

SHEEP SHEARERS AS SKILLED LABORERS

They Form a Distinct Class of Workers in Certain Sections.

MACHINE CLIPPERS USED

Proficiency in the Use of Such Apparatus Creates a Demand for the Men's Services.

The growth of the sheep raising business in the West has brought into existence a distinct class of skilled labor. There are men who make a specialty of shearing sheep, travelling along regular routes every year and keeping busy very nearly all year round, as there is a steady demand for their services. The majority of these men operate the machine clippers. Long practice is necessary to attain proficiency with the machines, which accounts in part for the demand for the services of these experts.

As the shearing is done at different times of the year in the various sheep raising sections the professional shearers can start work in the South early in the year and gradually work their way north, receiving good pay for their labor. Sheep must not be sheared too early in the season, because they are likely to be affected by cold spells. To postpone the shearing until too far along in the summer causes suffering among the flocks from hot weather. In either event the animals lose in weight and consequently in value.

These professional sheep shearers begin their season on the ranches in southern California. From there they proceed as far as the middle of the State and then go through Utah, Wyoming, Montana, Idaho and Oregon. They finish up the shearing in the last named State along in July some time, and after that they go to the Canadian ranches, where they complete their work for the year.

Although much clipping is still done by hand, the Mexican shearers being adepts in this work, the machine clippers are rapidly replacing the hand shears. It is necessary to have a small power plant to run the machines, but the rapidity with which the work can be done more than balances the expense of installation. On the larger ranches several clipping outfits are set up. They consist of long sheds containing two rows of shafting for the machines, one on each side. The shearers take their places in a row on each side, twenty or so working at a time. Flocks of several thousand sheep are brought in from the ranges at a time, the work being connected with the shearing sheds by chutes. The shearer hauls a sheep out of the chute behind him and swings it between his knees, holding it by the head so that the sheep assumes a sitting position. He then runs the clipping machine over it, clipping the wool off much closer than could be done by hand and doing the work smoothly and evenly. An important point in machine shearing is that by it a great deal more wool is obtained, which increases the yield enough to pay the ex-

penses of the power plant for operating the clippers. The sheep are branded after they have been sheared. It is impossible to change a brand put on in this way.

The important part which the professional shearers play in the sheep raising industry in the West can be realized when the figures of a sheep census are inspected. Oregon has more than 2,000,000 sheep in its flocks, Idaho upward of 2,500,000, Montana 4,000,000 and Wyoming, according to estimates, provides grazing room for over 4,000,000. Adding to these figures of the biggest sheep raising States those of other sections, there are said to be 40,000,000 wool and mutton producers on the ranges of the United States.

In order to encourage the development of experts, shearing contests are held annually at the Agricultural College of the Ohio State University. Prizes are offered by the university, by wool buyers and by the manufacturers of shearing machines. The work of the contestants is classified by points according to the quality of the shearing, the least number of cuts inflicted on the sheep, speed, handling of sheep, handling of shears and the skill with which the wool is tied into bundles. Thus, at a recent competition at the university, in which each contestant sheared two sheep, the winner received thirty points each for the quality of his shearing, inflicted two cuts on his first annual animal and only one on his second, was rated at nine and fifteen points, respectively for speed, five points each for the way he handled his shears, fourteen and fifteen points for skillful handling of the sheep and nine and ten points for proficiency in tying up the two bundles of wool.

There was a class in this competition for boys under 16 years of age. In another contest, which was not a shearing factor, the winner easily sheared a South-down ewe in two minutes and twenty seconds. The sheep used were taken from the college flock, and one of them produced eighteen pounds of fleece.

IN SLUGGISH TURKEY.

Sheep Shearing Accomplished as in the Centuries Gone By.

While the sheep industry in Turkey is one of the oldest in the country, having existed for centuries in the same pastures where ancestors of the present herders tended their flocks, there appears to have been little improvement in the method of breeding or shearing the sheep. The manner of shearing sheep in Syria and in all Asiatic Turkey has remained unchanged through the centuries, consular and trade reports state.

Shearing is still accomplished in the crudest way, the workers always leaving a considerable amount of wool on the animal, while the fleece removed is cut most unevenly. The shearers frequently cut great holes in the skins of the sheep, which by the use of modern shearing machines could easily be avoided. In the vicinity of Aleppo and the contiguous territory there are about 2,000,000 sheep, producing about 5,000,000 pounds of wool a year; Bagdad and vicinity, Mosul, Damascus and north in the interior of Asia Minor there are also great numbers, which will give some idea of the need for modern shearing machines. Some of the principal wool buyers of Aleppo are also importers and commission agents, and as the importers handle practically all the goods entering the country and are in close touch with the wool producers it seems likely that the quickest and surest way to introduce modern shearing machines would be through certain of these business men. About the only horse clippers in use are a few pairs of ordinary hand clippers owned by Europeans. Horses are seldom clipped in this country, and it would probably be difficult to introduce machines for that purpose, though they are needed very much. The matter might also be taken up with the importers.

SHRINKAGE FACTOR AN IMPORTANT ONE

Effect of Moisture on Fibres Has Been Given Consideration.

CLOTH LENGTHS CHANGE

Measurements May Not Agree When No Change of Conditions Can Be Perceived.

When a yard is a yard and when is a pound a pound is the concrete way of putting the question that to-day is all important in the textile industry, writes E. H. Marble in the *Textile Manufacturers Journal*. At a particular time and under specific conditions a certain length of cloth agrees with a certain length of measured surface; at another time and under almost unrecognizable changed conditions they do not agree. A little variation in the tension, causing the cloth to be retarded or conversely move more freely along its path of travel and you introduce the element of stretch; a variation in the amount of this stretch varies the length of measured cloth. How much stretch shall be allowed is one of the questions to be considered.

The effect of moisture upon the fibres has been considered an excellent formula has arrived at by which the variations of cotton and wool can be determined with reasonable exactness, but these rules do not apply to the organized fabric. Experiments made in an endeavor to readjust these formulas have given very vague results, so large a number of elements enter into the consideration of the subject. The absorption by the fabric of from 2 per cent. to 4 per cent. of moisture takes place within a very short space of time, and this absorption results in a change in the length of the fabric that does not seem to be consistent with any known law.

While the added moisture can be computed, and the changes in weight noted, which is the correct fabric to pass upon, the fabric in its primary or the fabric in the secondary or moisture absorbed condition? In some cotton organizations this is a very important question, as even the moisture necessary to manufacture properly the particular fabric has to be removed in a large measure before the fabric is in condition to receive its next treatment.

In woollens the changes by absorbed moisture are not so radical and have comparatively little influence on the width or length of the fabric. But another element enters into the consideration of both the cotton and the woolen fabric. In the clothing industry the amount of shrinkage under severe application of moisture, or the absolute shrinkage of the fabric, is a most important question. The clothier, if he be honest, will present to his customer a garment prepared so as to retain its shape and size; in other words, will condition that fabric so as to make the garment unchangeable under reasonable conditions. He will steam, sponge, London shrink, perhaps "decatize" his goods before cutting up, and by so doing his resulting fabric will be much altered in weight per square yard. He has shrunk it in width and in length, so that while his weight per piece may vary but little from the original figures, yet his square yardage is different and he has acquired an entirely different fabric.

While the thorough clothing manufacturer has taken this into consideration in making his purchase and made allowances accordingly many others do not or will not recognize the facts, and the resulting controversies many a textile manufacturer will recall.

How to reconcile these variations in length, width and weight is perhaps an interesting problem as any board of arbitration has ever confronted with. Complaints of shortage are not pleasing to the manufacturer, nor are they productive of good feeling between manufacturer and buyer. While neither wishes to charge the other with dishonesty, or even carelessness, yet he thought that everything a little suspicious, to put it mildly. An error of 1-16th of an inch in the circumference of a yard measuring drum makes about 1-6th of 1 per cent. error in the measurement of a piece of fabric, while an increase of half a pound in the tension upon the cloth caused by additional friction of the cloth upon bars or roll will often make much more of a variation in the measurement of fabrics, and such changes as these will occur in drum or table without being noticed. In the more elastic fabrics a change of tension will cause an error of from 1 to 1 1/2 per cent.

Now this error is due to what? Perhaps the result of carelessness; perhaps the difference between the smoothness of different bodies, as in the case of friction bars, the face of the fabric, the surface of the table, perhaps the effect of dryness or moisture, i. e., climatic conditions. "Now there you go," so we friend will remark, "climatic changes." We are beginning to realize that this is one cause of failure to duplicate measurements. That climatic conditions have something to do with the fabric will be seen from the report on a test made a short time ago. A piece of cotton fabric was carefully run over a drum that had been accurately tested; ten revolutions of the drum were presumed to be twenty yards, and they were proved to be so by a non-elastic steel tape with a variation of less than an eighth of an inch. The same fabric was laid alongside of the same tape on a cleaned floor, being carefully unrolled without any tension or strain, and comparison with the previous marks showed the fabric two inches short, and after twelve hours another comparison showed a further loss of almost three-quarters of an inch.

The fabric weighed as first measured sixteen ounces to the square yard, was 36 inches wide and was within a very small per cent. of correct, but on the second test showed a gain of half a pound, or about .08 per cent. Another piece of fabric of the same construction from a different loom submitted to the same test showed a loss in length of less than one inch and a slightly increased gain in weight. These tests were carried on by careful men, who eliminated every possible chance of error in the handling of the fabric, yet they could not agree upon the rule for this difference. A fabric of same weight per square yard but of different construction tested at the same time showed practically no variation in length when first laid down, but contracted more than either of the other two pieces. The increase in weight was only .04 per cent. The climatic changes were entirely different and could only be formulated to meet the last fabric.

Several tests on fabrics of various constructions showed interesting but not conclusive evidence of how fabrics were affected.

In woollens similar tests showed results varying, though the changes were much more gradual in their action, twenty-four hours being allowed between the first and second testing. Worsted and woollens were not affected alike. A ten ounce very firm serge and a sixteen-ounce flannel were compared. The elastic feature of the second showed itself, while the more open fabric was more susceptible to the absorption of moisture. These are but a few of the studies that have been made, and as yet we have not been able to formulate any rule that was applicable to any of the fabrics.

In reference to the matter of shrinkage of fabrics we can not repeat a remark by one of the best students of this subject, using a little different wording to apply to this particular condition: "It isn't any dishonesty on the part of the manufacturer, or any attempt on the part of the buyer to get more for his money, but a lack of application of known principles." Coupled with this we would add that most of the differences found can be readily explained by a better understanding of these same principles, and in the case of some of the buyers at least by the display of a little more intelligence in the selection of the fabric for the purpose to which they are to be put. When a clothing manufacturer selects a fabric that any manufacturer will tell him ought to contract from 1 per cent. to 1 1/2 per cent. in the shrinking, and the clothing manufacturer allows it to contract one-half that amount, then, after making up his garment, he has a reason for the faults induced by this same lack of proper shrinkage, we can see no other way than for that same manufacturer to resolve to use more intellectual business principles hereafter.

We hardly know how this whole question can be settled satisfactorily until the textile manufacturer, with the cooperation necessary for his success, and the clothing manufacturer, with the conditions he must meet in his business, are brought closer together, each endeavoring to assist the other in overcoming the difficulties and differences which are found to occur in the manufacture and handling of this flexible and changeable yet hard article of manufacture. It is the old illustration of the raw product of the one being the finished product of the other, and a more thorough knowledge by each one in regard to the conditions that the other has to meet will avoid or eliminate many cases of seeming errors which have shown themselves.

It has long been recognized by the men's wear trade that the subject of shrinkage of fabrics was one that demanded close study and careful consideration, examined the trade paper. This fact has been made even more patent by the insistence at times on the part of the clothier of some recognized standard that might be applied to the shrinkage question. The matter was brought up formally a few years ago before the American Association of Woolen and Worsted Manufacturers, and it was then determined and admitted by the buyer that no uniform rule or standard could be established which would apply to all cases. It has been estimated of late that further action will be taken by the clothier in an endeavor to secure recognition of his claims on the subject, but just what will be done no one is prepared to say.

Various ideas are expressed by sellers as to the attitude of the clothier and the necessary precautions to be taken by the manufacturer in order to eliminate or reduce the element of uncertainty connected with this subject. Undoubtedly there are many cases in which the clothier is too exacting and unreasonable in claiming on merchandise which may or may not be faulty in the matter of shrinkage. Nevertheless on the other hand it is also plain, even to sellers, that the manufacturer is at fault in the process of weaving and must be sure that his skirts are clean before he can condemn the clothier too harshly for action in the matter. On this subject a well-known selling agent recently remarked:

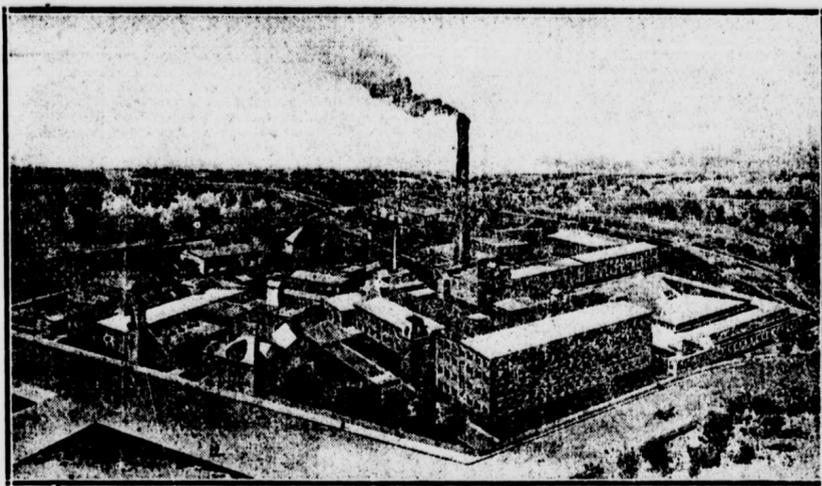
"I do not know why the clothier is not entitled to information as to the exact variance by the manufacturer, as he should know and does know to-day the weights of various cloths. It was not so very long ago that agents refused to give these weights, and it is found that in certain cases at least the reason therefor was that manufacturers were delivering scant weights and were depending for their margin of profit on the reduction from the margin of the order taken. I am afraid that this is true in instances in connection with the shrinkage question. The manufacturer or his representative sells at a dangerous price, trying to rely upon the chance of delivering less yardage in the final analysis than the order calls for. The stretch in goods can be made very tolerable by the processes of over-creasing weaving, and when the goods are shrunk by the clothier the resulting net length means that he is paying for more than he gets.

"Our principle," continued the same authority, "is that the yardage which we deliver to our customer should be practically the same as the yardage of the cloth as it comes off the loom. We deliver our goods London shrunk and the stretch which naturally takes place as a consequence of processes succeeding weaving is eliminated by this method. We guarantee our goods on this basis and have had practically no complaints. We will sell our goods unshrunk, but will not guarantee any amount of shrinkage, but if the buyer will pay us the price based on London shrinkage we will give him a guarantee that the fabric can be at once cut up at the necessity of any further shrinking. During the last year we have had just two complaints about this method and have found it to work very satisfactorily both for ourselves and our customers."

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