



# warp and weft

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January, 1969

## warp and weft

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### A Word from the Editor:

Greetings, salutations, and a happy, healthy and prosperous New Year is the wish of the Robin & Russ studio to you. And another wish from us, is that we hope that all of your weaving projects during the coming year are successful and pleasing to you.

Isn't it amazing how fast time flies when one is enjoying what he is doing. This is the case of all of us here in our shop in McMinnville. It seems like just a few days ago that we were telling you of our pre-Christmas and fall activities and here we are beginning a new year.

With the publishing of the February issue for 1969, we will be starting our 16th year of publishing Warp and Weft. It has been a most rewarding task during these years, and you can't imagine how pleasant it is for Robin and I to work together at something that is our own, and see it grow, and change, and we hope improve with the progress of the years.

This past year and a half have been growing years for us here. It seems that we have expanded much during this time, and now have a much wider variety of stock in yarns, and in books and in accessories. Of course, it is a lot of work, and sometimes it seems non-ending, but it is something that we all seem to look forward to.

About two months ago, Robin and I found a lot that we like just outside of McMinnville, and we have started to purchase this two acres. It is our eventual hope to build a home there just on the outskirts of town. This lot backs up to the Yamhill river, and we have a very

pleasant view looking out over the valley from just a slight rise and looking down at the river. We hope that if all plans work out, we eventually will be able to build a split level house on this property and make it our final move in homes. Robin is very busy with plans and thoughts about our future home all the time. Her first effort will be the planting of quite a few trees, Scotch Pine, Redwood and Noble fir on one side of the property as a windbreak.

Now, back to our sample for this month.

*Russell E. Groff, Editor*

### This Month's Cover Photograph:

This month's cover photograph is a picture taken in England of one of the many breeds of sheep found in England. This breed is called the "Ryeland." The fleece from this sheep is classed as Shortwool and Down. It is found in Herefordshire, England and also in Australia, New Zealand, South America and elsewhere in the world.

This sheep "The Ryeland" is a compact, medium-size, hornless sheep with wide back and white front legs. The face is white and is woolled with a close forelock.

The wool from this sheep is 3 to 4 inches in length, and the average fleece is from six to eight pounds, and is a fairly high quality of 56's to 58's.

The Ryeland breed has been famous for more than six centuries, since the time when the monks of Leominster bred sheep in the rye growing areas of South Herefordshire. At one time, most of the wool used in the production of West of England broadcloth was from Ryeland sheep. Today, the wool is used either alone or blended with similar qualities to make hosiery, handknitting wools, paper felts, and high class tweeds. With its soft, light handle, its springiness and dense staple in which there are practically no kemps or black and grey fibers, this clean white wool is very suitable for end-products of this kind in which a smooth finish and good resilience is needed. This natural resilience and elasticity are striking characteristics of the finer

wools. The extent to which the qualities of the Ryeland breed and its wool have been recognized overseas is evident from the fact that they have been exported to no fewer than 30 countries.



*The Ryeland breed of sheep*

### **Editor's Note:**

From time to time in the future issues, we will feature some of the many different breeds of sheep raised in England. We will try to give you facts about the most interesting ones, and also try and show the sheep in its native habitat, as well as give a close-up picture of that particular breed of sheep.

### **Silk — In California**

SILK — by Glenna Harris Weavers Guild of San Jose, California. This article was handed out to interested persons at the Santa Clara County Fair in San Jose, California this past summer, when members of the Glenna Harris Weavers Guild exhibited living silkworms in various stages of development. They demonstrated the actual reeling of silk from the cocoons, and the spinning of the silk, and also the weaving of the silk thread. Let us now quote for you from the article that they handed out to interested spectators.

Among insects, silkworms rank second to the honey bees in economic importance. Sericum is the latin word for silk, derived from Seres, the Roman name for Chinese. The

production of raw silk by raising silkworms is called sericulture.

The silk industry started in China, its origin goes back to legends and fables. It was Siling-chi, wife of Emperor Huaung-Ti (2640 B. C.) who gave personal attention to sericulture. She is credited with the invention of silk reeling. Silk became the medium of exchange in the country. Finished silk was exported to the western world, but the production of silk remained a closely guarded secret.

The "Silk Road" was opened about 126 B. C., and silk was carried by Tartar caravans over mountains and deserts to Persia, Syria, and Arabia. At Damascus, the eastern traders met the caravans and bartered their goods. The Silk Road was the oldest and longest road, extending over 6000 miles. In 550 A. D., Emperor Justinian of the Roman Empire persuaded two Persian monks to smuggle silkworm eggs and mulberry seeds in the hollow of their bamboo canes. Thus, sericulture was introduced into Europe.

James I tried to establish sericulture in the New World in 1609 but failed because of a shipwreck. Britain offered rewards to the American colonies for silk cultivation. After the Revolution, bounties were offered by several states. It was in 1860 that Louis Prevost produced the first silk in California in San Jose. To encourage silkworm raising, the California legislature offered a bounty of \$250 for every planting of 5000 mulberry trees of two years growth, and \$300.00 more for each 100,000 saleable cocoons. This was discontinued in 1867, the same year that Prevost published. The California Silk Growers Manual. In 1869, the California Silk Center Association was formed in Los Angeles under Louis Prevost. That year a group of Japanese pioneer immigrants came and founded the Wakamatsu Tea and Silk Farm Colony in Gold Hill, near Auburn, California.

Silkworms require constant human care from the time the eggs are laid until the cocoons are spun. The female moth lays about 500 tiny eggs which are disc-shaped with a depression in the center. When the incubated eggs hatch, the worms eat mulberry leaves and grow from 1/12 inch to about

Continued on Page 6 **Page 3**

## BEDSPREAD BAZAAR

This colorful fabric was designed for use in an interesting color and texture effect in a bedspread, and can be done on the four harness loom.

### THREADING DRAFT:

4	X	X	X	X	X	X	Y	Y	Y	Y	Y	Y												
3													A	A	A	A	A	A	B	B	B	B	B	B
2	X		X		X		Y		Y		Y		A		A		A		B		B		B	
1		X		X		X		Y		Y		Y		A		A		A		B		B		B

### TIE-UP DRAFT:

4			O	O		O
3	O	O				O
2		O		O		O
1	O		O		O	
	1	2	3	4	5	6
					A	B

### KEY TO COLORS IN THE THREADING DRAFT:

X – 20/2 Aztec Brown Egyptian Cotton  
 Y – 20/2 Spring Green Egyptian Cotton  
 A – 20/2 Princeton Orange Egyptian Cotton  
 B – 20/2 Natural Egyptian Cotton

### WARP USED:

The warp is the extra nice quality 20/2 Egyptian Cotton in the Mercerized and Gassed thread. Four colors were used in the warp.  
 A – 20/2 Princeton Orange  
 B – 20/2 Natural color  
 X – 20/2 Aztec Brown  
 Y – 20/2 Spring Green

### MORE ABOUT THE WARP:

Many of you might be curious about the Egyptian Cotton Warp thread. It is a 20/2 S. S. quality cotton, which has been mercerized and gassed.

Mercerizing is the process of treating cotton thread with a solution of caustic alkali, and this results in a chemical re-action in the cotton taking place and as a result the cotton gets a high sheen, it becomes a stronger fiber, and also is more receptive to dyes so that you can get a better variety of dyed colors.

Gassing is a process of passing your cotton through a special gas flame, and this sears off any fuzz on your thread, and also burns the cotton slightly to result in more sheen, more strength and durability.

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### SAMPLE:



The term S. S. after the size of thread, as you find in this Egyptian Cotton means the two words Super and Sackel, which is usually written as one word, supersackel, and means a better quality of cotton than usual, and it refers to the grade of cotton.

### WEFT USED:

In the weft, two threads were used. One of them was a 12/3 metric count, natural ramie, with approximately 2,000 yards per lb.

The second thread was the 20/2 Light Turquoise colored Egyptian Cotton, and it was doubled, (two ends together) on one bobbin, so it would have more body in the weft.

### **REED USED:**

A 15 dent reed was used, and it was double-sleyed, two ends per dent or 30 threads per inch.

### **TREADLING SEQUENCE:**

There are 32 threads in one complete pattern repeat. You do the first 16 threads using the 12/3 metric count ramie as weft for 16 threads. Then you use the doubled 20/2 Turquoise Egyptian Cotton as the weft in the second repeat of these 16 threads. In other words, you have 16 threads of the 12/3 ramie, and then 16 threads of the 20/2 Light Turquoise Egyptian Cotton which has been doubled.

Treadle as follows:

Treadle No. 1 – 12/3 natural ramie  
Treadle No. 2 – 12/3 natural ramie  
Treadle No. 1 – 12/3 natural ramie  
Treadle No. 2 – 12/3 natural ramie  
Treadle No. 3 – 12/3 natural ramie  
Treadle No. 4 – 12/3 natural ramie  
Treadle No. 3 – 12/3 natural ramie  
Treadle No. 4 – 12/3 natural ramie  
Treadle No. 1 – 12/3 natural ramie  
Treadle No. 2 – 12/3 natural ramie  
Treadle No. 1 – 12/3 natural ramie  
Treadle No. 2 – 12/3 natural ramie  
Treadle No. 3 – 12/3 natural ramie  
Treadle No. 4 – 12/3 natural ramie  
Treadle No. 3 – 12/3 natural ramie  
Treadle No. 4 – 12/3 natural ramie

This is one half of the treadling. Use the same treadles again, but this time, use the 20/2 Egyptian Cotton in Light Turquoise, and it is doubled on the bobbin. Thus you have just eight blocks in the weft, four of each of the two threads used.

### **MORE ABOUT THIS FABRIC:**

First of all, there is one major problem in the weaving of this material. The problem is this. You have a group of the warp threads that float all the time or almost all the time in the weaving of this fabric. They are the threads on harnesses No. 3 and No. 4. As a result of this floating on the surface of the fabric, they become looser and looser as you weave,

and after about one yard of fabric is woven, you will find the threads on harnesses three and four so loose they will almost give trouble in getting a good shed.

The first thing that we did to counteract this, was to raise harnesses three and four and then put a couple of lease sticks under these threads. Fasten the lease sticks at both ends to the back beam, and this gives more tension, and helps for about another yard. Then, we took the loose warp threads on harnesses three and four and we took them in about three to four inch widths, and tied a weight to hang down from each four inch group of loose warp threads. This weight hangs down from the warp beam, and keeps these floating threads tighter, and you should then be able to finish weaving.

Another suggestion is to raise these number three and four harnesses. Put a stronger stick than a lease stick in, then slide this stick back over the back beam, and down to the warp beam. Then tie a weight on each end and the center of this stick, and this keeps the ends taut when you are weaving. We had an 11 yard warp on the loom, and when this was finished, this stick reached almost to the floor, so you can see how much take-up there is in the threads that are weaving all the time, and how much slack there is in the threads that tie into the fabric only periodically. I might also mention that if you have a double warp beam, the logical method would be to put all the thread on harness one and two on one warp beam and all the threads in harnesses three and four on the other warp beam, and this would help control the tension.

If you look at the threading draft, you will see that this pattern is actually a summer and winter threading draft, but it is not woven in the conventional manner of a summer and winter weave. You will notice that there are three repeats of each unit (summer and winter unit of 1, 2, 2, 3 or 1, 4, 2, 4) in each of the four colors used in the warp.

Also, I must tell you about another treadling that we used on this fabric, and another combination of weft threads that you can use. We made a bedspread out of this combination.

We treadled one and two with a 20/2

bleached white and unmercerized ramie thread and we treadled on number three and four in the bleached white cotton lace. Then we put in two shots of plain weave in a colored cotton lace, and then we put the cotton lace on treadles one and two, and the 20/2 ramie on treadles three and four, and then the colored cotton lace on the tabby treadles. In this case, tabby would be harnesses two, three and four tied to one treadle, and harness number one tied to one treadle for the two tabby treadles.

I think this is a very logical way of eliminating a problem of where threads are loose on one harness, and not on another, and that is to use a contrast in size in your weft threads.

### **COST OF THE THREADS USED:**

The 20/2 Egyptian cotton comes in 90 some colors on 1/2 lb. tubes, and it is \$5.50 per lb., or \$2.75 per 1/2 lb. tube. All four colors used in the warp are the same price of \$5.50 per lb.

In the weft, we used a 12/3 metric count, ramie in natural. It has 2,000 yards per lb., and is \$3.20 per lb. It is available on 1/2 lb. tubes also.

The other thread in the weft was the 20/2 Light Turquoise Egyptian cotton, and it is \$5.50 per lb. on 1/2 lb. tubes.

### **COST OF THE FABRIC:**

We had an 11 yard warp on the loom and it took nine and a half ounces of each of the four colors of warp thread, or two pounds, six ounces of warp thread in all for the 11 yard warp, so the total warp cost of actual thread used was \$13.07, or the cost per yard was \$1.18.

From this 11 yard warp, we received nine yards six inches length or nine and one sixth yards of finished fabric. The weft in this nine and one sixth yards was as follows:

12/3 ramie took one pound, 10 ounces

20/2 cotton double took one pound, five ounces.

The cost of the ramie was \$5.20 and the cost of the 20/2 cotton was \$7.22. Thus, the total weft cost for nine and one sixth yards

was \$12.42, and the cost per yard was \$1.36.  
 WARP COST PER YARD, 42" wide \$1.18  
 WEFT COST PER YARD, \$1.36 ..... \$1.36  
 FABRIC COST PER YARD ..... \$2.54

### **Silk in California** Continued from Page 3

three inches. The feeding period of about 35 days is interrupted by four intervals of sleep. Each sleep lasts about 24 hours. After each awakening, the silkworm shed their skin. The silkworm becomes light in color when ready to spin a cocoon. A continuous fine filament almost one-half mile in length makes the cocoon, which may be white, yellow, or tan, depending upon the variety of silkworm. It takes about three days for the cocoon to be completed. The worm changes into a pupa, which changes into a moth and emerges about 10 days later from one end of the cocoon after dissolving a hole in the silk.

To obtain the unbroken silk fiber, the pupa is killed by boiling the cocoons. This boiling also softens the gum, sericin, in the cocoon, so that the end of the silk filament is found. The end from six or eight cocoons are combined and reeled off together as a single continuous thread. The silk next goes through an operation called "throwing" from the Anglo Saxon "Thrawan" (to twist). The silk threads are doubled and twisted into various thicknesses depending upon the fabric to be woven. Some silk fabrics are woven from yarns with little or no twist.

Silk is made of animal protein and silk fabrics have many desirable characteristics. Silk filaments have great tensile strength and elasticity. The fabrics are of great beauty and luxury. They also have a beautiful luster and softness to the touch. Because of its insulating properties, silk feels warm in the winter and cool in the summer. Silk absorbs moisture, so it never feels clammy. It is naturally moth-proof and it launders easily: it is very long lasting and durable.

Japan, China, Russia, India, Korea, Thailand and Italy are the world's leading producers of silk.

Isn't it surprising that the Queen of the Fibers has come from the lowly little silkworm?

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### 3 NEW COLORS IN HEAVY 2 PLY JUTE:

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### THE DYE POT,

by Mary Frances Davidson was republished in 1967 for the 3rd time. Excellent text for those interested in Vegetable Dyeing. Price is \$2.00 plus 10c postage. Robin & Russ, 533 North Adams St., McMinnville, Oregon 97128.

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