

CLOTH FROM NETTLES.

THOUGH not in these days generally cultivated, at least in Europe, the despised nettle was at one time, and that for several centuries, held in high honour and esteem throughout the world. In an old medical book of the fifteenth century, many pages are devoted to a description of its healing virtues. During the Irish famine, it is said that hundreds of poor people subsisted entirely upon it; while in Russia, Sweden, and Holland, it is still mown several times a year as fodder for the cows, whose milk it is found greatly to improve both in quality and quantity, though they will not touch it in its green state. In Kamschatka the fibres have long been used for fishing-lines; in France they have been made into paper; in Hindustan and China, woven into so-called "grass-cloth;" and in Scotland and some parts of England the stalks have been dressed, spun, and woven into linen as good as that made from flax; while the old German name for muslin, "nettle-cloth," shows that it must have been at one time extensively used for weaving purposes on the Continent.

The change in the estimation in which the nettle was held began when cotton was introduced from America, now a century or more ago; and in a few years the home-grown plant was

entirely superseded by the foreigner, and sank into the state of utter neglect and oblivion in which it has remained till within the last few years, when efforts have been made in Germany to draw attention once more to its capabilities and good qualities. After the Exhibition in Philadelphia, when it became evident to the German manufacturers that they must bestir themselves in real earnest if they hoped to compete successfully with their neighbours in the future, Professor Reuleaux, their representative in America, seriously advised them to turn their attention to their own native industrial products, with a view to becoming less dependent on foreign countries. He reminded them amongst other things of the stinging-nettle, and then people suddenly remembered that it had once been as highly esteemed as flax and hemp, and scientific men began to talk and write about the proper methods of cultivating it. For the most part, however, it was the foreign species which found favour in their eyes, and above all the snow-white, stingless Chinese nettle, which yields a glossy fibre, like the finest silk or spun-glass.

An enterprising lady, however, Madame Roeszler-Lade, had already determined to try what could be done with the common stinging-nettle, the

Urtica dioica, and made her first experiment on her own estates in 1873. It failed, simply and solely, as it would appear, because the peasants could not be induced to do as they were told, and were absolutely contemptuous when directed to treat the nettle-stalks as they did their hemp. But now, when Professor Reuleaux came forward as the champion of the native nettle, Madame Roeszler-Lade applied to him for advice, and then planted her nettles on a piece of poor, rocky ground, having but a thin layer of soil; and this time she succeeded so well that, at an agricultural exhibition held in the autumn of 1877, she was able to exhibit specimens of nettle-fibre in all stages of preparation, ending with the spun-yarn. This was a triumph, and the unbelievers who had turned up their noses in derision were now convinced, and hundreds determined to begin growing nettles without delay, and this not only in Germany, but in Switzerland, Belgium, Hungary, Poland, Sweden, Austria, and North America.

Two years later the first German "China-grass" manufactory was established by Herr F. C. Seidel in Dresden, and after many failures and much expense he has succeeded in spinning the nettle-fibre in a manner which is perfectly satisfactory. He uses the common nettle, but prefers the Chinese nettle as yielding, at present, a better-looking and much stronger fibre. This plant, called Tchou Ma by the Chinese, and formerly *Urtica nivea*, now *Boehmeria nivea*, by the botanists, yields three crops in the year, and was strongly recommended to the Directors of the East India Company by Dr. Roxburgh, early in the present century, as possessing a fibre stronger than that of the best Russian hemp, and better adapted than the best European materials for the making of Brussels lace. Herr Seidel imports it from China in considerable quantities, but the expense of freight prevents the grass-cloth from competing on equal terms with other fabrics. This drawback will, it is hoped, soon be removed by the acclimatisation of the Chinese nettle, which might, there is no doubt, be improved like other plants by cultivation.

In Herr Seidel's manufactory different varieties of the nettle are used, the stalks being first steamed or soaked, according to their quality, to free them from the glutinous matter which holds the fibres together; after which they are treated with chlorides and sulphurous vapours, which render the fibre snowy white and impart to it a beautiful silky gloss. By this treatment, also, the finest possible division of the fibre is attained, which is a matter of the first importance to the spinner and weaver. So fine is the finest thread obtained (it is called in the trade No. 100) that 100,000 mètres of it (rather more than *sixty miles*) weigh only 2½ lbs.

After these preparatory processes, the spinning begins, and the matter of chief importance is to see that the fibre is left as far as may be in its natural length without being broken. The raw material has to pass through no fewer than twelve different apparatuses and machines before it is ready for weaving.

The extremely adaptable character of the nettle fibre is well known, there being no branch of textile industry in which it might not be used with the most satisfactory results. From the ship's rope and the fishing-net, up to the most delicate pillow-lace, there is nothing in the whole long series of fabrics in which the fibre may not be used with advantage. Its strength has been sufficiently proved in the English arsenals; and, among its other valuable qualities, it possesses that of readily taking any dye that may be desired, whether of the most delicate or the most brilliant tint; so that, since the difficulty of spinning has been overcome, the future of this newly-revived industry ought to be assured.

The growing of nettles might, it seems, be profitably undertaken by many a small farmer, or even by those who own but a field or garden; for the crop never fails, no weather seems to affect it, it requires planting only once every ten or fifteen years, the labour of cultivation is small; and, since it requires but three or four inches of earth, many a piece of unprofitable waste ground, even old quarries and gravel-pits, might be made fit for nettle-growing at very small expense.

The large common stinging-nettle, *Urtica dioica*, is the only native variety suitable for weaving purposes; and of this, that having a green stem yields the softer and finer fibre. As soon as it makes its first appearance in the spring in its wild state, the roots should be dug up and divided into pieces having four or five shoots each, which should be planted in furrows six inches deep, and carefully pressed or trodden in and watered.

Present experience shows that the crop should be cut shortly before the seed ripens, that is to say, at the end of August or beginning of September, when the plant has done growing and the fibre has attained its maximum of strength. It is best cut with the scythe, and may soon afterwards be touched without any danger, as it ceases to sting as it begins to wither.

Seeds of the Chinese nettle may be obtained of Herr Seidel, Lärchen Strasse, Dresden; but, though fine plants have been grown in Germany, its cultivation is much more troublesome than that of the common nettle, and there has not yet been time to tell by experiment what soil and treatment are best suited to it.

The difficulty of disposing of the nettle-crop has hitherto no doubt deterred many people, at least in Germany, from devoting their attention to it; but matters are much improved in this respect, the industry is flourishing, and the demand for nettle-yarn is rapidly on the increase.

The German nettle may, then, fairly be said to have entered the lists against the American cotton-plant; and some people are sanguine enough to hope that, before long, some of the gold which annually flows out of the Fatherland may remain at home and help to relieve the necessities of the hardly-pressed agriculturist.

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