

The soil is chalk and the pastures much exposed to gales from the sea coast, Folkestone being within seven miles. The cows are fed at 6 A. M. and 4 P. M. Those in milk receive about 2 lbs. linseed and 1 lb. cotton cake a head, and about a bushel of chaffed straw, bran, and barley-meal, mixed, per day, with a truss of hay divided between them. The young heifers over a year have $\frac{1}{2}$ lb. cake, chaff, bran, and hay. The calves are kept in boxes, and have bran and meal and a little long hay. The whole herd, with the exception of calves under three months, find their own living in the pastures from 7 P. M. to 4 P. M. They are housed at night from Oct. 1 to April 1. The dairy faces the north, and is kept most scrupulously clean. The floor is bricked and the walls tiled with white glazed tiles. It is fitted with thick green glass shelves on which the tin pans are placed. The churn is one of Hathaway's barrel churns. In summer the cooling tins are used to set the cream, the skim milk being drawn off in twelve hours, but, as soon as the cool weather commences, the milk is skimmed from the pans, the temperature being from 56° to 60° for churning. Butter is made twice weekly in winter from soured cream, salt being put to it before churning. The butter is never touched by the hand, a Cunningham worker being used. The price obtained per pound to private customers is 1s. 9d. all the year round.

The New Wood Straw-Band Harvester.

We have received a copy of the London Times of Sept. 5th, which contains a long article awarding great credit to a distinguished American inventor - the material portion of which we give below:

The most original invention of the year in connection with agriculture is undoubtedly the straw-band harvester of Mr. Walter A. Wood, of Worship street, which is now being shown at the American Exhibition. This is no mere toy or clever model, but a practical business machine, mechanically worked out in all its details, which has been largely manufactured in the United States, and will be introduced to English farmers next season. The specimen machine now at the exhibition has cut and bound into sheaves the produce of forty acres, without using wire or string or any other binding material than what may be designated the natural one of straw. The invention is the finished fruit of several years' designing and gradual perfecting by trial in the field; it embraces marvels of mechanical ingenuity, accomplishing manifold automatic results with the most remarkable simplicity of movements and fewness of working parts. Desirous of superseding the objectionable wire and expensive twine in harvesting machines, various inventors of late years have attempted to utilize straw itself in mechanical sheaf-binding - some trying to seize portions of straw from the crop which is being cut, and thus form bands as the reaper goes along, each band being twisted or tucked round the sheaf in imitation of manual binding; other contrivances proceeding upon the principle of tying with straw-band previously prepared and carried ready-made upon the machine. Mr. Wood has judiciously taken a middle course, his straw-band harvester twisting the band, sheaf by sheaf, as it proceeds, but from a bunch of previously cut straws carried upon the machine. The straws are cut to a uniform length of about 22 inches, a loose bundle of some 10 inches diameter serving to bind the sheaves of an acre of crop. Wheat or other straw can be used; but straw broken by the threshing machine is objectionable, and strong rye-straw from which the ears have been cut off in a sort of chopping-box is preferred. The few bunches employed for displaying the action of the binder at the exhibition are from fields of rye in the neighborhood of London; some, indeed, were brought from Dorchester, where crops were cut at the

summer-show trial of reapers. In practice, probably half an acre of rye would supply straw enough for binding about 300 acres of wheat, barley or oats. Where a farmer did not care to grow a bit of rye himself, a small bulk of rye straw could always be purchased in England from a rye-growing district, in bundles as marketed for plaiting purposes. It is considered that the substitution of straw for twine may save four-fifths the expense of binding. A calculation brings out the estimate that in America about 33,000 tons of string are employed in one harvest by the sheaf-binding machines of all makers, at an outlay by the farmers of \$9,240,000, which sum is further reckoned to average two cents per bushel of the grain so harvested. Therefore, the successful introduction of a straw-band harvester is desirable.

In performance, the new machine, like the ordinary binders, produces sheaves slightly varying in diameter, according to the quantity of corn that may be accumulated upon the binding platform by a mechanical "packer" before the pressure releases by trigger the binding action and delivery of the completed sheaf, and in every case, as tested by continuous running of the machine, the sheaf bunch is pinched closely, and the two ends of the severed straw band tied firmly together in a secure "weaver's knot." The band stands any reasonable strain, and the knot holds the tighter against slipping the more that it is pulled. And here comes in one of the cleverest features of the machine. Should the farmer meet with a sample of tender straw (involving an undue number of "misses" by the snapping of the material), he can instantly replace the straw-band-making action by a ball of manilla string, and proceed with his work without any delay; for the binding and knotting mechanism ties with twine just as well as with the twisted straw-band. The new knot for the string is solid, snug, and so economical of material that it consumes only two-thirds the proportion taken up in the knot of the ordinary binder.

After quite a minute description of the details of the machinery, the article concludes as follows:

The band-making is intermittent and the supply of straw-band self-regulating according to the demand occasioned by the rate at which the formation of bound sheaves goes on; and the binding movement helps itself to more band by means of a pair of small india rubber rollers, which draw out the band from the twister in conjunction with a trigger which sets in motion or stops the band-making movement. Complicated as this may sound in a brief description, the whole, in reality, is accomplished with the utmost simplicity, certainty, and rapidity. It may be added that the stubble-ends of the sheaves are made neat and square by the very effective operation of a novel kind of "butter," in which the action almost of an automaton hand is imitated simply by a skew-shaped over-neck crank rotating in conjunction with an oscillating spring. (1)

Breeds and Butter.

At the recent Quebec exposition we acted, in concert with Prof. W. Brown of the Ontario agricultural college, as a judge on several classes of cattle, and were much impressed by Mr. Brown's thorough mastery of the points at issue, and his unpretentious common sense, which at once inspired both confidence and respect. He spoke to us of some recent tests he had been making as to the comparative butter value of several leading breeds, and the report of these tests we find in a late issue of the *Rural New Yorker*. Attached to his college is a creamery at which the milk from 800 cows,

(1) A most marvellous improvement I still believe that the separate gathering and binding machine will prove to be the best and most economical in the long run.
A. R. J. F.