

# warp and weft

Vol. XIX, No. 6

June, 1966



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Editor: Russell E. Groff,

Assistant Editor: Robin Groff.

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### A Word from the Editor:

Writing this just before I take off for my first visit to the midwest weaving conference, which is to be held in Denver this year. I'm looking forward to meeting old friends whom we have sold yarns to for several years, and yet have never met face to face. I'm sure that it will be a rewarding trip and of course all of that weaving to see will make it doubly worthwhile.

Our early summer season is upon us here in McMinnville, and Robin spends all of her spare time industriously working very hard at our garden and landscaping around our home. It certainly is rewarding to see all of the different flowers, trees and shrubs, the results of her many efforts. She actually starts to work outside many mornings at 5:30 to 6:00 and works until eight. Then, she usually tries to see that Janice gets off to school on time and in a neat and clean condition, and then four days a week, she works at the shop about six hours a day. I really should say that I don't know of anyone who works harder than Robin does.

I should tell you of your editor's first experience ever at golfing. What a disaster. Nine holes and I think a score of 87. But it sure was fun, and thanks to two friends whom I bowl with in the winter, I've tried it three times, and enjoyed it tremendously. Don't you feel like an idiot though when you swing at a golf ball, and miss it completely.

My first love seems to be our shop, so Robin does all of the gardening except for the grass cutting, and when she does this, then I work at the shop. Always 1001 things to do

Page 2

here, so had better close for now and get to some of them.

Russell E. Groff, Editor

### This Month's Book Review:

We want to call your attention this month to another new folio put out by Mr. Elmer Hickman, which he calls, *STOLES AND SPORTSWEAR*. This is a folio with 20 actual woven swatches, and the complete directions for weaving each of these swatches. The set-up, threading and treadling are given for each of these 20 samples. They are superbly mounted so that each sample shows up to its full color advantage. The threads used are fairly heavy, but most of them are soft and fluffy, and are very attractive.

Mr. Hickman has also included in this folio a list of all of the yarn sources, and he has also included a project sheet and an extra supplemental card giving directions for a tailored scarf, for a winter bonnet, and for a poncho and a quesquemitl.

I have always felt that Mr. Hickman's choice of colors is excellent, and this folio once again does show this. Also, he has used wools, orlon, mohairs and other items along with his bold colors.

TITLE: *STOLES AND SPORTSWEAR*

AUTHOR: Elmer W. Hickman

PRICE: \$6.95 postpaid

AVAILABLE: Available from Mr. Elmer W. Hickman, R. D. 2, Emlenton, Pennsylvania 16373 or from Robin & Russ Handweavers if desired.

### This Month's Cover:

The cover this month is a close-up of a portion of one of the tapestry-type wall hangings which was on display at the Northern California Conference of Handweavers in Berkeley this past May.

I asked the photographer for a good close-up, and I think this is one of the best photographs of such weaving that I have seen.

Ever since seeing this photograph, I have been wondering if the little circle areas were woven in while the piece was in progress on

the loom, or if they were done after she had taken the fabric off the loom.

In any case, this certainly does show you what one can do with a little imagination and a little patience. It also shows how you could possibly weave a fabric on the loom, and then improve upon it if you so wished, after it is taken off the loom.

I do not know the name of the weaver of this piece, but when you see something like this, you can see why I enjoy going to the different conferences and looking at the various fabrics.

Why don't you try something like this and see what you come up with that is different.

## **Silk and the Handweaver**

There are many different kinds of silks, but the main ones that apply to the handweaver are: 1. Raw Silk, 2. Spun Silk, 3. Douppioni Silk, 4. Tussah Silk, and 5. Noil silk.

Many handweavers, when they ask for silk ask for raw silk. Actually, there is very, very little raw silk available on the market today, although 20 to 30 years ago, it was one of the most common of the silk threads available. Raw silk is silk that still has the gum or Sericin still in it. When washed, this gum or Sericin dissolves, and thus you lose about 20 to 25 per cent of the weight of your silk. Because of this, Douppioni silk and others have gradually replaced raw silk on the market.

Tussah Silk is the strongest silk thread there is. This is actually the silk that is produced by wild or non-cultivated silk-worms, and it is the diet of the wild silk worm that gives it the characteristic tannish color. Many wild silk-worms live on oak leaves instead of mulberry leaves, and the Tannic Acid in the Oak leaves turns the color of the silk to a light tan instead of a natural or cream color. This has proved to be perhaps the most desirable of all the silk threads in the past 10 years.

Spun silk is another silk that has almost priced itself off the market. Spun silk is usually the smooth silk thread with a high sheen or luster, and it is spun from true silk waste,

or from pierced cocoons. The silk worm sometimes decides to come out of his cocoon and when he does, he cuts through the silk thread binding him in, and this is a pierced cocoon. These short fibers that remain are then spun on the cotton system, and the result is spun silk, usually with the high sheen or luster. This involves more time and labor in spinning, and as a result has priced itself so high, that it has disappeared from the market in many cases.

Noil silk is actually the poorer quality of silk that is available. It is usually the short, unreel filaments left after the long filaments have been removed from the cocoon. This is carded, combed, and then spun, and while it has an interesting texture, it is not as strong as most of the other silk threads.

One of the most common of the silk threads that have come to the attention of the handweaver is Douppioni Silk. This is the silk from two cocoons that have interwoven their cocoons and tied themselves together. This silk cannot be reeled, so it is usually cut, and then spun. The gum is removed from Douppioni silk, and usually the Douppioni silk is uneven, irregular, and slubby as compared to other silks, and it is these characteristics that have endeared it to the handweaver.

One of the things that makes silk confusing to the handweaver is the fact that there are about 4 or 5 different methods used in measuring yardage per lb. One of the older systems was the ounce system, where it was decided that each ounce had 20,000 yards of thread, and this was the basis of measuring it. The next system is the denier system, which also is confusing to most handweavers. In this system 492.2 yards of silk weigh one denier or .05 hundredths of a gram. This was the common system of measurement used when silk stockings were so popular, but it has grown out of use in the handweaving vocabulary.

The most common method of measure now used by the handweaver, to measure length of silk is the Cotton Count method. This means that silk is measured exactly the same

(Continued on Page 6)

## WILD, WILD, TUSSAH

This is an attractive fabric which would make a beautiful sport coat, and also, which I feel would be just as beautiful in drapery.

### THREADING DRAFT:

4				○ ○ ○ ○				○ ○ ○ ○	
3		X X X		X X X		X X X		X X X	
2	○ ○			○ ○		○ ○			○ ○
1						X			X

▲                      ▲ Skip one dent                      ▲

### WARP:

Two different tussah silks are used in the warp.

- X – Bleached, 3 ply tussah silk
- – Natural, 2 ply tussah silk

### WEFT:

One of the tussah silks in the warp is used in the weft, along with another different tussah silk.

- X – Bleached, 3 ply tussah silk is tripled or wound 3 ends on one bobbin, to act as one thread.

- A – 1½/1 tussah silk with some spun silk and brown silk flecks spun in with the tussah silk.

### REED USED:

A 10 dent reed was used on the set-up with a special sleying of the reed being used.

### SLEYING OF REED:

- 1st dent – one end of 3 ply bleached tussah
- 2nd dent – two ends of 2 ply nat. tussah
- 3rd dent – three ends of 3 ply blea. tussah
- 4th dent – four ends of 2 ply nat. tussah
- 5th dent – three ends of 3 ply blea. tussah
- 6th dent – two ends of 2 ply nat. tussah
- 7th dent – one end of 3 ply blea. tussah
- 8th dent – skip this dent
- 9th dent – two ends of 2 ply nat. tussah
- 10th dent – three ends of 3 ply blea. tussah
- 11th dent – four ends of 2 ply nat. tussah
- 12th dent – three ends of 3 ply blea. tussah
- 13th dent – two ends of 2 ply nat. tussah
- 14th dent – skip this dent.

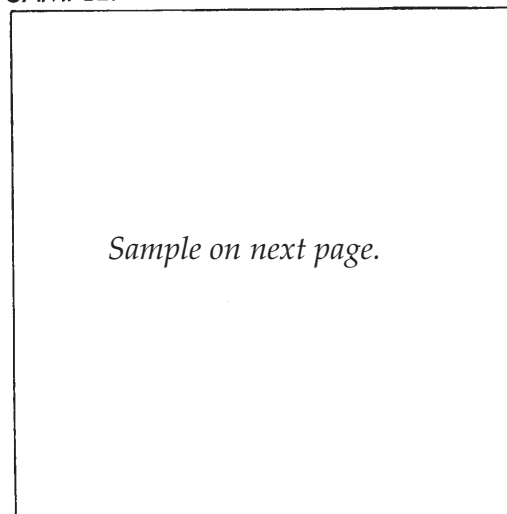
END OF ONE SLEYING SEQUENCE,

### TIE-UP DRAFT:

4	X	X	○	○	X	○
3	X	○	○	X	○	X
2	○	○	X	X	X	○
1	○	X	X	○	○	X

X—tie-up for Counter-balanced looms.<sup>A</sup>  
 ○—tie-up for Jack-type looms.<sup>B</sup>

### SAMPLE:



### REPEAT OVER AND OVER.

Because of this special sleying used, we have an odd number of threads per inch. We have a total of 21.4 threads per inch.

### NOTE ABOUT THE THREADING DRAFT:

Please note that in the threading draft we had one thread on harness No. 1, two threads on harness No. 2, three threads on harness No. 3, and four threads on harness No. 4. This means that you can either thread one thread through an individual heddle, or as per the number of threads in each harness, you can if you wish, thread 2 or 3 or 4 threads through one heddle on the proper harness. I myself usually find that when you thread each individual thread through an individual heddle that you have a slightly stiffer



or firmer thread than when you thread 2 or 3 or 4 threads through one heddle. In this sample, we did just this, we threaded 2 or 3 or 4 threads through each heddle, and thus I feel, we have a slightly softer fabric than if we had done otherwise.

I also felt that doing as we did would have no other effect on the fabric, and would not make harnesses No. 3 and No. 4 heavier and thus would be more satisfactory for all concerned. However, this does not mean that you cannot thread every individual thread through a heddle for that thread.

**TREADLING SEQUENCE:**

1. Treadle No. 6, 3 ply Blea. Tussah
2. Treadle No. 5, 1½/1 Nat. Tussah
3. Treadle No. 6, 1½/1 Nat. Tussah
4. Treadle No. 5, 3 ply Blea. Tussah
5. Treadle No. 6, 3 ply Blea. Tussah
6. Treadle No. 5, 3 ply Blea. Tussah
7. Treadle No. 6, 1½/1 Nat. Tussah
8. Treadle No. 3, 1½/1 Nat. Tussah
9. Treadle No. 5, 1½/1 Nat. Tussah
10. Treadle No. 3, 1½/1 Nat. Tussah
11. Treadle No. 6, 1½/1 Nat. Tussah
12. Treadle No. 3, 1½/1 Nat. Tussah
13. Treadle No. 5, 1½/1 Nat. Tussah
14. Treadle No. 3, 1½/1 Nat. Tussah
15. Treadle No. 6, 1½/1 Nat. Tussah
16. Treadle No. 5, 3 ply Blea. Tussah
17. Treadle No. 6, 3 ply Blea. Tussah
18. Treadle No. 5, 3 ply Blea. Tussah
19. Treadle No. 6, 1½/1 Nat. Tussah
20. Treadle No. 5, 1½/1 Nat. Tussah

END OF ONE PATTERN REPEAT. REPEAT OVER AND OVER AS DESIRED.

**COST OF THE THREADS USED:**

There were three different tussah silks used. Here are facts about each.

- X — Bleached, 3 ply, tussah silk has 3400 yards per pound, comes on approximately 1 lb. cones, and is \$4.80 per lb. It is slubby in texture.
- O — Natural, 2 ply, tussah silk has 2900 yards per lb., and comes on approximately 1 lb. cones. Smooth texture compared to the other and it is \$4.80 lb.
- X — 1½/1 Tussah Silk with brown fleck

has about 1450 yards per lb. It comes on about 1 lb. tubes, or two pound cones. Price is \$4.80 per lb.

**COST OF THE FABRIC:**

We had a 15 yard warp, 40" wide on the loom, and it took 1 lb. 14 oz. of the 3 ply bleached tussah and 2 lbs. 8 oz. of the two ply natural tussah silk. Thus, the total warp cost for 15 yards was \$21.00 for the 15 yards of warp. Thus, the cost per yard is \$1.40 per yard.

In the weft, it took 7 oz. of the 1½/1 tussah silk with brown fleck for 2 yards. It took 4 oz. of the 3 ply bleached tussah silk for two yards. Thus the cost for 2 yards of weft was \$3.30 or the cost per yard was \$1.65 per yard.

WARP COST PER YARD, 40" wide...\$1.40  
 WEFT COST PER YARD, .....\$1.65  
 Fabric Cost Per Yard, 40" wide .....\$3.05

**MORE ABOUT THIS FABRIC:**

I have always enjoyed weaving with silk more than any other material, and this sample was no exception. It seems as though silk always seems nicer or is richer when woven than in the actual thread, and I feel this is the case here.

This fabric is a very easy one to weave, and I did use a light double beat on the weft threads.

One thing I must mention also is that I did triple or I wound three ends together of the 3 ply bleached tussah silk. Thus, the 3 ends wound together, would act as one weft thread. The 1½/1, because of its weight, I used singly, or one end on a bobbin.

Be careful when you do triple the three ply bleached tussah silk, that you do not have loops in your weft, and thus cause loose threads in the weft. Use a little tension when winding the three ends together. My suggestion is that you get two pieces of felt, nail it to two pieces of wood, and then put a rubber band on each end of the two pieces of wood with the felt surfaces facing each other. Have your three ends come from the cone through the two wood pieces and between the two felt pieces and then wind on the bobbin, and



you should have no slack or loops, and thus no problems with your weft thread.

Also, as I am going to use some of this material for a sport coat for myself, I am going to have the fabric treated, or scotch-guarded to resist stains, water, and to help keep from getting dirty. I think you will find this well worth while in upkeep costs. It should then dry clean without any problems and be very satisfactory.

Also, I thought this might be attractive if light showed through the fabric. Hold it up to the light and see the effect you get. The bleached threads tend to let the light through, and the 1½/1 tussah silk tends to stop the light, so you have a very interesting fabric. I think this fabric would be beautiful in drapery. Try it and see for yourself.

## **Silk and the Handweaver**

(Continued from Page 3)

as a cotton. Thus, a 20/2 silk has 8400 yards per lb., as does a 20/2 cotton.

However, to add still further to the confusion, some manufacturers use just part of the cotton count system. That is, they use the first number, but ignore the ply number. Thus, a 20/2 silk would have the 20x840 or 16,800 yards per lb., and the ply number would be ignored. Then, a 20/3 silk or a 20/4 silk or a 20/5 ply silk or even a 20/10 ply silk would still have 16,800 yards per lb. By this method, only the first number has any significance, and the ply number is ignored. So you can see why the handweaver is confused by the yardage per lb. for these different silk threads.

Now, let me tell you a little about the silkworm, and his production of silk. The cultivated species of the silk worm is a member of the moth family, and is called "Bombyx Mori." The silk is a fiber from this worm and thus, it is a protein filament.

The silk worm has two glands and it extrudes a filament from each of these glands called "Brin." It extrudes these two filaments at the same time, and then to make things a little more complicated, it glues these two filaments together with a gummy substance called

sericin, and this helps make the cocoon hard and stiff. When the two brin filaments and the sericin are all together, we have a raw silk fiber which is called "Bave."

Then comes the problem of unwinding the silk from the cocoons, throwing the silk or putting about 5 ends together for more strength and easier handling, and finally the actual spinning or twisting or plying. This requires a tremendous amount of hand-labor, and this is what makes silk cost so much.

Now, let me tell you of a few of the properties of silk that make it so desirable.

First, silk is a poor conductor of heat and electricity, so this makes it desirable for clothing.

Secondly, it is lighter in weight than wool, cotton, linen or rayon.

Third, it can absorb up to 30 per cent of its weight in water, and still feel dry.

Fourth, it absorbs perspiration and does not feel clammy as do other fibers.

Fifth, it is very strong. Actually, many people do not know it, but if you have a filament of silk and a filament of steel, both the same size, the silk is actually the stronger of the two.

Sixth is the fact that silk will stretch up to 20 per cent without breaking. However, it does not shrink back to its original shape after being stretched, but it usually stays stretched.

Seventh, is the fact that most silks have a high natural luster or sheen.

Eighth, is the fact that it has a high resilience, and does not wrinkle easily.

Ninth, is the fact that it will accept dyes readily, and tends to hold dyes very well.

Tenth, is the fact that it is naturally moth-proof.

Eleventh, is the fact that it is easy to launder if you do it carefully and correctly.

Twelfth, is the fact that it is long-lasting and durable as a fiber.

So, you can see from these physical properties why silk is a desirable thread to use for textiles.

One more term that I want to mention is

the term "Scroop." Many of the different silks have a squishy feeling, and tend to sort of "rustle." This is called "Scroop," and this effect is achieved by washing the silk in acetic acid. The three ply bleached tussah silk used in our sample this month is one of those with "Scroop." You can actually feel the silk rustle on the cone when you squeeze it.

Now for one observation from your editor. I have woven with many, many kinds of silks, and have always found that it makes a rich, luxurious fabric, and always is more pleasing than anticipated. It is my personal preference of all the weaving fibers.

Also, another observation is the fact that most of the silk we, as handweavers, have available for use in handweaving are silks that in most cases are over-runs or lots left over after power-weaving has been done, and that in most cases, we are able to purchase it for a portion of what it costs to manufacture such a thread.

My own personal feeling about the matter is that you get more for your money in silk threads than you do in any other.

This is not intended as a complete history or cycle of silk and silk production, but just to give you a few facts to think about in your weaving, that might make the use of silk a little more interesting to you.

Your editor

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#### FINE SCARLET RED LOOP MOHAIR

This mohair has a fine loop and has 2200 yards per lb. It is \$4.00 per lb., and comes on tubes of about 1 lb. each. Robin & Russ, 533 North Adams St., McMinnville, Oregon 97128.

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#### SHOCKING PINK & ORANGE FIBER E BLEND

This is a slub rayon which is very strong and has shades of shocking pink and orange blended together. 800 yards per lb. \$3.20 per lb. Available on 1/2 lb. tubes. Robin & Russ, 533 North Adams St., McMinnville, Oregon 97128.

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#### LAVENDER WOOL TWEED AND PURPLE WOOL TWEED

Both of these are beautiful tweed yarns, spun here in Oregon, and would work well as warp or weft. These are 1½ run tweed yarns with 2400 yards per lb. A good buy at \$3.20 per lb. Robin & Russ, 533 North Adams St., McMinnville, Oregon 97128.

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#### TAN WOOL TWEED WITH FLECKS OF ORANGE, YELLOW, AND DARK BROWN

This is another very attractive tweed yarn in 1½ run with 2400 yards per lb. \$3.20 per lb. On cones of about 1½ lbs. each. Robin & Russ, 533 North Adams St., McMinnville, Oregon 97128.

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#### MOSS GREEN AND ORANGE FIBER E BLEND

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#### BRUSHED MOHAIR FROM ITALY IN GREY AND NATURAL

This is a beautiful yarn and could be used in knitting as well as weaving. Has a brushed area and a smooth area alternately. Price is \$4.80 per lb. on tubes of about 1 lb. 4 oz. each. Robin & Russ, 533 North Adams St., McMinnville, Oregon 97128.

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#### COLORED DOUPPIONI SILKS IN 6/2

Most of these have about 4,000 yards per lb. Price is \$7.00 per lb. Write for the free sample sheets of these silks. Robin & Russ, 533 North Adams St., McMinnville, Oregon.

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#### WOOL CARDS FOR CARDING YOUR OWN FLEECE

WE HAVE two (2) kinds of wool cards available. One we import from Canada is fairly coarse, and are \$6.00 per pair, plus postage. One, we import from Sweden is fairly fine, and a little better made. Price is \$7.00 per pair, plus postage. Robin & Russ, 533 North Adams St., McMinnville, Oregon.

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#### SLOT & GROOVE WARPING PADDLE

This is made of hardwood, and will handle 16 threads. Eight threads go in round holes and eight go in a groove so you can make a cross at the end of each length of warp if you wish. Price is \$3.50 plus postage. Robin & Russ, 533 North Adams St., McMinnville, Oregon, 97128.

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#### 40/2 LINEN SPECIAL

We have about 100 lbs. left of a nice quality 40/2 bleached linen in SKEINS. Not the best quality, but not a poor quality. Have already sold 100 lbs. REASONABLY PRICED AT \$2.40 per lb., plus postage. Because of weight of skeins, most orders for 1 lb. become 1 lb. 2 or 4 oz. Robin & Russ, 533 North Adams St., McMinnville, Oregon.



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**warp and weft**

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