

# LMSCA

## TECHNICAL INFORMATION SHEET No. 1

### MANUFACTURE OF CARRIAGE LUGGAGE RACK NETTING.

#### Preface:

Luggage netting is one of those things that normally gets left until last when a carriage is restored and often neglected. This LMSCA Technical Information Sheet covers the manufacture of new luggage rack netting.



1. The inevitable result of a long period in service. Material deterioration, wear as well as heavy soiling combine to produce a very shabby appearance to the public.

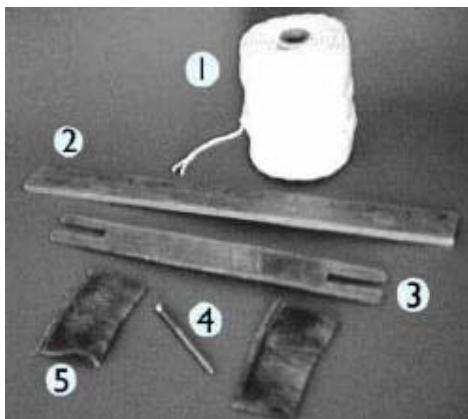
#### Introduction:

Well, there I was looking around the National Railway Museum, as you do, when I came across an LMS video being shown. As I watched it I saw some footage of some ladies making carriage luggage netting. It just so happens that the owners of a British Railway's Mark 1 Second Corridor (SK) were trying to salvage the remains of the luggage rack netting from their carriage, but not with much success. So, I thought to myself, being as I had been a Sea Scout, it should not be so hard to figure out how to make luggage rack netting. After a bit of research, I had worked out the three knots used and the sizing required to produce the new luggage rack netting. It is the intention of this Technical Information Sheet to pass on this information so others can benefit without having to work out how to do it themselves. I've displayed the pictures in Black and White so they are clearer when you print them off. Well that's my excuse and I'm sticking to it. Enjoy ;-)



2. The finished article in place for all to see and use. The sagging and broken netting looks as it did when first produced.

## Equipment required:



3. Shows the five basic items of equipment which are required to produce the netting, details are given below.

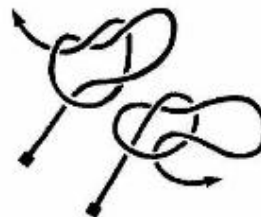
- 1. String:** We use 3x12 string, i.e. it has 3 strands, each of which are made up of 12 filaments. Bear in mind that it must be strong enough to support the weight of push chairs etc. although it is unlikely that suitcases will make it as far as the luggage racks on our preserved railways today!
- 2. Former:** An inch wide piece of 'spacer' wood,  $\frac{1}{4}$ " thick. This will be used to make the loops in the netting and enable the knots to be tied in the correct place.
- 3. Shuttle:** About 6" long by  $\frac{3}{4}$ " wide with slots at either end each  $\frac{1}{4}$ " wide by 1" deep. The shuttle can hold about a third of the amount of string required to make a standard sized luggage rack net.
- 4. Screw:** An optional extra (!) which can be used as an anchor for the netting when you start production.
- 5. Leather finger guards:** These are a must in order to protect your fingers from blisters!

## Lets get knotted:

So there we have it that's the equipment. Now for a little boy scout knot learning:

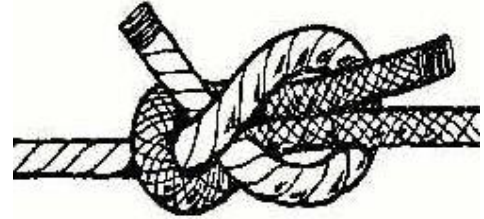
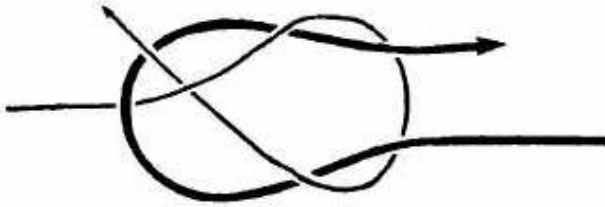
### The Slip Knot:

This knot is used to get you started when producing luggage rack netting and provides a means to anchor the netting whilst it is being made, they also determine the spacing between the holes in the netting. The slip knot is produced by tying a simple over-hand knot or thumb knot as it is also known. However instead of taking the string all the way through, it is looped through thus the knot can be 'slipped' when pulled apart, without having to untie it.



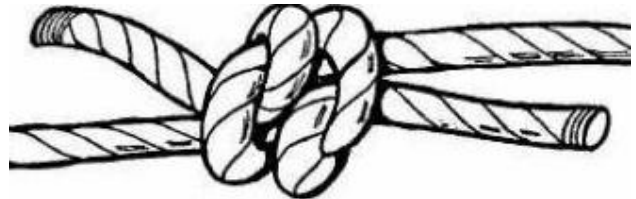
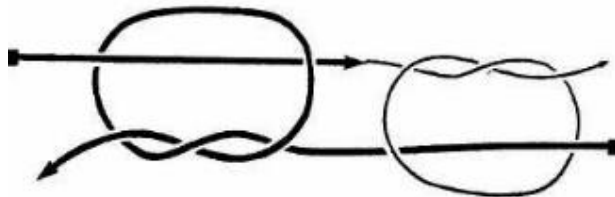
## The Sheet Bend:

This knot is used to tie the string together to form the 'holes' in the netting and as a result you will end up getting a lot of practice tying them! To tie the knot form a loop, known as a bite, in the string. Next pass the working end of the string up through the eye formed, then around the back and trap it under its own standing part as shown in the diagrams.



## The Fisherman's Knot:

Since we are making netting it is hardly surprising that there would be a Fisherman's Knot involved somewhere. This knot is used to tie two ends of string together. To tie the knot, position the two ends of string alongside one another facing in opposite directions. Next tie an overhand knot (thumb knot) with one end so as to enclose and grip the standing part of the other piece of string. Make an IDENTICAL overhand knot (thumb knot) with the other end enclosing its nearby standing part. Pull the two knots together and trim the excess ends.

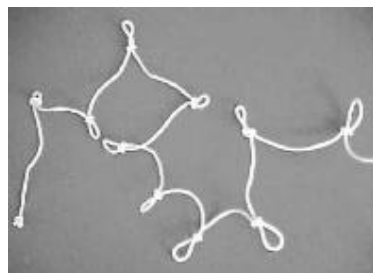


## How it's done:

So now you know the knots, its time to learn the method of making the luggage rack netting.

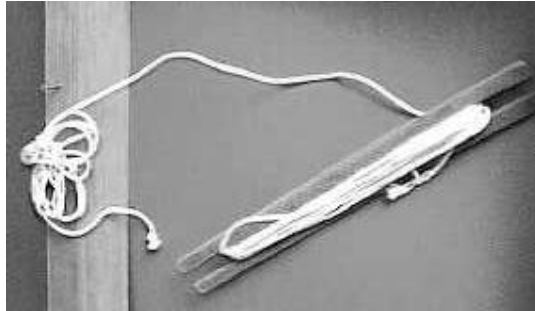
### Step 1:

Tie 10 slip knots in a row at 2" intervals. This produces luggage rack netting which is 9 'squares' wide, the standard size for a BR Mark 1 carriage luggage rack. If you require a different number of squares across to suit a different size luggage rack netting then count the number of squares required and then add one more to make the number of initial slip knots required to start the netting.



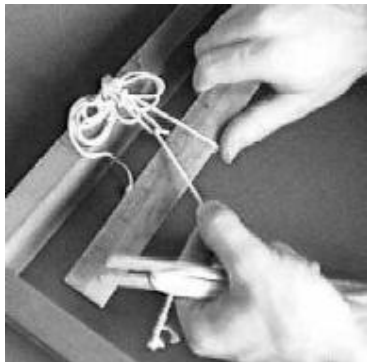
### Step 2:

Use the loops made by the Slip Knots to anchor the beginning of the netting. As you do this you will see that 1" loops are produced. Thus the first row of the netting is formed. Wasn't that hard was it! Next wrap the free end of the string around the shuttle, making sure that you start with the free end first. I manage to fit 17 feet of string onto my shuttle and this equates to a third of the string required to complete a full luggage net.



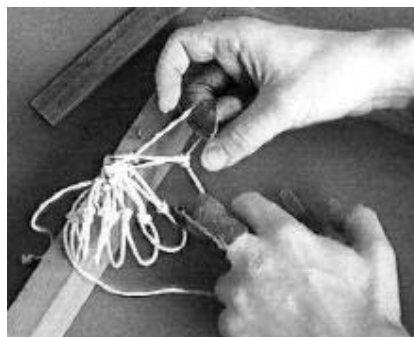
### Step 3:

Now this is where the work starts! Using the 1" wide piece of wood (item 2 mentioned above) form a loop with the working end of the string by wrapping it once round the wood. This has the effect of making the first loop of the second row. Make the loop the same size as the previous row of loops by pulling the wood up to the underside of the loop above. With the loop held in place by your thumb, as shown, pass the shuttle up through the loop formed by the previous row and tie your Sheet Bend, pull the knot tight. Then proceed to produce another loop in the same manner as before and tie the next knot.



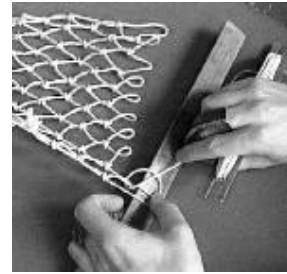
### Step 4:

Once you have completed the second row of netting withdraw the 'spacer' wood and pull each knot tight to stop it coming loose. This has the effect of evening up the netting ready for the next row to be started. You will require the use of leather finger guards to tighten the knots since the string can cut into you fingers like a heavy shopping bag!



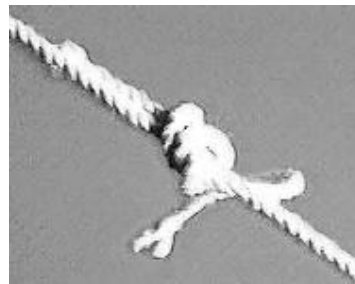
### Step 5:

Once the knots have been pulled tight you are ready to start the next row of the luggage rack netting only this time you are starting from the other direction! If you have difficulty swapping hands the solution is to turn the netting over so that you are starting the next row from the same direction as you started previously.



### Step 6:

Eventually you will run out of string. At this point you will need the Fisherman's Knot to tie the end of the netting to the next piece of string. Again wrap the new length of string around your shuttle starting with the free end. Then you are ready to continue with the next part of the netting. I have found that a BR Mark 1 standard luggage rack is 65 to 67 rows long and it takes me about 5 minutes per row to produce.



So there you have it, how to make luggage rack netting.

***Alan Taylor, LMS Carriage Association, August 2000.***