

# Antique Knitters Circular

*A Publication for Antique and Vintage Knitting Machine Hobbyists*

*Volume 1, Issue 3 May-June 2002*



## Sheep in the Fold

### **The Flock** *by Toni Neil*

We didn't start out with sheep, but rather with horses - the fulfillment of a town-raised teenager's dream. After we moved to the country to keep our Appaloosas at home, we added milk goats, then Jersey cows, and after that some pigs, chickens, geese, turkeys, in fact, we've had all of the typical farm animals, except for ducks! They're all gone now except for the sheep, and we've kept them because they are such versatile producers, giving generous quantities of wool and lambs, but needing very little time and attention. The one exception to that last rule is during lambing, that special time of year when most shepherds descend into what a good friend calls "lambing psychosis," the state in which we cannot be held responsible for our actions (or reactions) because we're lucky if we get two hours of uninterrupted sleep in a night, and those only if we're fortunate or tired enough to fall asleep in our beds between trips to the barn to check on those ewes who are close to lambing.

When I started spinning 20 years ago, good-quality wool was difficult for spinners to find, so some of us resorted to growing our own. My first sheep were commercial Corriedales and a registered Columbia ram. From there I went to crossbreds and a Lincoln ram, and then added purebred Lincoln ewes. I still love the Lincoln fleeces, but more spinners are looking for the medium to fine fleeces, so I moved to natural-colored Cor-

*(Continued on page 3)*

## CONTENTS

<b>The Flock</b> by <i>Toni Neil</i> .....	1
Subscription Information.....	2
<b>Wool Washing at The Fold</b> by <i>Toni Neil</i> .....	3
Commercial Knitting Machines by Fred Hauck...5, 6	
The Gearhart Knitting Machine Co. ....	7
eBay revisits history of “Blue Ball”.....	8
Latch Needles; Inspection and Repair .....	10
Carding Fleece .....	10
Instruction manuals .....	12

## Antique Knitters Circular

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Lamb Tuttle  
Family  
Knitting  
Machine



### Cover Photo by Toni Neil



“...we've had all of the typical farm animals, except for ducks! They're all gone now except for the sheep...”

“Sheep fascinate me, and I'd love to have some from every breed available...”

*Toni Neil*  
*The Fold*

(Continued from page 1)

riedales and added Merinos a year or two later.

A few years ago I discovered that Finn fleeces were absolutely wonderful and very different from anything I'd ever spun, so I just had to add a Finn ram to the group, and last August I brought in a black Merino ram to add colored Merino genes to the flock. His lambs are lovely, and he did an excellent job of settling my ewes, with about 85% lambing to the first breeding, and the rest to the second. I'm eager to see what the fleeces from this lamb crop will be like, with most of them being purebred Merino or the Merino-Corriedale cross that adds a little length and body to the very soft Merino fleece.

The Fold is a small farm, only 5 acres, so our flock size remains restricted. This forces us to cull severely and keep only those ewes who produce both beautiful wool and healthy babies, who mother reliably and raise their lambs to weaning without problems. Sheep fascinate me, and I'd love to have some from every breed available, but since I can't do that, I buy fleeces from flocks around the country and offer them for sale in the shop so that we can all know what it's like to spin Navajo, Jacob, Lincoln, Targhee, and other breeds, even if those particular breeds of sheep can't be found just down the road from us.

There will always be a variety of fleeces available in the shop, and I sell these in quantities as small as an ounce, so that's an option if you'd like to try out just a bit of fleece from a breed of sheep that's new to you.

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## Wool Washing at The Fold

*By Toni Neil*

These directions reflect 20 years of washing many tons of wool, but are not to be viewed as definitive. In working with fibers, there is ample room for each of us to develop her own system, specifically tailored to her own situation, and ***\*\*whatever works for you is right!!\*\****

Here's what works for me. I wash my wool in the washing machine, but ***NEVER AGITATE!*** My water heater is set at its hottest setting (around 160 degrees or so), and I use a good detergent, but with ***NO BLEACH.*** The hot water is to dissolve lanolin better, and I never use a detergent with bleach because the bleach can partially or entirely dissolve your wool.

My favorite washing agent is Tide, which seems to work best for me although it's expensive. I've tried other detergents, but with my water, Tide is my choice. Other washing agents may work better for you - experiment with various ones and see which does the best job with your water. I've heard from various people that Dawn dish detergent works well. Some people swear by Orvus, or washing soda. On several occasions when away from home, I've even used simple hand soap on a lock or two of fiber, and that works just fine, so try various washing agents until you find one that works well for you.

Once you've chosen a washing agent, start to fill your machine with water, and dissolve in the water about 3 times the amount of the washing agent you would use on a full load of clothes. After the washing agent is dissolved, put the wool in loosely, and probably in quantity no more than 1/3 to 1/2 of a full tub. The idea here is to keep enough space in the tub for the wool and water to float freely, so the washing agent and later the rinse water can flow through the wool. After the tub is full, let the whole thing stand ***~~ NO AGITATING!! ~~*** for 15 - 20 minutes. Within 15 - 20 minutes the microscopic scales on the outside of the wool fibers will have had a

(Continued on page 4)

# A Survey of Fleece Washing Methods

by Fred Hauck

After examining how several experienced workers go about the process of washing raw fleece before carding and spinning, it became obvious that a couple steps in the process should be regarded as mandatory, while a few other steps might be regarded as optional.

Without an understanding of the properties of raw wool and the lanolin "grease" that makes up almost a third of its weight, a novice is almost certain to ruin a fleece by felting it while still in the bath. Agitating fleece while it is being washed or rinsed is cautioned against by every worker who has anything to offer

*(Continued on page 9)*

*(Continued from page 3)*

chance to bloom open, releasing dirt and grease. Don't wait much longer than 20 - 30 minutes to spin the water off the wool for the following reason: if you let the water get cold, all that dissolved lanolin suspended in the water will settle back on the fibers, so before that happens, spin the water off.

Spinning the water off won't hurt the wool, but agitation will. Agitating wool will felt the loose fibers into a permanent glob. Felted wool can't be un-felted. It's interesting but not spinnable. Nice little trick to use once in awhile but not on a prize fleece!

Okay, now you've been through one washing of some or all of the wool. Take a look at it. If it's clean, you can skip ahead to the rinse, but if it's still pretty dirty, you'll wash it a second time. Before you start, move the wool to the side away from the spot where the water pours into the tub. I live in the country and use well water, so my water pressure isn't very strong, and I've actually found that allowing the water to pour onto a very dirty fleece can help clean the dirt out, but occasionally I hear of someone on city water who has felted wool in her machine by letting the incoming water land on the wool, so let's avoid that.

After you've moved the wool, fill the washer again with hot water & more of your washing agent, though a little less than for the first wash (I use 2 scoops rather than 3), and go through the same process a second time. Keep the water temperature high, or at least close to the temperature you used in the first wash. This will help avoid the shocking and felting of the wool that can take place when water temperature changes drastically. After 15 minutes or so, spin the water off again. If the wool still looks pretty dirty, wash a third time with 1/3 of the original quantity of washing agent. In my experience, washing wool more than 3 times doesn't get it noticeably cleaner, and rinsing often does. If the wool looks pretty clean and doesn't feel tacky after the 2nd washing, you have gotten most of the dirt and lanolin out, and you can skip the third wash and go right to the first rinse.

When I rinse, I use warm water rather than hot. The temperature is close enough to the wash water temperature in order to avoid shocking and felting the wool, but saves my water heater a little work. Let water and wool stand and soak for a few minutes, or you can stir gently with your hand or a stick but, again, NO AGITATING!! Take a look at the water and see if it's still looking a little cloudy (that can be dirt rinsing out or detergent, or it could be a combination of both). It's likely that the water will still be cloudy, and that means you should rinse the wool again. Spin off the water, and then give the wool another rinse bath. I always rinse at least twice to be sure that no detergent is left in the fibers. Soaps and detergents are alkaline-based, and wool, being protein, responds badly to long contact with alkali. Check the second rinse water, too, to be certain that it's quite clear. This tells you that the washing agent and most of the dirt have been rinsed out. If the water is still extremely cloudy, a third rinse should help.

Washing will get out dirt, animal oil & soil, but will not touch chaff, twigs, grass or hay, so it's wise to pick the cleanest fleece you can find to save yourself junk-picking time later when spinning. Frankly, I think we've gotten spoiled and make too much out of a little chaff, etc., left in our fleeces, but the cleaner, the easier to spin, certainly.

Washing in the kitchen sink or bathtub? The basic process will be the same, but you'll have to squeeze the water out of the fiber by hand. While doing this, be careful to rub it as little as possible. Wool loves to felt, and we want to avoid letting it do that.

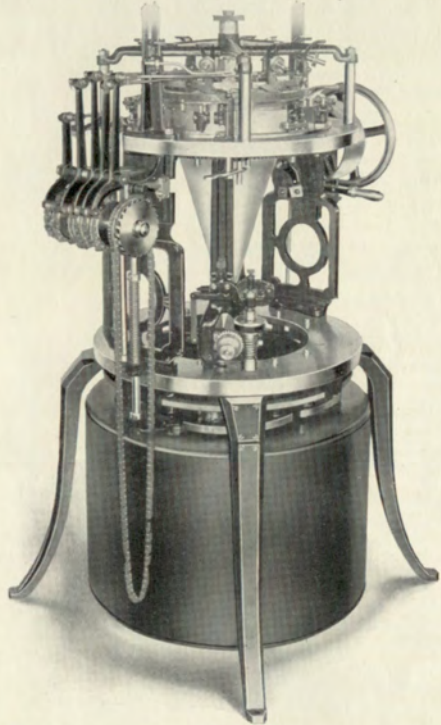
If you have any questions, let me know! I'll do all I can to answer them.



WILDMAN MFC. CO.  
NORRISTOWN, PA.

### Circular Rib Knitting Machinery

Automatic and Plain, in all Sizes and Gauges  
For Underwear, Sweater Coats, Union Suits, Skirts, Etc.



#### Wildman Automatic Body Machine

Fitted for six distinct changes of stitch and showing the Wildman  
Improved Gravity Take-up

Part List for Body Machines is Published in a Separate Book, Fully Illustrated

### Facts Worth Considering

OUR shops are situated in the center of the textile industry of this country and within one-half hour's ride from Philadelphia, with shipping facilities by Pennsylvania Railroad and Philadelphia and Reading Railway.

The buildings are spacious, commodious and well lighted, and every department is equipped with up to date machinery and fixtures. Our manufacturing departments cover our entire line from the raw material to the finished product, giving us control and selection that insures to customers the quality and accuracy of Wildman standard.

For this reason we operate our own foundry to provide castings of selected new iron suitably mixed for knitting machine castings.

In our blacksmith shop we have two twelve hundred pound steam hammers for forging our cylinders and dials, all of which are weldless; also hardening and tempering furnaces with improved methods for obtaining uniform hardness to all wearing parts of our machines.

Our system of tools, jigs and fixtures are maintained by efficient drafting and tool room departments, and provide means for the production of accurate machine parts that are absolutely interchangeable.

Our power plant consists of two direct connected generator sets of five hundred electric horse power operating power motors in each department, and furnishing light and heat for the plant.

All the details of our product are under the personal supervision of Mr. F. B. Wildman, president and general manager, who instituted the plant, and by his steadfast policy to force progress the establishment has reached its present magnitude. He is responsible for the many desirable features that have built up our reputation, and are the results of his practical knowledge and efforts, successfully developing the requirements of knit goods manufacturers.

We cordially invite any of our friends who are interested in the manufacture of circular rib knitted fabric to visit our works and investigate our methods.

## Commercial Knitting Machines

By Fred Hauck

Consider for a moment that in 1890 there were no automobiles, no airplanes, no super highways. It is somewhat remarkable that prior to these modern conveniences, now taken for granted, there were complex machines capable of knitting entire wardrobes of clothing. Even before the founding of the Wildman Manufacturing Company at Norristown, PA, in 1889, the Lamb Knitting Machine Company, beginning in 1865, was building commercial and domestic knitting machines by the thousands. The Gimson & Coltman Hosiery Machinery and Tumbler Needle Makers from Leicester, England, were also in business, manufacturing commercial knitting equipment. The date when Gimson & Coltman was established did not appear on their catalogue. As recent as this year, five commercial knitting machines of unidentified origin were offered for sale. No make or model numbers were on the machines. If interested contact Barbara at 1-800-332-2844 or e-mail [barb.tribar@fuse.net](mailto:barb.tribar@fuse.net). They might still be for sale. A picture of one those unknown machines is on page 6.

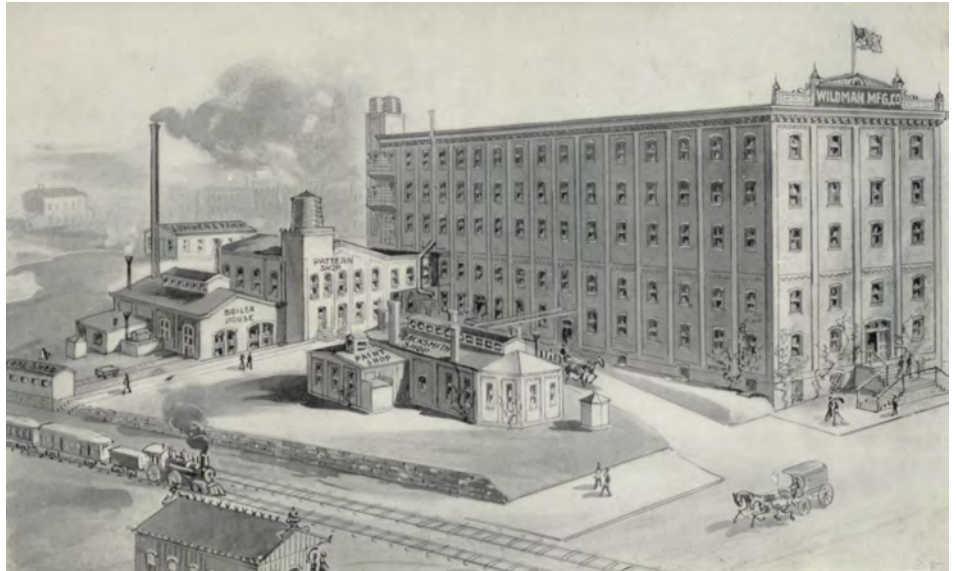
While dozens of domestic knitting machines are being advertised every week on eBay, I have yet to see a commercial machine listed. Some of the commercial machines are too large to be popular as collector items and it is likely that when they are replaced, they go directly to scrap iron.

If anyone finds information about commercial knitting machines, please send it my way for use in the Antique Knitters Circular. Collecting, preserving and reporting history of antique commercial knitting machines is in step with the goals that have been set for this publication.

(Continued on page 6)

## Wildman Manufacturing Company Plant

Historians that see this drawing hundreds of years from now will know the time was between 1840 and 1898. A train and buggy, but no automobiles.



Commercial Machine  
of Unknown Origin

*(Continued from page 5)*

The four Wildman books that I found on eBay have provided an abundance of interesting information about the company. Three were parts lists and one was an 80 page catalogue of company products. The company was a manufacturer of “Circular Rib Knitting Machinery”. I counted 18 different models of their machines. No mention was made of flat type knitters like the Lambs or Gimson & Coltmans.

The catalogue had the words “ESTABLISHED 1889” on the front cover. One of the parts lists had the date 1948 on the last page. The size of the Wildman building complex suggests they were a large company. It would be interesting to know the size of their work force.

The last 8 pages of the catalogue had tables of data on relative sizes of cotton, worsted and woolen yarns, rules for measuring yarns, and telegraph codes for the “dispatch of urgent business”. An example of the telegraph code is: “Assault”, which translated to “Prices are correct and are in accordance with our regular terms”. The code saved businesses money on telegrams. Wildman had 275 code words listed and there were also Lieber’s and Western Union codes available.

The Barney Knitting Machinery Co., Inc. has an Internet site where used knitting machines and parts can be purchased. They list a number of used Wildman Jacquard Knitting Machines for sale. Visit <http://barneyknitting.com/about.html> for an interesting story about the Barney Knitting Machinery Co., Inc.



*The following article was extracted from the Clearfield Progress News papers dated October 20, 27 and November 3, 1978. The Editor Emeritus of the Progress was the late George A. Scott.*

## **The Gearhart Knitting Machine Co.**

**(Third of Several Columns)**

According to the transcript of a taped interview by the late Howard Stewart of the Clearfield County Historical Society with Leonard A. Gearhart, son of Joseph, in 1962, the Gearhart Knitting Machine evolved from Mr. Gearhart's first handmade one through a dozen machines to the intricate, machine-tooled final model that was placed on the market in the mid-twenties. The very first machine, according to this account, was simply a small wooden cylinder operated by hand. Later this was replaced by a larger wooden cylinder and eventually hand-fashioned needles, moving up and down as one turned a crank, were added.

Thomas Lincoln Wall, in his "Clearfield County, Past and Present," published in 1925, gave the start of the Gearhart knitting machine enterprise as 1888 at West Decatur and said that business became so good that in the second year of operation it was necessary to have an Express office (The Adams Express Company) opened at West Decatur.

Mr. Gearhart moved his operations to Clearfield in 1890, establishing his home and plant at the corner of Nichols and West Front streets (where the Arco service station now stands). From the beginning, the Gearhart Family Knitter was sold through the mail.

The knitting machine was only one of some 40 patents Mr. Gearhart was awarded for various products of his inventive mind and skilled hands. Swoope mentions in his sketch of Mr. Gearhart the Keystone Vacuum Cleaner, which Mr. Gearhart put on the market himself. Others included a mechanical rug knitter and an uncoupling device, which he reportedly sold to the Pennsylvania Railroad for \$75, but no royalty, making it one of the best bargains the railroad company ever acquired.

A devout member of the Methodist church, Mr. Gearhart also found time to become a lay minister who conducted services at rural churches in the Clearfield area. And he wrote two small books of a religious nature which were copyrighted in 1903 and published by the Christian Standard Co., Ltd. of Philadelphia.

Mr. Gearhart retired from the knitting machine company in 1924 at the age of 75, turning the business over to his three sons, and he died at St. Petersburg, Fla., Jan. 5, 1928, less than four months before his 80th birthday.

The Gearhart Family Knitter, manufactured and sold by the Gearhart Knitting Machine Company of Clearfield, enjoyed great popularity in the 1890s and through the first 25 years of this century. Although not manufactured since the middle or late 1920s, there are Gearhart Family Knitters still in use as a hobby for some owners; other owners proudly display them as antiques or relics of a pretty-much long-lost craft.

Invented by Joseph Emery Gearhart at West Decatur in 1888 or 1889, the knitting machine produced knitted socks or stockings. Until World War I, the heels and toes of the socks had to be finished by hand; during World War I the American Red Cross is credited with improving the machine to knit closed heels and toes.

(There appears to be some question as to whether Mr. Gearhart was the original inventor of the knitting machine or whether it was his father-in-law, John Middleton, an expert machinist and gunsmith. A legend handed down in the Middleton family credits Mr. Middleton as having at least prepared drawings for the machine. These, it is said, he gave to his daughter, Mary Middleton, and Mr. Gearhart as a wedding present. There is no doubt, however, that Joseph Gearhart secured the first patent on the machine and made improvements on it over the years.)

The knitting machines which evolved from Mr. Gearhart's initial hand-made wooden device to intricate machine-tooled models, were sold by mail to customers throughout the United States and in several foreign countries. (it was patented in 13 foreign nations). At the height of its operation in the early twenties, the Gearhart Knitting Machine Company employed upwards of 200 workers, most of them women engaged in answering mail orders. The Adams Express Company established an office in 1899-90 at West Decatur, the first operating base of the Gearhart Company, to handle orders and the U.S. Postal Department maintained a mailing department at the Gearhart factory at Clearfield in the early twenties.

Mrs. Margaret Surver of Boyce, Va., a granddaughter of Joseph Gearhart, has a company brochure which priced the 1908 knitter at \$14 including "ribber and extra cylinder." The brochure noted that "for more than 19 years

Gearhart's knitter has been manufactured and sold in all countries." A 1914 brochure owned by Mrs. Surver lists the price of the knitter still at \$14. A still later brochure in her possession proclaims that the Gearhart knitter "has been manufactured for 30 years" and the cost was then listed at \$30. This brochure also declared that "During World War I our Gearhart Knitter was adapted and used in nearly 10,000 Red Cross Chapters." Gearhart knitting machines now sell for as much as \$125 on the antique market.

(A clipping from a Jan. 20, 1892 newspaper, otherwise unidentified, in the collection of the Clearfield County Historical Society advertises the "Perfection Knitting Machine, manufactured at Clearfield for \$9." Obviously the Gearhart product under another name, the machine was advertised as "The only family machine that knits three different sized stockings. No seams. Simple and easy to operate. Knits stockings, heel and toe complete, mittens, leggings, scarfs for men, women and children. Satisfaction guaranteed Price only \$9. Full instructions. On receipt of \$4 will ship machine to your nearest Express office when you can pay balance. Live agents wanted. circulars free.")

(to be continued)

## eBay revisits history of "Blue Ball"

In the last week of March, 2002, an item appeared on eBay, and was described by the seller in the following write-up. Two pictures of the eBay auction are at the top of page 9.

### Was the item for auction an early model of the Gearhart Knitting Machine?

West Decatur, PA, where Joseph Gearhart made his first Gearhart machines, was also known as "Blue Ball". It appears that the hand written words "Blue Ball" may be on the box in the left photo. The description and photos match exactly what is well known about Mr. Gearhart's early experiments and location. No mention is made of Joseph Gearhart or the Gearhart Knitting Machine Company in the eBay description.

Can anyone imagine that in a small Pennsylvania village, in 1890, there were two inventors working on knitting machines crafted from wood? It seems safe to say, the Novelty Knitting Machine Company was soon to be named the Gearhart Knitting Machine Company. Anybody???

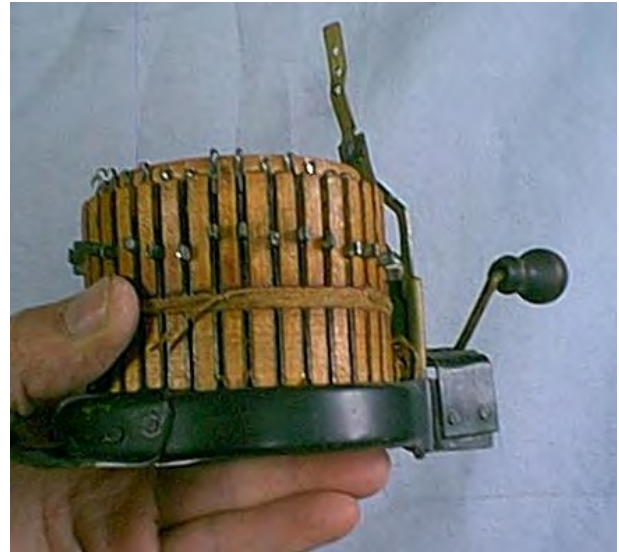
### Description

This is an old 19th century little knitting machine in its original box with the original instruction papers that came with it. It is called The Novelty Knitting Machine manufactured by (who else) the Novelty Knitting Machine Co. of West Decatur, Clearfield Co., Pennsylvania. According to the instructions it is an all purpose household knitting machine that will knit everything needed for the household from socks to mittens. It even has a ball of yarn and a partially complete project with it. Looks like the beginning of an old wool stocking. It has an envelope full of extra metal whatever those things are that slide up and down on the sides. There are two coiled spring type of things in the box also, but I don't even know if they are part of the machine, an accessory, or just something that got stuck in the box over the years. You get them anyway. I also don't know for sure if there is anything missing on this since I am not to sure of it operation. It looks pretty much complete like the pictures show it, but



can't guarantee it. Pictures do show something protruding from the bottom of the center, but it looks like that is probably a spool of yarn that must have mounted in the center somehow. Looks like it was meant to screw on to the edge of a table top something like that. The metal things on the outside slide up and down in their slots and when you crank the handle it is attached to a cam driven piece of metal that goes up and down and the wooden cylinder rotates. That's about all I know about it's operation. Couldn't find any dates, but guessing by the style of box and printing and illustration art style, I would guess it to be from around the 1880's to maybe the 1890's era. Neat old sewing related collectible.





These interesting knitting machines were auctioned on eBay and were accompanied by documents indicating they were manufactured by the Novelty Knitting Machine Company of West Decatur, Clearfield Co., PA. Joseph E. Gearhart lived in West Decatur and the first models of his knitting machines were made from wood. *Could these be pictures of machines one time held in the hands of Joseph Emery Gearhart?*

*(Continued from page 4)*

about washing it. Second in importance is the sudden changing of temperature of the fleece from beginning the wash to finishing with a rinse. Some workers even protect the fleece from air currents while it is waiting for the change in the wash or rinse water. Then there are warnings about using bleach and strong detergents. Some people like to place the fleece in laundry nets to make it easier to handle in the bath and while drying.

The article written by Toni Neil was selected for use in the *Antique Knitters Circular* because it appeared to balance the essentials with a touch of the technical reasons for doing each step.

Bonnie Whaling of Clearfield, PA, places her fleece between two sheets of open webbing with cross ties to keep the package flat. The package facilitates placing the fleece in each bath and later drying the fleece on the clothes line. Others use plastic screens to make a “sandwich” of fleece to get a similar result.

Pat Lees of Rosholt, WI, places the fleece in the bath with her hands and very gently moves the fleece to help loosen the dirt, but emphasizes “no agitation”, and no bleach or whiteners. She dries the fleece by simply laying it on a sheet outside.

Toni Neil points out that her method is not the “last word”. She says, “To me the most important thing for a reader to take away from the article (aside from the repeated admonition NOT TO AGITATE!!!) is the fact that the instructions aren't the be-all, end-all of wool washing, but a guide to discovering what works well for them at home. Washing wool has always been a homely job that our ancestors did habitually in the annual flow of farm labor. It didn't impress or intimidate them, and we should take it in stride, too, at least as much as any repetitive labor can be taken in stride!”

Toni's article certainly provides a “guide to discovering” the job of cleaning fleece. It has been a genuine pleasure to meet Toni through her narrative about her 5 acre farm, The Fold, and her informative article “Wool Washing at The Fold”.

*Fred Hauck, Publisher*



## Carding Fleece

What could be nicer than a preview of coming attractions? In the next issue, the subject of carding washed fleece will be presented. Carding with hand cards and by drum carder will be illustrated in text and photographs. Pat Lees, Sheeplady from Wildflower Farm, is familiar with both methods and has furnished some excellent photographs for the article. Her drum carder on the right was converted from crank to motor driven. Learn more about it in the next issue.



## Latch Needles; Inspection and Repair

My readers have probably been wondering when I would get around to saying something instructive about circular sock machines. No one has complained, but I think the time has come to offer my views on the mechanical problems so often encountered when bringing old sock machines back to life.

Few parts on a circular sock machine can cause as much difficulty and mystery as a faulty latch needle. How can one know the problem is a bad needle, and not a worn out cam, broken spring, or incorrect adjustment. Some problems are due to operator error. Knitting with yarn too large for the machine, or with timing adjustments off, or with yarn carriers set too high, all relate to operator input.

However, if a sock machine is dropping stitches or failing in any department, one of the parts that may need attention is a latch needle. The purpose of this article is to call attention to several mechanisms by which a needle may fail, and specifically because of a fault of the needle.

When a needle is obviously rusty or bent, it is quickly recognized as a culprit. It is the needle that *seems* to work, or works *sometimes*, or *looks* as though it should work, that causes the most difficulty. That is when we are likely to assume the fault is in some other part of the machine. My approach to this topic is to show how to recognize a needle that is likely to fail.

*(Continued on page 11)*

## Needle Inspection

Start by examining the needle for straightness of its shank. One way to check straightness is to hold the needle by the butt, the part that extends out of the groove, so you can sight along its length. Look at a white sheet of paper while pointing the needle at the white surface. A bent needle may stick in the groove or effectively change the timing for that needle.

Timing of the cylinder needles is not usually considered, because it is fixed by the rigid mounting of the yarn carrier. However, timing of a cylinder needle may be slightly off if the carrier post is bent to the right or left or the needle is bent slightly right or left.

Next, check the alignment of the latch. The latch must touch the center of the hook when it closes. Bend the latch if necessary to line it up with the hook. The latch may be ruined by bending it straight, because the bending may cause the latch to bind in the closed or open position. Add a drop of oil to the latch joint and work it to see if it feels loose. If it feels loose, you are ready for the next test.

Make a two ounce weighted object and tie a small loop of yarn to the weight. Use the type of yarn that fits the machine in use. Ten quarters in a plastic zip-lock bag will be two ounces. Then fold a square piece of paper on a diagonal and tape it on a wall near by so the diagonal is at a 45 degree angle.

Hold a needle up side down and hang the weight on the hook. Close the latch on the yarn loop firmly with your fingers. Rotate the needle, keeping the latch on the upper side, until the yarn begins to slide down the needle toward the latch. While rotating the needle, hold it in line with the 45 degree angle prepared for this purpose. A good needle will let the yarn slide down and open the latch before the needle was at a 45 degree angle. Rotate the needle a little more until the latch itself is at the 45 degree angle. Yarn should slip off the latch by the time the latch is parallel to the 45 degree slope. Now reverse the rotation of the needle so the yarn loop slides back under the latch and closes it. Use the 45 degree reference angle. This time the loop must fall off the needle before the angle of the latch reaches the 45 degrees. This test will confirm that the latch is free and that the needle surface is smooth enough to operate properly in the machine.

If the latch opens easily but the yarn does not slide easily in both directions, the surface of the needle needs cleaning. As mentioned before, a rusty needle would have been recognized as rusty. A needle may *look* OK but have a thin surface residue that is tacky to yarn. First try a cleaning solvent and nylon scrubber pad. Repeat the test described above. If the needle still fails the test, this is where 400 grit sand paper is useful. Small pieces of sand paper can be folded over the needle and rubbed on the hook and latch, inside and out where yarn contacts the needle. When these steps are followed, an old needle can be restored to work like new. In the process, be prepared to throw away a few of the needles. Some will be worn or rusted beyond the point where it is practical to repair. It is easy to spend ten minutes or more on an old needle to find it was beyond repair.

These instructions are given to help the csm hobbyist recognize a bad needle as well as how to fix one. If new needles are available a choice can be made between buying new or repairing. There are times when new



needles are simply not in stock. That is when these instructions may save the day, or save the sock machine!

When a machine is fitted with good needles, and tension adjustment is proper, and yarn size is correct, and the recommended amount of weight is hanging on the sock, no additional weight or “pull down” should be required on the sock. Even the owners manual suggests more weight on occasion, and we naturally want to pull harder when needles are sticking.

In my view, if extra weight is required, it is time to clean needles or look for something that is out of adjustment. Extra weight adds wear on the needles, on the bottom of needle grooves, and on the cams. Extra weight makes the machine crank harder.

A really bad needle may operate if the pull down is ten pounds or more. Try this experiment. Rest your hand on the bathroom scales. (I get 3 pounds) Then apply a firm weight like you would if trying to overcome a knitting problem. (Now I get a weight of ten pounds) You can see that a mighty firm pull down may be ten times more weight than a stem weight.

A well lubricated and well adjusted circular sock machine, running with good needles, correct yarn, and standard weights alone will knit on all sixty for hours on end.

I have my Gearhart knitter all tuned up with good needles and set up to make a scarf. Everything is in great shape. I'll just reach over now and give it a spin... oops!! What happened??... Oh! ..darn...

## Reprinted Manuals

Original manuals were scanned and converted to text using OCR software. Text was made larger and fonts changed to Times New Roman.

Reprinting on white paper stock produced documents that are easier to read and less fragile than originals.

Prices including S&H:

Tuttle \$15.00  
Flatbed \$20.00  
Gearhart \$20.00  
Clearfield \$25.00

Check or MO to:  
Fred Hauck  
2428 English Road  
Rochester, NY 14616

## Instruction Manuals For Sale

Reprints of four antique knitting machine manuals. Lamb Tuttle Knitting Machine, 17 pages; Lamb Flatbed, 29 pages; Gearhart's Knitting Machine, 24 pages; and Knitting Manual of Instruction & Sales by Clearfield Knitting Machine Company, 69 pages. Last mentioned contains complete instructions for 65 knitting projects.

