

WHAT IS SILK "CONDITIONING."



THE term silk "conditioning" inadequately describes the objects sought in the various processes to which silk is subjected in a conditioning house. Manufacturers and importers alike discover how advantageous it is to have their silk conditioned. In fact, every one of Nature's gifts, as well as every article of human production, has now to be tested and analyzed

for the purpose of finding out its real value on the one hand, and the extent of its adaptability to the purpose to which it is to be put, on the other.

Unscrupulous dealers, knowing the hygroscopic properties of fibres, could, but for these provisions, store bales of silk and yarn in damp cellars, and sell to unsuspecting weavers all the moisture there absorbed at the market price of pure silk. In the case of the more valuable fibres, especially of silk, the amount of moisture contained at time of sale should be exactly determined, so that no difference should occur or injustice result, as between buyer and seller. This operation, which is termed "conditioning," is not complicated. All fibres contain a certain percentage of moisture, and in order to ascertain the amount of this, the fibre must be rendered perfectly dry. The amount of time and labor involved in this operation would be too great, if every skein of silk had to be conditioned. A few samples are taken from each bale, and the proportion of moisture is calculated on the whole. Silk is a very hygrometrical substance, which, in its greatest state of dryness, includes no less than 8 per cent. of water, and is susceptible of admitting 15 per cent. without showing signs of moisture. It will absorb as much as 25 per cent., but the excess is then easily detected.

This notable property of silk to absorb moisture to such an extent presents great inconveniences from a commercial point of view. Manufacturers who employ this delicate material are exposed to errors in calculation of cost price, on account of the loss of weight in the raw material, resulting from the bales remaining in the store-rooms of their factories which may be more or less damp. The absolute weight of silk—that is to say, the weight of silk without any humidity—might serve as a legal basis of commercial transactions, but silk in its normal state is never without any moisture. Eleven per cent. was adopted in Europe in 1840 as a reasonable and convenient percentage to add to the absolute weight, and was confirmed by a congress held at Turin, in 1875. It is to-day the basis of all commercial transactions in Europe as well as in the New York silk conditioning works.

Conditioning, properly so called, is not the only test to which raw or thrown silk is subjected. There are also special departments for the weighing of bales, for determining the tenacity, elasticity, decreasing or boiling off, sizing and twisting of silk, etc.

To condition a bale of silk is to find the quantity of water that it contains. The first thing is to weigh the bale as it is brought into the conditioning house; then deduct the tare (cloth, wrappers, strings, etc.), and so ascertain the net weight.

There are taken from the bale a certain number of skeins—let it be 18 in a hypothetical case. These are divided into three even lots. The first two lots are submitted to an absolute dessication by means of a special machine or apparatus into which passes a current of hot air, capable of producing a temperature

of 120 to 130 degrees Centigrade, or 248 to 266 Far., and when the skeins have remained there the specified time for an absolute dessication, that is to say when their weight does not vary, they are taken out. If the difference in the weight between these two lots exceeds one-third of one per cent., the third lot is put in the machine so that the average will be more exact. The absolute weight of the bale is then calculated upon the average loss of the samples, to this is added eleven per cent., representing the dampness necessary to the working of silks.

In order to make this proceeding clearer, let an example be given. We have a bale the gross weight of which is, say 100 kilos or 220 lbs. 7 oz.; weight of tare, half kilo, making net 99½ kilos; from this bale we take 18 skeins. We will suppose that the first lot weighs 800 grammes, second 810 grammes, third 790 grammes. The first two lots will be submitted to an absolute dessication in the apparatus or machine. The respective weight of these two lots when taken out will be 710 and 720 grammes, which will give an absolute weight for the two lots, 1,430 instead of 1,610, primitive weight. The result for the bale will then be $99\frac{1}{2} \times 1.43 \div 1,610 = 88.37$ kilos plus eleven per cent. of water necessary to the working of silk, equaling 9.72 kilos, which will give as weight of the bale conditioned 98.09 kilos or 216 lbs. 4 ounces. The weight thus arrived at is the legal or the proper "conditioned" weight of the bale.

SOME LINEN NEWS.

LINEN was exported from the United Kingdom to British North America in June to the quantity of 671,300 lbs. In June 1892 the quantity was 690,200 and June 1891 493,000 lbs. The value of the linens exported to British North America for the six months ending June 30th was £73,405. For the same period of last year the value was £80,855 and 1891, £77,602. Thus the quantity of linens this country has taken during the past six months is less than the same period last year, and also less in value. The British linen trade has a very quiet tone at present. On the Continent it is quite dull. The U. S. Imports of linen from Great Britain for the past six months were valued at about \$5,400,000.

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We are frank to admit, says the Chicago Dry Goods Reporter, that nothing would be more pleasing if we could record the fact that our importations of linen for the past six or twelve months showed as large a decline as 25 per cent., and even 50 per cent. would probably please our merchants better. We should like to be able to base this decline in the importation of Irish linens on the successful growth of flax-culture in the United States, and the permanent establishment of several large linen factories on this side of the water, where linen fabrics equal to the best turned out at Belfast could be produced. But after years of study devoted to this question of flax-culture, and notwithstanding the enthusiasm this subject always arouses, we do not think that for many years to come Ireland is in any particular danger of losing so good a customer as the American dry goods merchant, who knows a good article when he sees it, and will send abroad for it when the same textile cannot be produced at home. We can only hope that the time is not far distant when the American people can wear home-made linen produced from home-made flax equal to that imported. Somewhere in the United States, with our endless varieties of climate and soil, some spot will be found where flax can be raised, the fibre from which will produce textiles equal to the best of those now imported.