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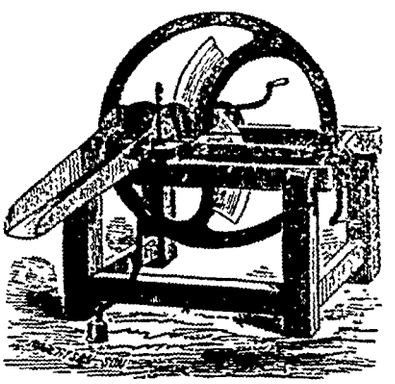
The Field.

Familiar Talks on Agricultural Principles.

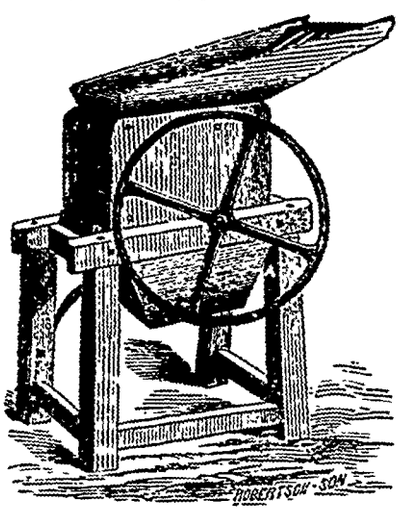
RYE.

This grain is of very similar composition to wheat, so much so that it is hardly necessary to give its chemical analysis in this "Talk." Rye contains more sugar and less gluten than wheat, and the gluten differs from that of wheat in certain properties that make it less fitted for the manufacture of bread. Rye will thrive on comparatively poor and light soils that are quite unfit for wheat, and this would seem to shew that it is a less exhaustive crop than wheat. The reason for this is not very apparent, inasmuch as the constituents both of the grain and straw very much resemble those of wheat. Rye-straw contains less lime, silica, and bone-earth than that of wheat, but a little more gypsum. The ash of the grain differs very little from the ash of wheat. Experiments innumerable have proved that good crops of rye can be raised where wheat would be an utter failure, but science has not fully explained this fact, and we are left to suppose that by a peculiarity of its nature, the rye-plant extracts nutriment from the air and soil, such as the wheat-plant is incapable of doing.

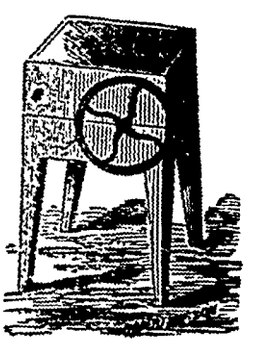
Rye, like most of the cereals cultivated by man, belongs to the family of the *Graminæ*. It bears naked seeds on a flat ear furnished with awns like barley. The straw is solid, and the interior of it is filled with a pith, which though it lessens its value for fodde..ng purposes, improves it for litter, thatch, collar-stuffing, basket-making, &c. There are two distinct varieties of this grain, the winter and spring, which are cultivated like winter and spring wheat. Rye bears cold better than wheat, and its growth is far more rapid, so that it is a better crop for a high northern latitude where the winters are severe, and the summers are short. As a green fodder-plant, and especially for soiling in early spring, rye is worthy of extensive culture. For this purpose it is sown in autumn, as early as possible after other crops are taken off the ground. In early spring it starts up vigorously and grows with great rapidity and luxuriance. At the height of six inches it may be advantageously cut for feed. It may also be fed off by sheep and lambs, and it will furnish a nutritious food before the pastures are ready to graze. Before it begins to spindle it is tender and succulent, but when it reaches this stage it is no longer relished by stock. When sown for its grain from one to two bushels per acre is required, and when sown as a green foddering crop, double the quantity is necessary. Rye is sometimes sown along with wheat, when it produces a mixed crop known as *meslin*, which forms a very healthy, palatable bread. Millers prefer wheat and rye, thus grown together, to any mixture of the two grown separately. From experiments made to ascertain their comparative nutritive qualities, it has been



proved that rye is to wheat as 64 to 71. This grain malts readily, and is largely cultivated on the conti-



nent of Europe for purposes of distillation. From it is obtained the spirit so well known by the name of



"Hollands," and even better by its contracted Dutch name "Gin."

Rye is subject to a singular disease called *Ergot*, the French name of a cock's spur, which the affected grain resembles in shape. A similar disease occasionally attacks wheat and other grains, but rye is very liable to it. Excess of moisture is considered to be the usual cause of this affection. Ergot of rye is a poisonous substance, but experiments made with it have proved that like many other poisons, it possesses valuable medicinal qualities. In certain cases of protracted labour, its judicious and careful use has been found of service. Mischievous results have, however, followed its administration by unskilled hands, and so potent a medicinal agent should never be resorted to except under the direction of a duly qualified physician. This abnormal substance has become an article of commerce as a drug, and a noted agricultural writer expresses the opinion that the culture of rye under circumstances that are sure to develop the disease, would be more profitable than the production of a sound and healthy crop. We do not advise any one to try the experiment.

First Prize Straw and Root Cutters.

HEREWITH we present wood cuts of Straw and Root Cutters, made by Messrs. Maxwell & Whitelaw, Paris, which took first prizes at the late Provincial Show.

No. 1 represents a Straw Cutter, which is made of various sizes, Nos. 1, 2, 3 and 4. They are capable of cutting three different lengths of hay, straw, corn stalks, &c., and are also used as pea-threshers, cutting the straw at the same operation, when the cut straw is separated from the peas with the fanning mill. The No. 4 machine is intended principally for hand use, but can also be attached to power. Some very valuable improvements have been added to the above machine this season. The knives, which are a very important part of the implement, are imported from the celebrated Richmond & Chandler's works Manchester, England. These machines took took the first and second prizes at the late Provincial Exhibition held in Toronto, both as horse power and hand machines. They also took first prizes at the Provincial Exhibition held at London in 1865.

No. 2 represents Gardener's Double-Acting Root Cutter, an implement which we think almost every one is acquainted with more or less. It is capable of cutting both for cattle and sheep, is very durable, and gives universal satisfaction. The knives are imported from England, and from the fact that it has taken the first prize at the Provincial Exhibition for a number of years, nothing more need be said in its favour.

No. 3 represents the Paris Root Cutter, a machine intended for sheep, which is also a valuable little implement. It costs only a little more than half the price of Gardener's, is easily worked, and cuts very fine.