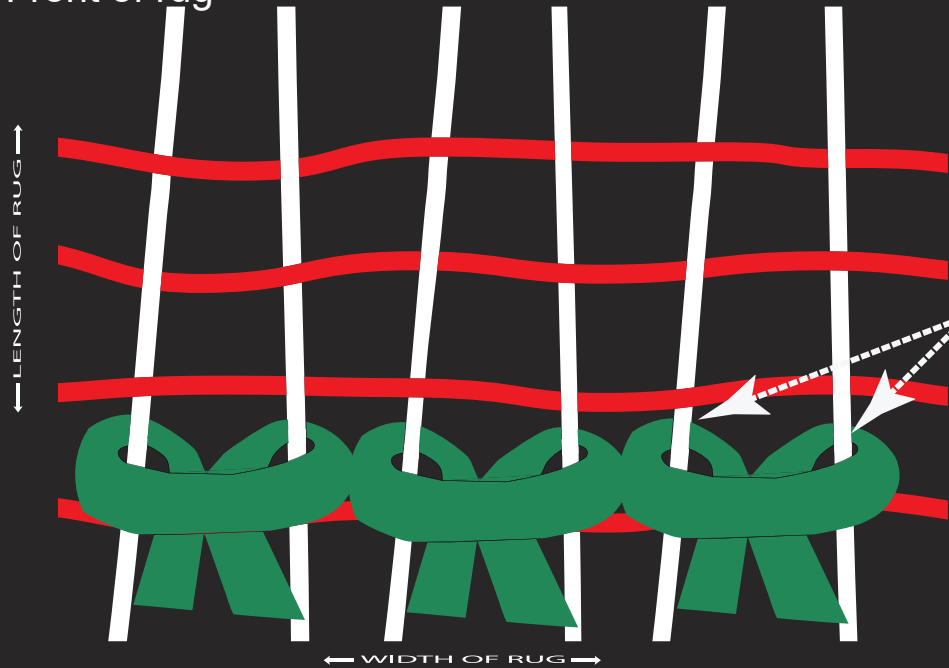


White strings going up and down the frame are called the **WARP**
Red strings going from side to side on the frame are called the **WEFT**



We continue with the illustration by adding knots to this structure. (We are adding Turkish (Symmetric) knots.)

Front of rug

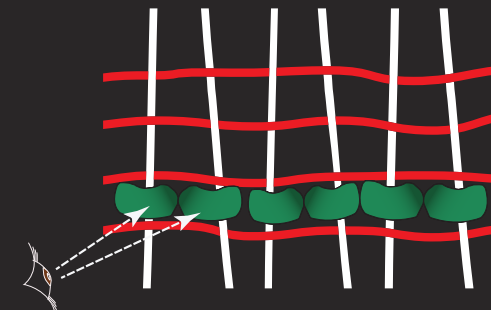


Each knot is wrapped around two adjacent warp strings. This creates two NODES for each knot which can be seen from the back of the rug.

Knot nodes as seen from the FRONT.

Note that in an actual rug the knots are being covered by the rows above and are not visible as shown here except the last row of knots on top of the rug.

Back of rug

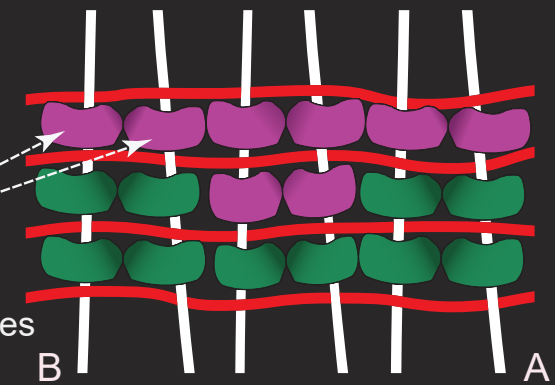
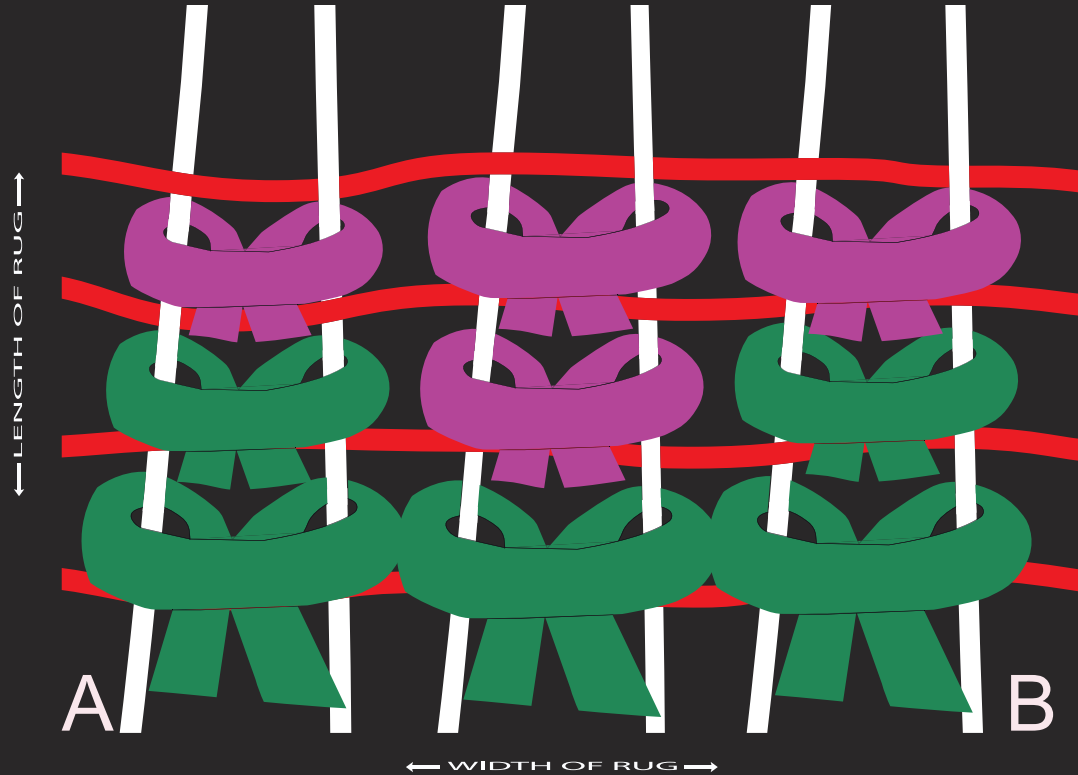


Knot nodes as seen from the BACK. Two nodes per knot.

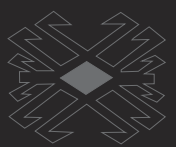


Continuing with the illustration of tying knots on three rows and how they would look from the front and back. In order to be able to identify different rugs, we need to pay

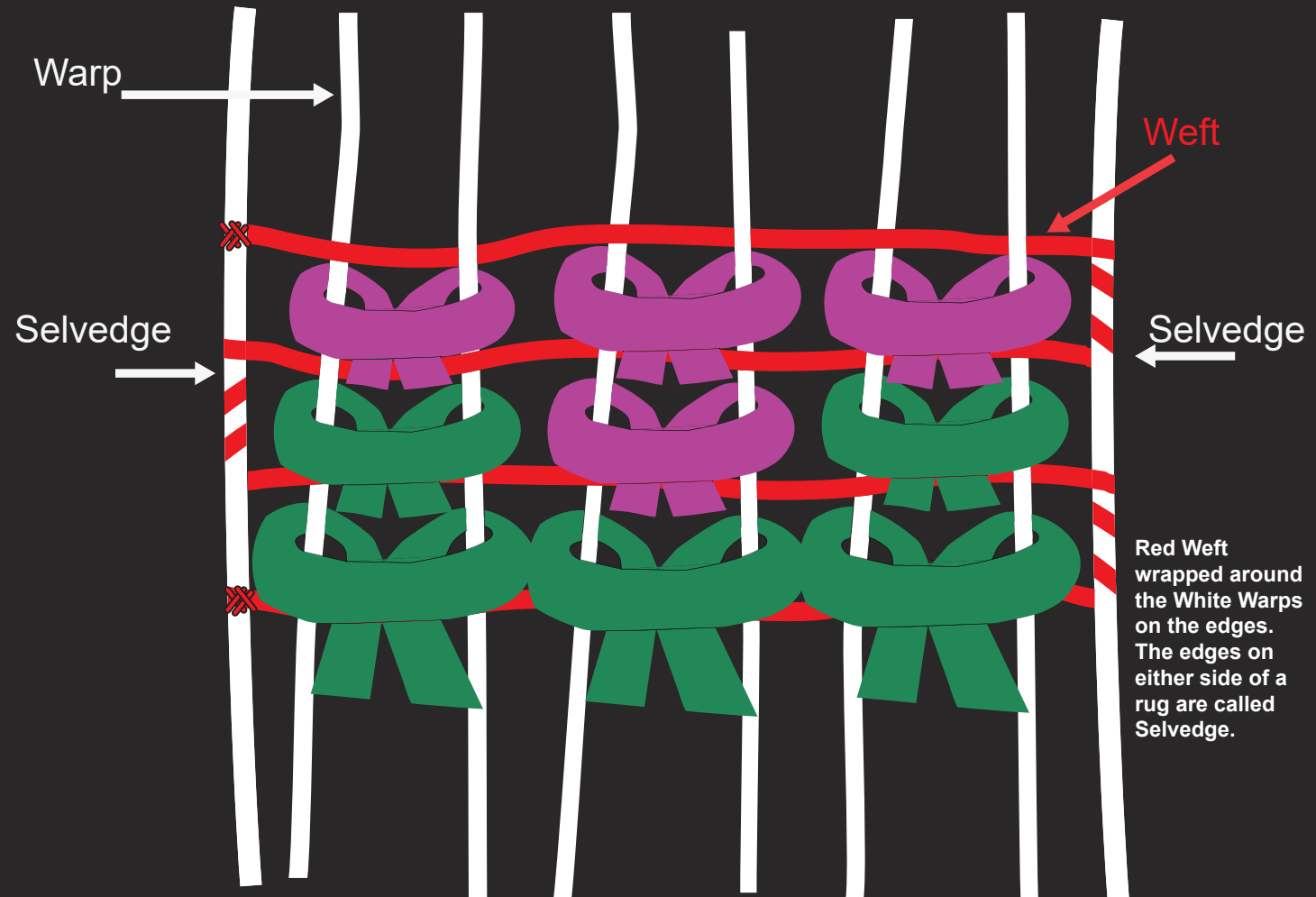
attention to how the knots look from the back. That is one of the major factors experts use to identify rugs, by looking at the back and the knot formation.



Knot nodes as seen from the BACK. Two nodes per knot.

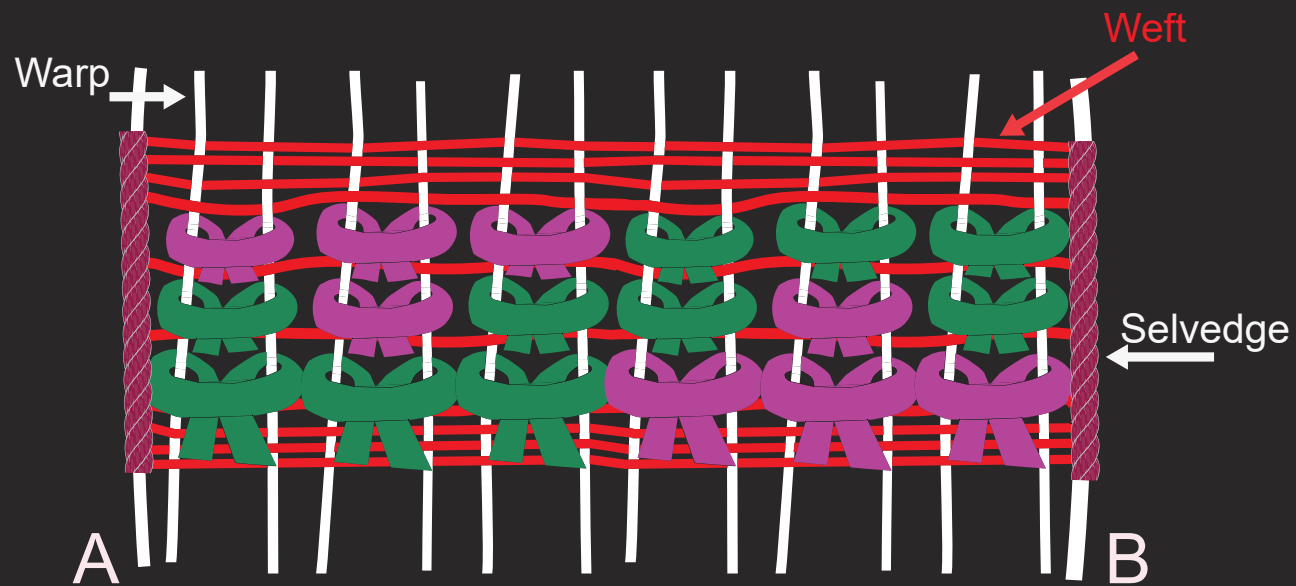


Here is how a primitive rug may have been structured. The wefts are wrapped around both edges to provide protection and to finish the edges.

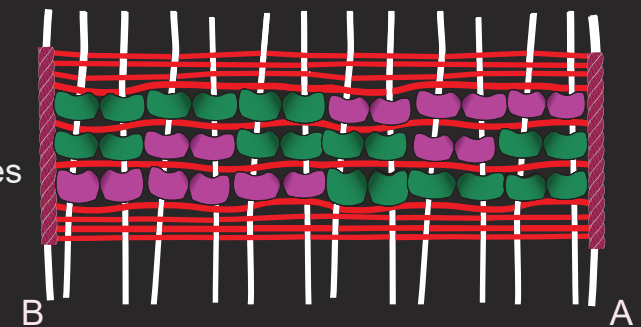


Here is a more elaborate finished piece. Equal number of extra wefts are added on top and bottom to protect the ends. There is an overcast on the selvedge both for

protection and aesthetics, how this is accomplished will be shown later in the book.



Knot nodes as seen from the BACK. Two nodes per knot.



Here is a real example of what we've been exploring, this is a picture of the BACK of a Qarajeh rug made in the northwest of Iran. It has one blue weft as shown:



Knot nodes seen from the back.
Two nodes per each knot



The fringe is actually the Warp strings which have been trimmed at the end of the weaving process

Weft



Selvedge



Up to now, we have been exploring how the concept of the interlocking materials in fabrics is the fundamental principle in making fabrics and rugs. Rugs can be imagined as fabrics with knots added. We will now explore the steps for how an actual rug is made.

A reminder to the reader to focus on WHAT are the necessary steps in making a handmade rug. There are different ways on HOW it is done which we will discuss later. For example, the key information to remember is that there needs to be a way for the weaver to adjust tension on a loom. There are different types of looms from primitive types which rocks are used to keep tension on the warps to very advanced metal looms. WHAT is important is we need a way to adjust tension on the warps.

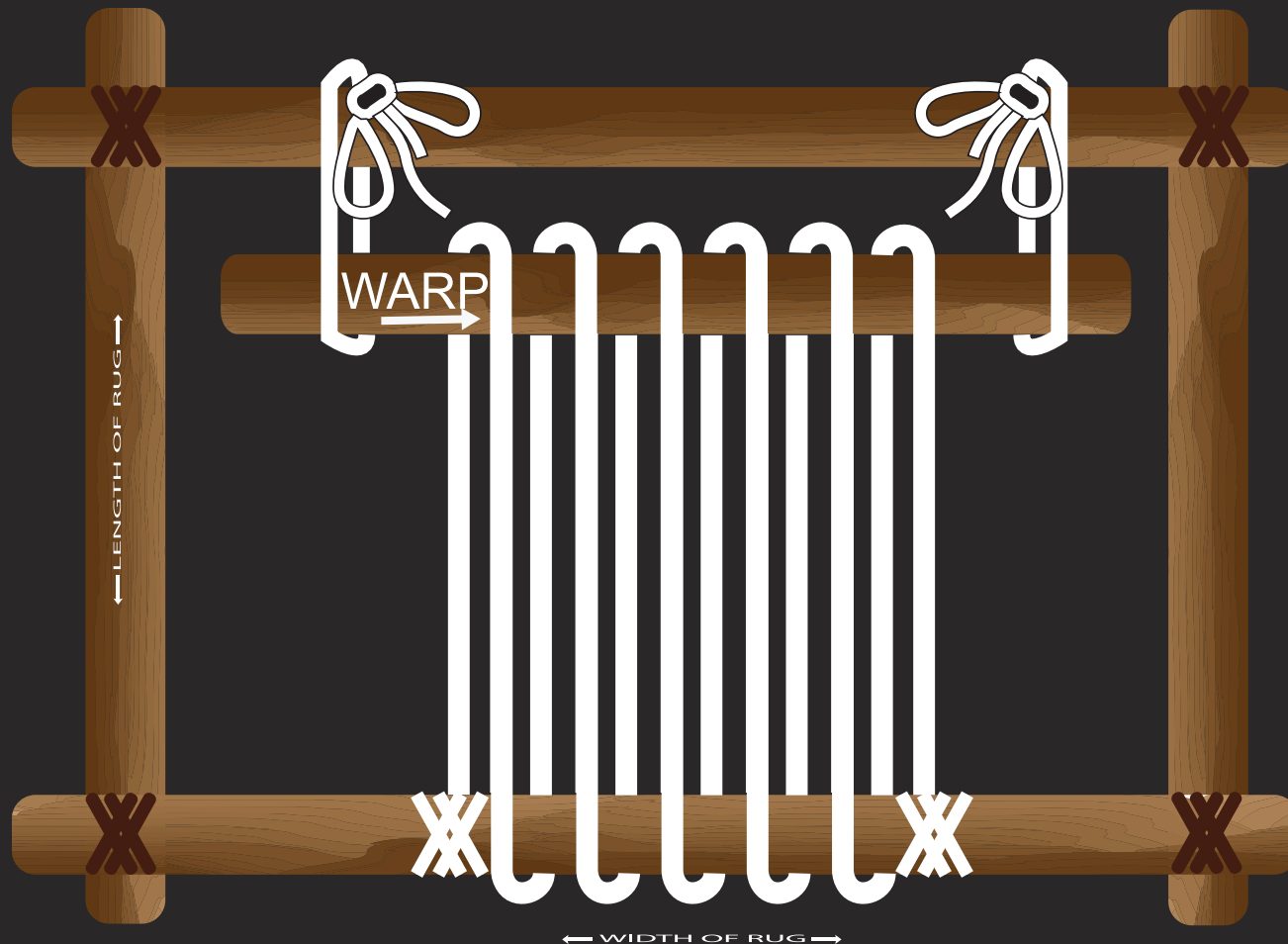
In the following pages, we will begin to weave a rug. Remember the basic principle of the interlocking materials is in play here and makes it all possible.



How Rugs are Woven - Overview

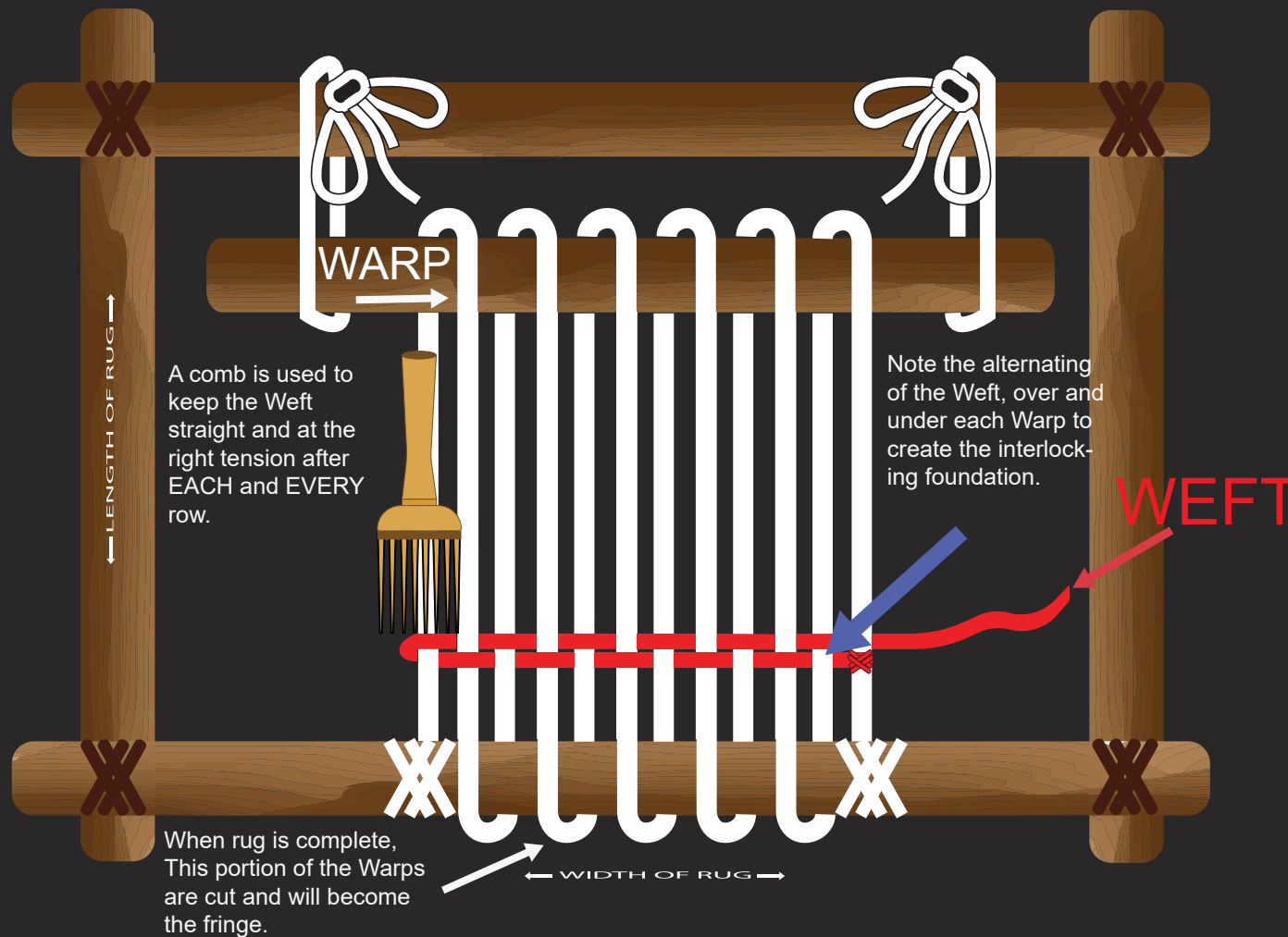
Step 1: We will begin with our loom and add the warp strings as shown before. Looms are typically rectangle shaped with the longer side going up and down. I have chosen

to use this shape below for demonstration purposes only. Note the warp strings are under tension to keep them tight.



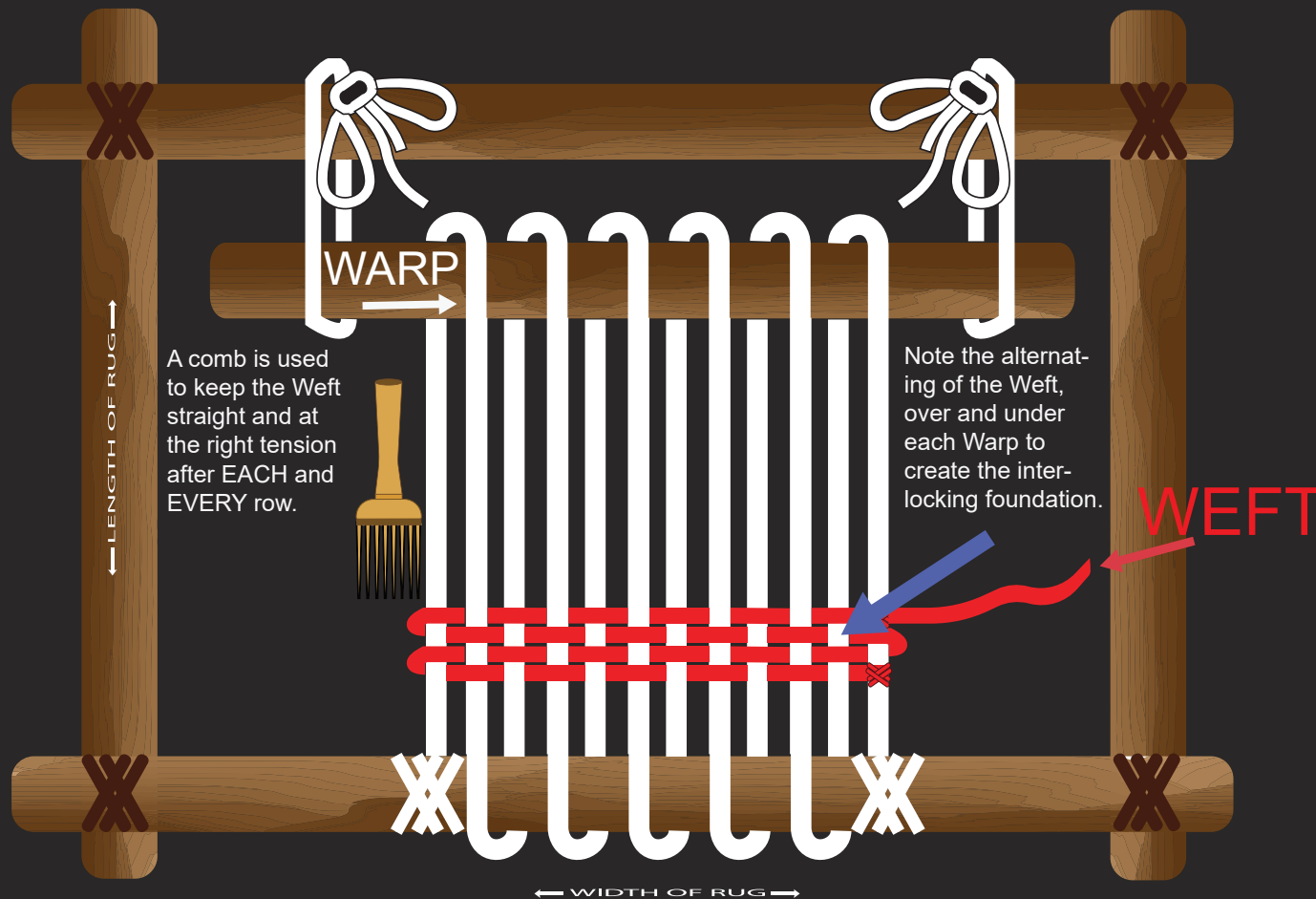
Step 2: We will begin by adding rows of weft to build the foundation to tie the knots to (Later in the book I will show the technique used to help wefts go over and under the warp strings). The warp ends will end up as fringe when

the rug is complete so the weaver allows a certain amount of warp in the bottom. Also note that the weft is tied to the first column of warps rather than the loom itself. The outer warps strings will become Selvedges as shown before.

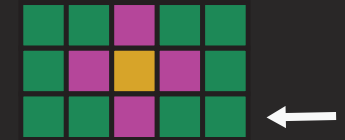


Step 2 (Cont'd): The wefts continue to be added depending on how many the weaver decides. Traditionally some areas use few (4 - 5) wefts to begin a rug, others may use

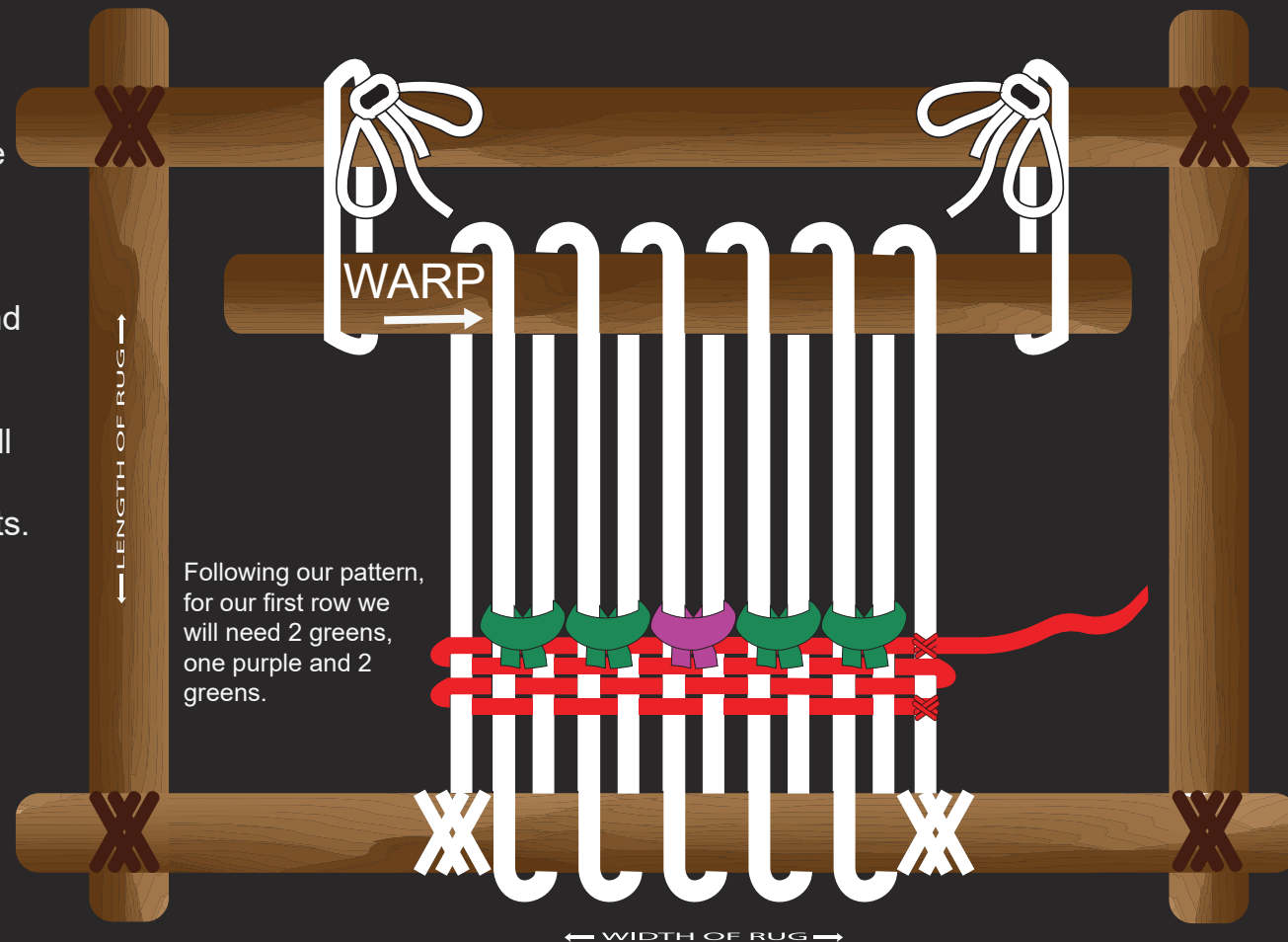
several. In this example, we have used 4 rows of wefts to begin the rug, and we will use the same number of wefts later to finish the rug.



Step 3: We will begin to add a row of knots as shown earlier. (Later in the book I will show you exactly how the Turkish knot is tied using a special tool.) Before a weaver begins, they already have a pattern in mind drawn on grid



paper called a Cartoon which will dictate which colors will be used. (Some weavers go by memory alone!) We are going to weave this simple pattern. Each square represents a hand tied knot. Each knot will be tied around two warp strings as shown before. Our loom will need 5 pairs of warps and we will have 3 rows of woven knots.

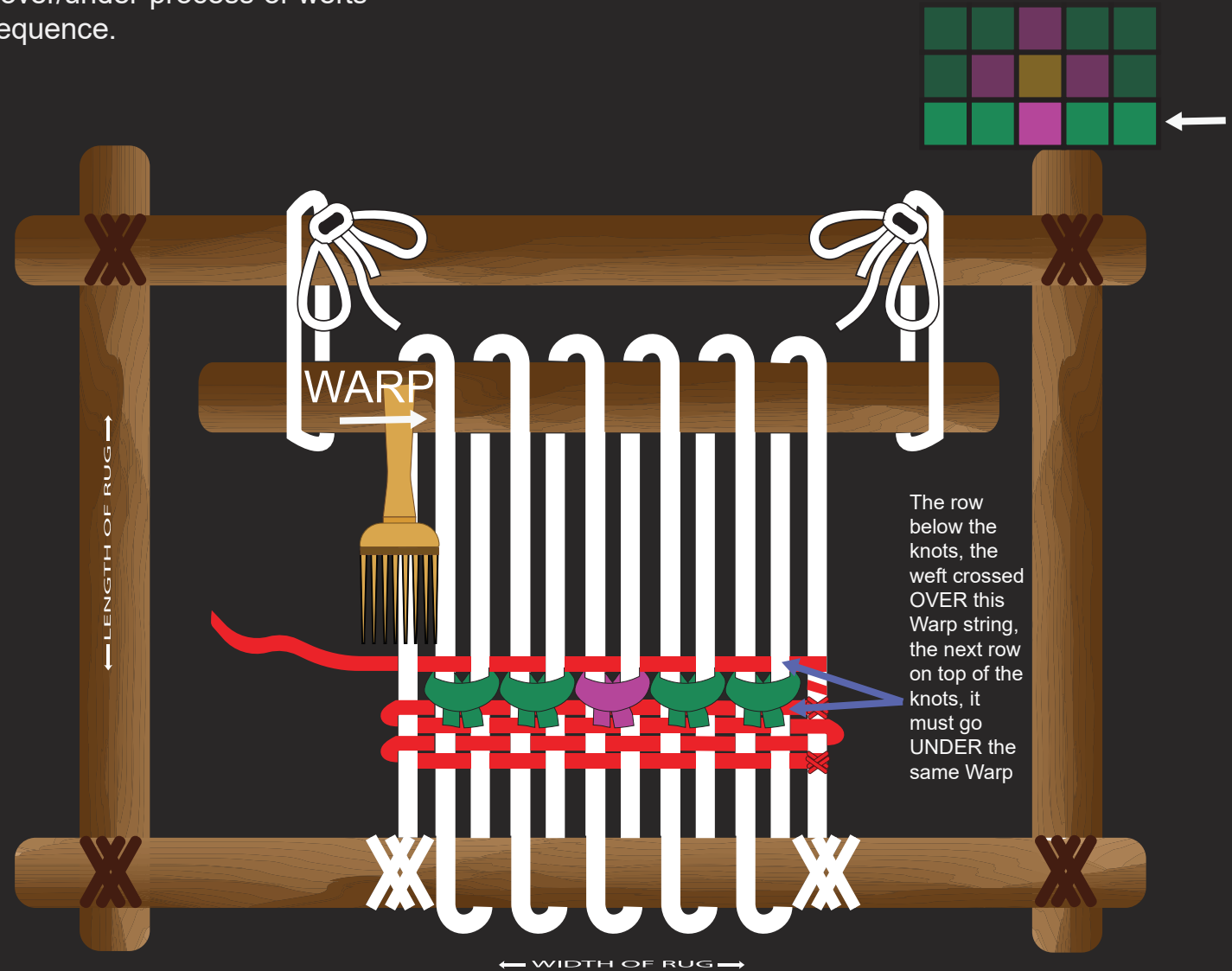


Following our pattern, for our first row we will need 2 greens, one purple and 2 greens.



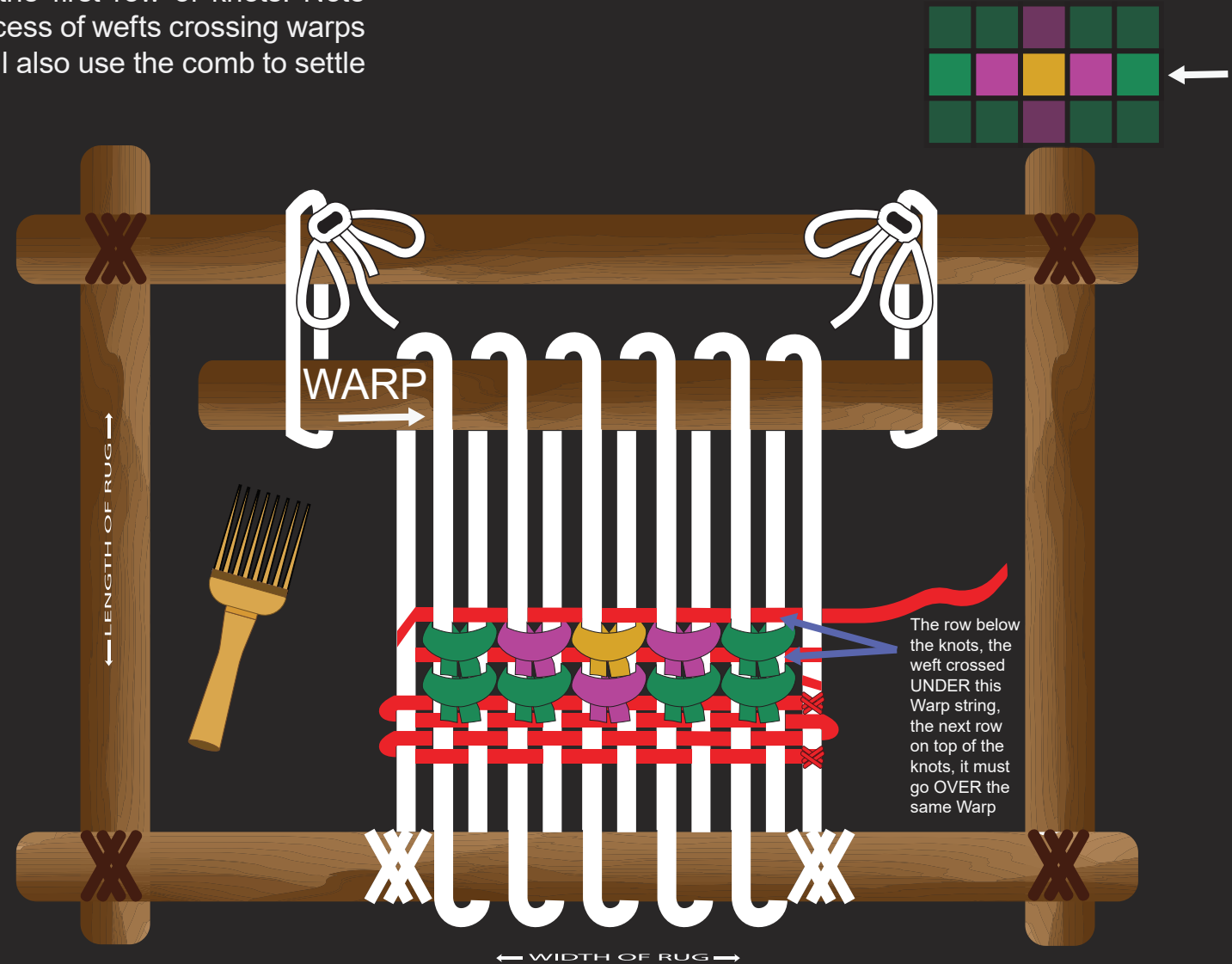
Step 4: We will now add a row of weft on top of the row of knots. Note the alternating over/under process of wefts crossing warps must stay in sequence.

We will also use the comb to settle the wefts on top of the knots.



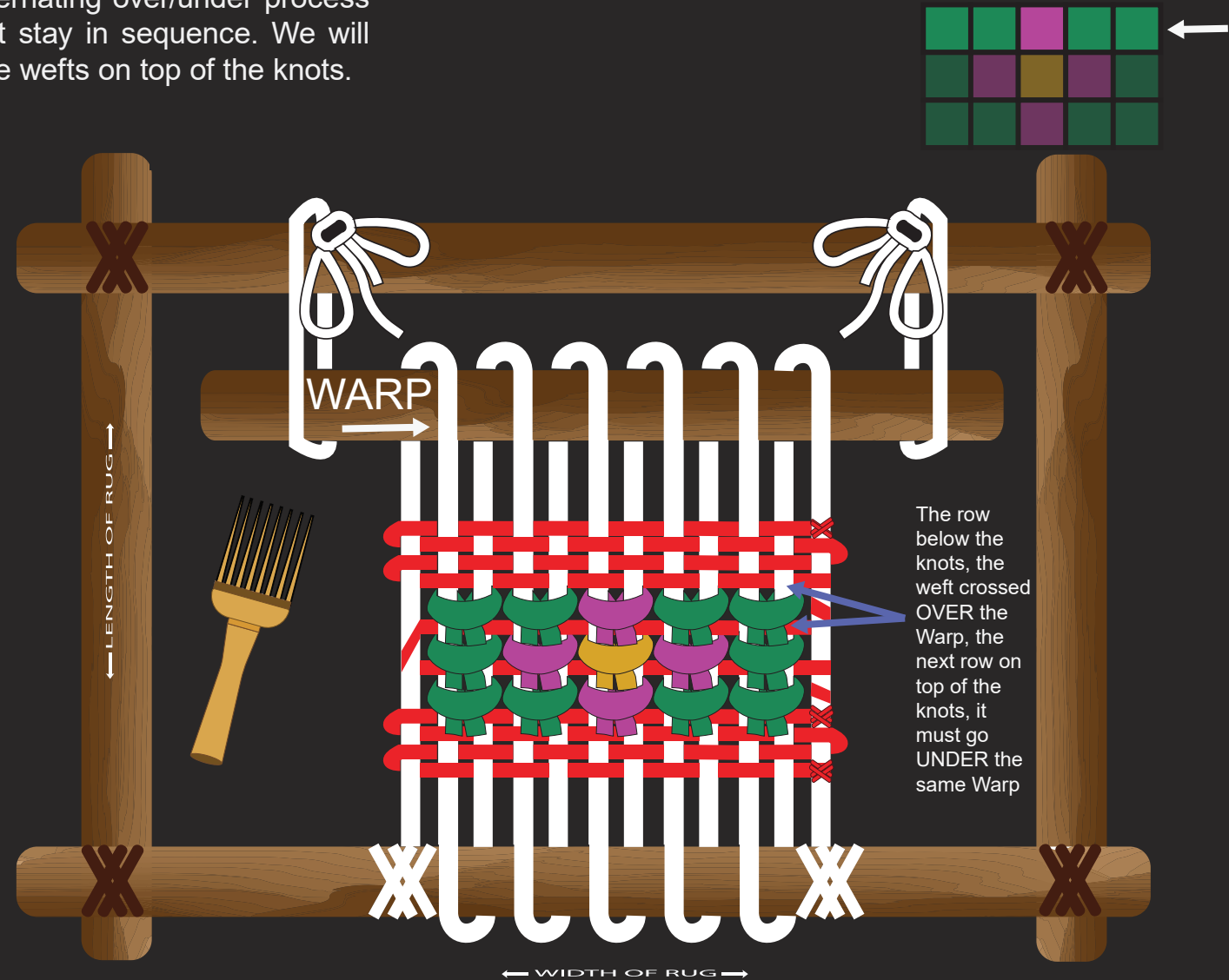
Step 3 & 4 (Repeated): We will now add the second row of knots and weft on top of the first row of knots. Note the alternating over/under process of wefts crossing warps must stay in sequence. We will also use the comb to settle the wefts on top of the knots.

Knot colors follow our pattern; 1 green, 1 purple, 1 yellow, 1 purple and 1 green.



Step 3 & 4 (Repeated): We will now add the last row of knots and wefts. Note the alternating over/under process of wefts crossing warps must stay in sequence. We will also use the comb to settle the wefts on top of the knots.

We will also add three extra rows of wefts to finish the rug.



Step 5: Finishing the rug includes several steps: We will release the rug by cutting the warps along the bottom and top of the loom.



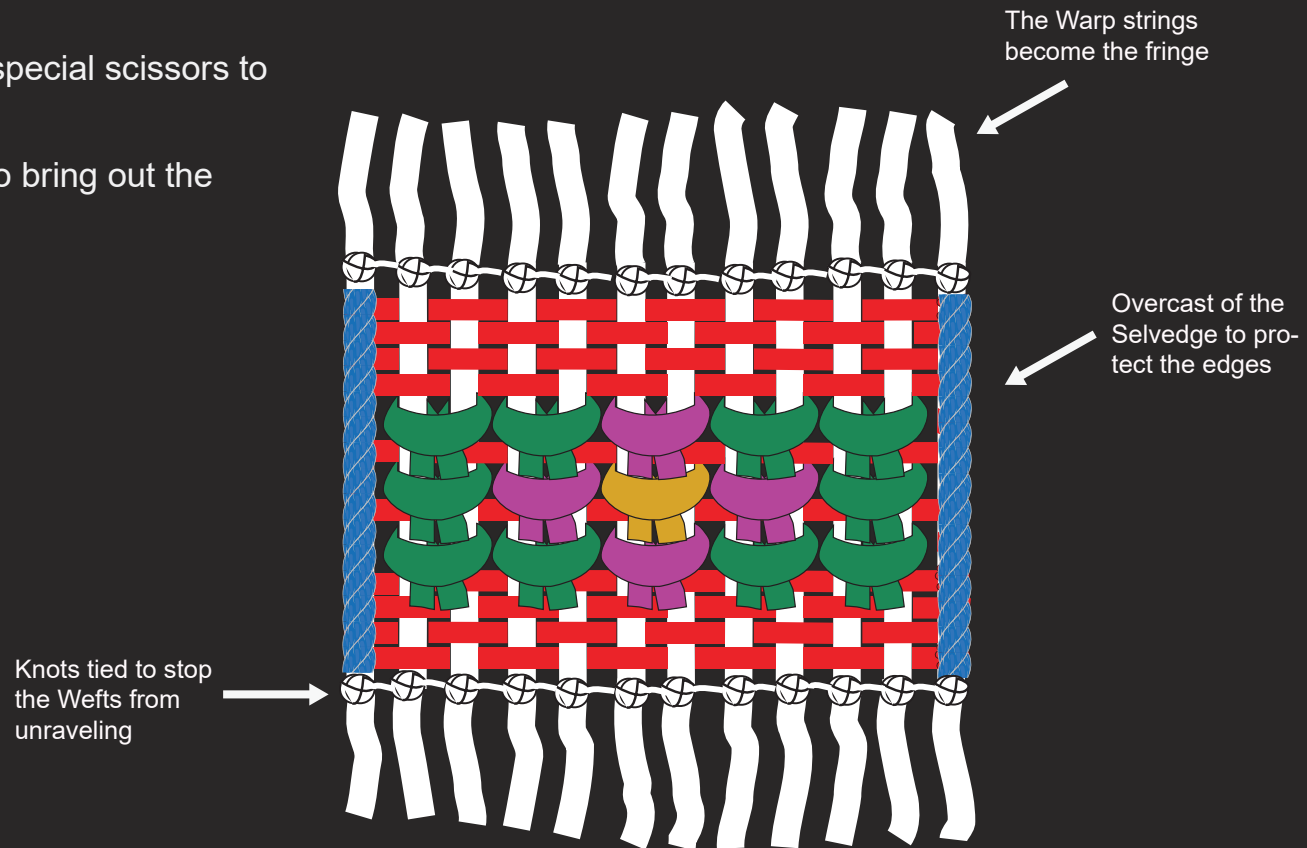
Step 5 (Cont'd): Steps to finish a rug:

A) Adding an overcast to the selvedge to provide protection and aesthetics.

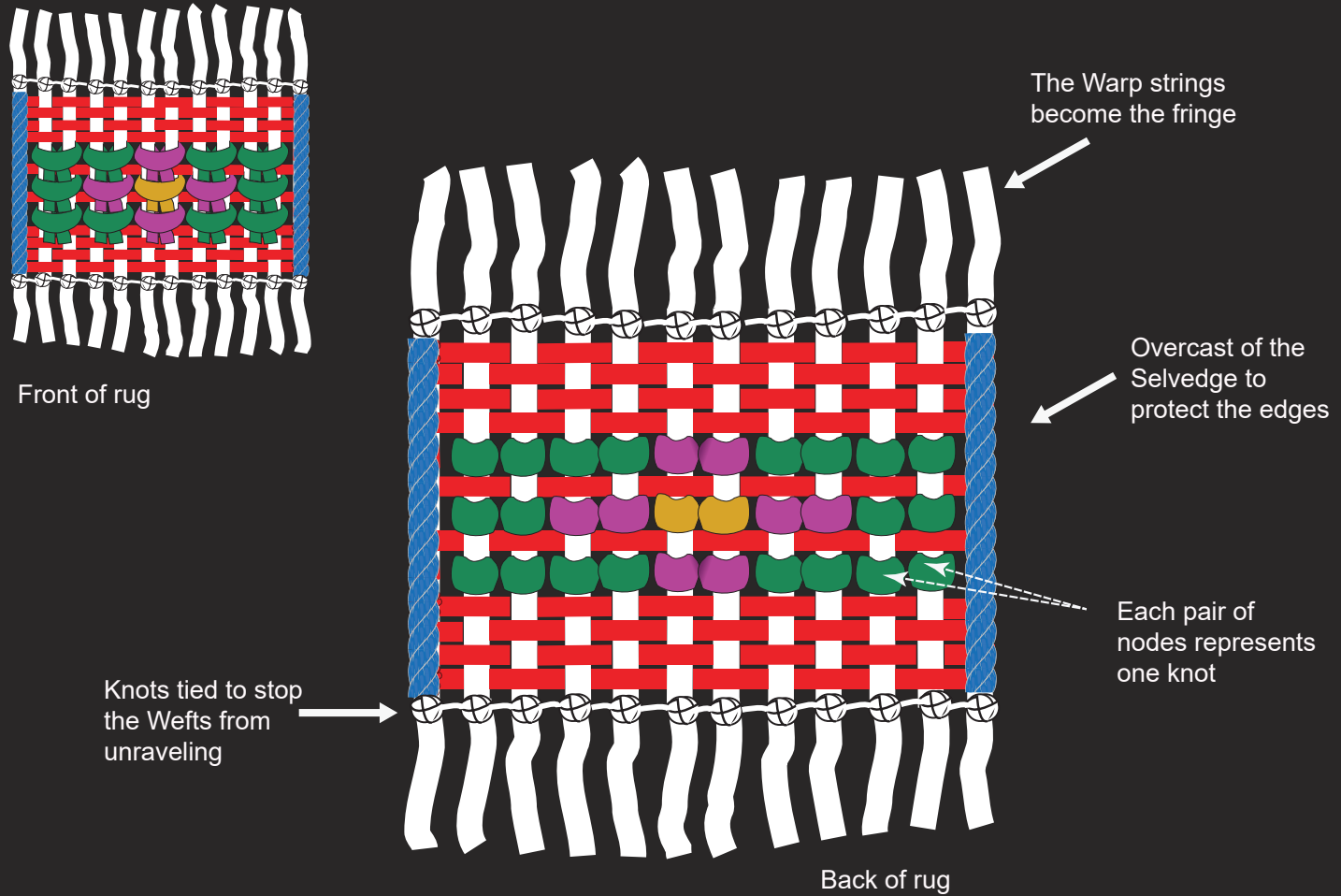
B) Knots are tied on pairs of warp strings to prevent the wefts from becoming loose.

C) The pile is trimmed using special scissors to even the pile.

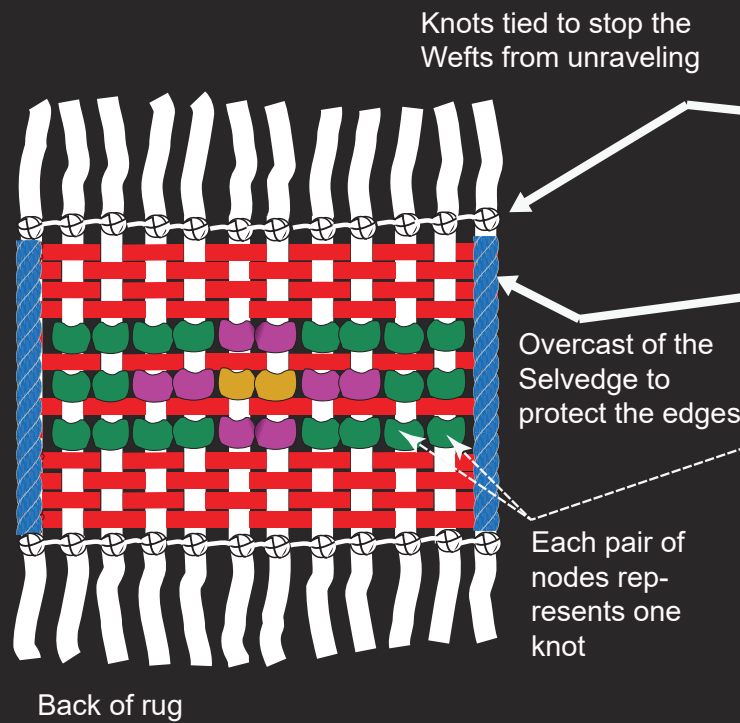
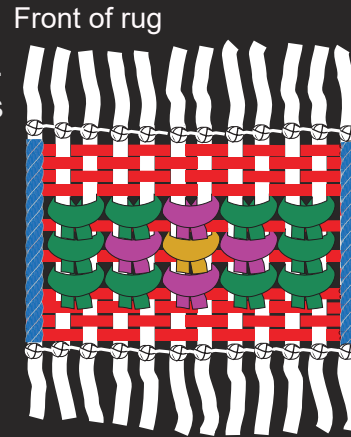
D) Finally the rug is washed to bring out the natural luster.



Here is what the rug would look like from the back.



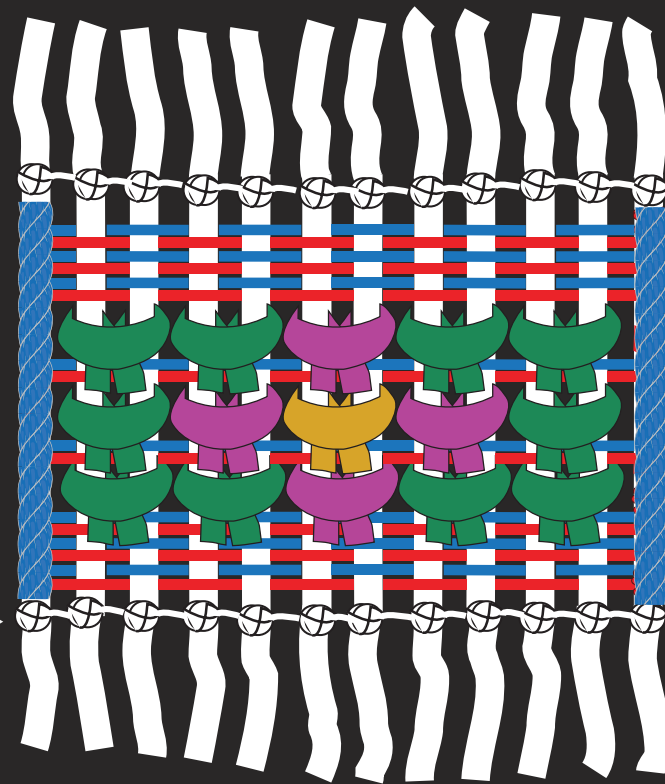
Here is a sample of a woven rug to provide a reference. Although the design is different the weaving principles remain the same.



Some areas use two THINNER wefts rather than one thick weft. Here is our earlier rug diagram using two thinner wefts per row of knots. I have used the blue color to depict the addition of the second weft.

Two items to note: since the Wefts are thinner, I have used 6 Wefts on either end of the rug to fill up the same space.
The over/under, alternating principle between the Wefts and the Warps must remain consistent no matter how many Wefts are used per row of knots.

Knots tied to stop the Wefts from unraveling

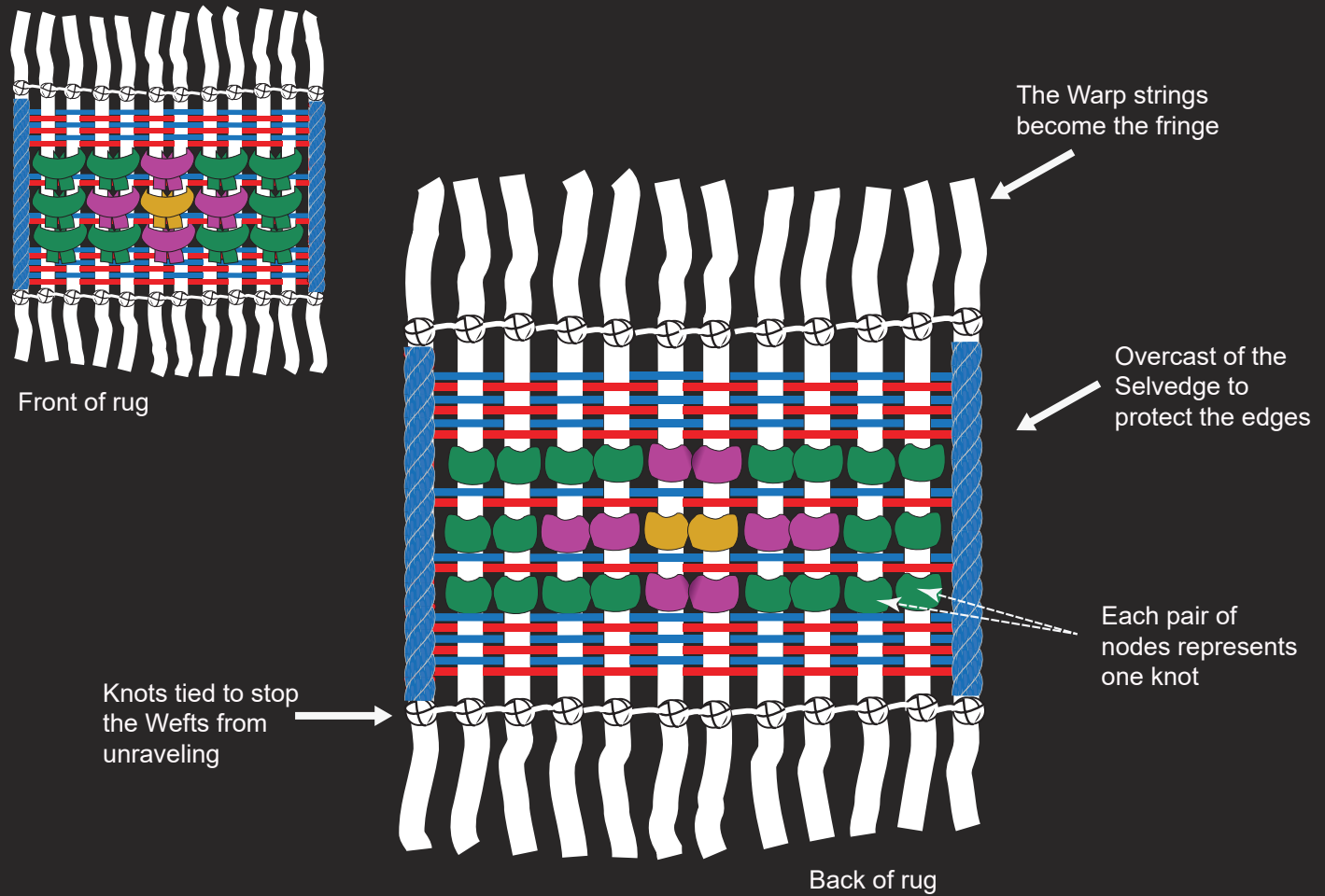


The Warp strings become the fringe

Overcast of the Selvedge to protect the edges



Here is what the rug would look like from the back.



At this point, you know the basic principles of how a handmade rug is woven.

There are weaving techniques and nuances in several aspects of weaving which are explored in other sections of the eBook. They provide information about how these techniques influence the weave (knot formation on the back of a rug) and how the weave can be used in identification of rugs woven around the world. All the new information however will fit within the fundamental steps which we have just explored.

A casual observer can stop at this point, I promise that the more you understand the concepts and nuances, the more you will appreciate this truly mesmerizing art form.

The following pages will provide more information about my eBook, The Art of Oriental Rugs - A Weaver's Perspective.





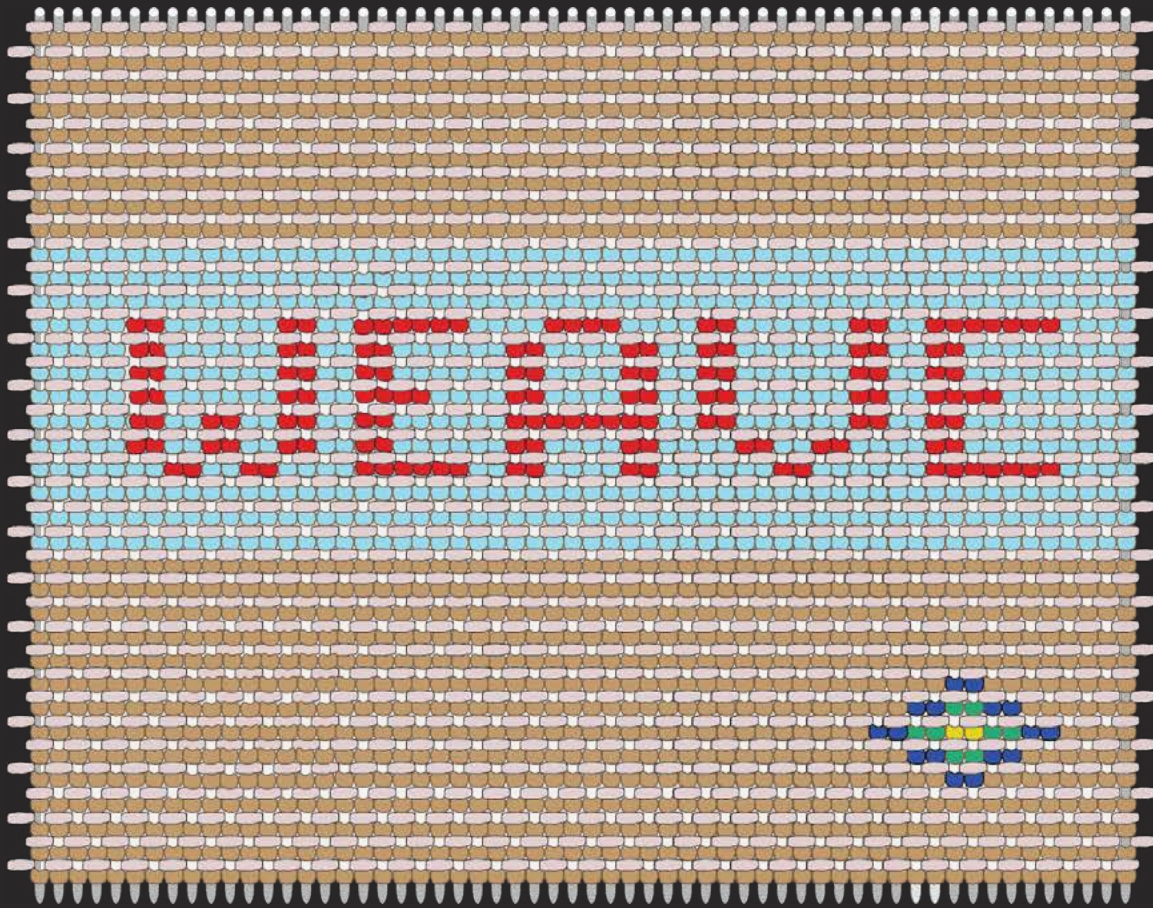
Learn how to identify handmade rugs using techniques employed by experts without having years of experience! If you want a more in depth understanding of how experts identify rugs, then this eBook is what you've been searching for. But first a warning, this eBook is not for everyone. There are many fine books which address history, geography

and designs; but they omit an important factor which experts rely on for identification – the specific weave pattern found on the back of the rug. If you wish to go beyond a cursory understanding of rugs, this is the eBook for you.



A Visual Experiment

Look closely at these two images. How are they similar?
How are they different?



Look closely at these two images. How are they similar?
How are they different?



Now look closely at these images from the **BACK** of the rugs. How are they similar? How are they different? Can you identify the pairs of rugs with similar weaves?



These were woven in Iran in Kashan, Malayer and Bakhtiar. Majority if not all rugs woven in these regions have the same weave (knot formation) on the back of the rug. Recognizing these weave patterns will help with identification of a rug's origin.

My eBook will help you understand why they look different and provides many samples to help in learning and identification of rugs.



Kashan



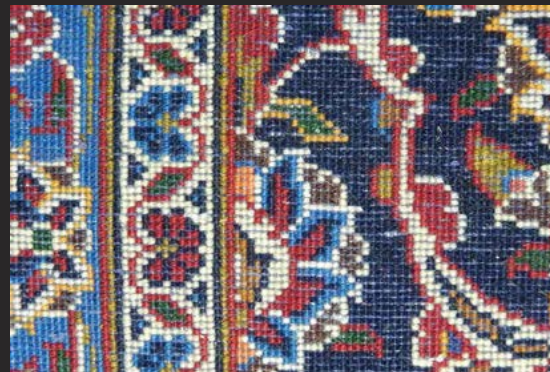
Malayer



Bakhtiar



Bakhtiar



Kashan



Malayer



The Art of Oriental Rugs – A Weaver's Perspective presents an insider-look which examines what is a weave, what causes it, and how to recognize it. This work is the result of examining hundreds of pieces through three years of intensive research. This is the first extended toolkit of its kind to demonstrate different Persian (Iranian) weaves based on their region and explore why they look the way they do. The goal is to establish generally accepted weave patterns attributed to each rug-weaving region in Iran.

It is more than just samples from Iran however, it also includes pieces from Caucasus, Turkey, China, Turkmen and others.

- With 1800+ pages it provides ample opportunity for an in-depth examination of weaves and many samples to aid in identification.
- Depending on your level of interest, you can go as deep as you wish in understanding why weaves look the way they do on the back of each rug.
- This work is intended for larger screens (10 inch or larger) to be able to properly examine pictures including characteristics unique to each piece.

It includes 530+ pictures of rugs woven in Iran (Persian) which are available in the market today.

It includes 750+ closeup pictures of weaves from the backs of rugs from 170+ weaving regions around the

world, including Iran (Persian), Caucasus, Turkey, China, Turkmen and others. This will aid in identifying rug origins.

It also includes maps of each region with the different weaving types to help better understand how the regions use similar/different weaving techniques.



To watch free videos of the principles shown in the eBook, go to:

Bofandeh.com

