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FARMER'S ADVOCATE AND HOME JOURNAL, WINNIPEG

that there was a deficiency of some essential this is unlikely. It may have been the nitrates rapidly the harvesting machine of the world. The agencies, such as the wind, the thresher's outfit and that were lacking, or as is more probably the case cradle has not yet disappeared entirely either on this the horse's hoof. that were lacking, or as is more probably the case, continent or in Europe. Dondlinger relates in his the soil wants in humus, in moisture retaining book of wheat that there are farms within fifty miles exceedingly difficult to cope with these foes. The

pleted of vegetable material. Virgin prairie, and others where the average intelligence of the spring. At this stage it is almost impossible to when it is opened, contains an abundance of agricultural masses is rather low. organic matter, the remains of the grasses and other plants that have been grown on it for years. the completion of sickle and scythe development into But put continuously into grain, with no addition the more perfect cradle. Pliny, as early as 70 A. D., of organic matter in the form of manure, with no described a harvesting machine used by the farmers doing the country a great service, in spite of the adreturn of any kind save the small amount of of Gaul. It consisted of a box-like contrivance verse conditions which he has had to contend with. residue, stubble, left from the harvesting of the mounted on two crude wheels. A series of lance The Act has been enforced in several instances, and shaped knives was fastened into one end of the lox. many farmers have received their due warning. crop, a soil reaches a condition where it is im- An ox, hitched behind, pushed the cart through the Special attention has been paid towards keeping in possible for it to hold moisture in sufficient quan-grain and the knives or teeth stripped the heads from check the present weeds in the older settled districts, tities to supply a crop grown upon it. The result the stalks while the attendant raked them into the and preventing the introduction of weeds into the is that in dry years, or even in normal years, a box. The Gallic header was used for several cen- newly settled districts. He reports that hare's-ear crop on such a soil will be stunted and sickly, turies and then in some strange manner seems to hav mustard, is fast becoming a dangerous enemy in the There is nothing else more urgently required in a entirely disappeared. It escaped the fate of rerma-southern portion of the province. The Russian soil than moisture. Plant food may be in abun- nent oblivion, however, and became a heritage of the thistle, the tumbling mustard and the tumble weed dance, but unless there is moisture, and plenty mediant is prestically the analysis in that are also gaining a foothold in spite of the vigilance of dance, but unless there is moisture, and plenty machine is practically the same as underlies the mod- the weed inspectors. He states that the ball mustard, of it, to bring into solution the mineral ingredients ern self-binding harvester or the header. The first one of our old timers, is the most prevalent in the of the soil and to carry these to the roots of the improvement effected in it was the attaching of a province, but it is not so hard to deal with as some of plant, a crop will wither and die in the midst of rippling cylinder which carried the heads of wheat our new comers. The wild oats and the stinkwe plenty. Plants can only use the food in the soil into the box. This was the evolution of the header, are both very persistent. It is impossible todetect in solution. It is a matter of first importance When the celebrated "Haines harvester" was intro- the wild oat in the grain, during the earlier stages of to see that the soil contains sufficient moisture, duced in 1849, the heading machine was practically growth; hence the weed inspectors find it difficult to that it has enough moisture-holding material in it, to hold and supply to the roots the water and food they require for the nourishment of the usefulness. In the South and in semi-arid regions, practical. As it ripens and shells long before the plant. Moisture-holding material is vegetable where no danger exists from frost or wet, on the matter. Manure supplies the soil with vegetable Pacific Coast of the United States especially, the the grain, this weed alone becomes a serious problem. matter, increases its capacity to retain moisture combined header and thresher is in common use. It and increases its supply of essential ingredients is necessary in using a header to have the crop in a to keep these pests in control; namely:-by education of growth.

In the "good farms" articles published in the from the straw. Here it can never be used. ARMER'S ADVOCATE since August, valuable The "rippling cylinder" attachment used first on FARMER'S ADVOCATE since August, valuable suggestions were offered as to the use of manure. headers about 1786 gave inventors their first idea point in all cases. A study of the manuring has been an essential part of every successful type methods employed on the best farms in the province would be time well spent by a good many of our farmers. The adaptation to their own all, first because of the many and varied devices requirements of some of the methods outlined employed for cutting the grain, forming the bundles, briefly in those articles would make the farming and latterly for tying them into sheaves. The first of those engaged in it in Manitoba, and in the 1799 by a man named Joseph Boyce. It was not not a question of time any longer with us. The Then when that difficulty was solved by the adoption time to start manuring the soil and rotating the of the scissors cutting principle. crops grown on it is here. That manure is English inventors, however, were left sadly behind required in the average prairie soil is no dream. in the perfection of the reaping machine for practical The lack of it is the chief cause of diminishing use. The Americans in 1831 succeeded in construccrop returns from old land.

The Evolution of the Grain Harvester

The cradle was the next step in advance. It was scattered along the roadside. Then we have the wild

Harvesting machinery, however, did not await crop perfected and in all essential details is the same enforce the Act, in regard to this weed. Later on in machine as is in use at the present time.

dead ripe condition, to facilitate threshing and also and legislation. Educate the farmer, and especially

We were careful to particularly emphasize this of a grain reel. Since that date a reel of some kind of grain harvester, that is, of harvesters of the reaper price or binder class, which type we are now dealing with. The evolution of their eaper is the most interesting of business more profitable than it is to a good many reaper was invented in England and patented in proposition to him, to keep the government officials, other two provinces also. Some of us have a success. Year by year after that, new styles of other two provinces also. Some of us have reapers were experimented with. In 1806 the first dredth part of it is under cultivation. Now is the refused to face the facts in regard to this manuring one to be drawn instead of pushed was invented, chance to fight this enemy. The newly settled disquestion, and the facts now are facing us. It is One trouble at first was with the cutting apparatus. tricts should be watched with the greatest, vigilance.

> ting a reaper hauled by one horse, a man walking policy and it is here that he is concentrating his efforts, behind with a rake to draw the bundles off the table and this machine, the invention of Cyrus McCormick, was the forerunner of the modern self rake reaper. It was perfected by 1865, but did not have for long greatest of all Clydesdale horses, Baron's Pride,

element of growth. It may have been that the the product of American inventive geniusand as per- oat, the perennial sow thistle, the wild buckwheat and soil was deficient in potash or phosphorus, but fected about the middle of the last century, became the Canada thistle spreading by many different

The climatic conditions are such, that it makes it of New York City on which the grain is still harvested falls are so dry, that the seeds lie on the ground after Land kept under grain tends to become de- with the cradle. They are still in common use in harvesting, and refuse to germinate until after the various European countries, Russia, Servia, Italy grain has been sown, during the wet weather of the eradicate them owing to the presence of the growing

> This year Chief Weed Inspector, Henderson, with his staff of some forty-four weed inspectors, has been the season it would be necessary to destroy the whole The header, however, has only a limited field of crop, in order to eradicate it; this would not be tame oats, and as it is very difficult to separate from

There are two ways that we must act, if we are going to prevent the grain from heating after it is separated the new settlers, that as a business proposition, it is to their interest to keep a clean farm.

1st. It raises the value of his farm, per acre.

Weeds take the place of crops, and drain the 2nd.

soil of fertility and moisture; hence larger yields.

3rd. Clean grain commands a higher marketable

If it is possible to educate him, then we must legislate, to protect those who are striving to keep their farms clean. It seems rather hard on the individual, but after he has paid for one or two large bills, he sees more and more that it is a business away from his farm, by keeping the weeds down. We have a large province, and as yet only one-hun-Keep the weeds out of these districts, and prevent the further spread of weeds in the older districts and the introduction of foreign weeds, this is the greatest service that could be done for the future farmers of Alberta. Chief Weed Inspector Henderson believes in this A. H.

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A beautiful" picture on heavy paper of that

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It is a far cry from the first crude implements fashioned for the harvesting of grain to the modern combined harvester and thresher, from the rude planted it in the cutting of wheat. form of sickle or reaping hook which may be found among the remains of the later stone age in Europe, will harvest a hundred acres a day, thresh and sack it ready for market. The cry is a long one all right, and many a weary day has been spent in study and experimentation since the stone men shaped the first crude reaping scythe and the other generations of of today.

The sickle was the earliest form of grain reaper. The first of them were of stone or flint. Following this came a period when sickles were made of bronze then they were made of iron, finally of steel. Egypt is the first country where first traces of this implement are found. From the Egyptians it was adopted by the Greeks and introduced through them to the other tribes and nations of Europe. The Japanese and Chinese seem to have got their early reaping instruments from the same source as the Europeans, and as Egypt was the mother of agriculture it is likely that Egyptian inventive genius was responsible for the reaping hook or sickle.

This form of harvesting tool continued in general use in all agricultural countries until about 1850. use in all agricultural counterts and with seed lature in this province. The conditions are so fav- rotated therefore in such a way that those least The latter half of the infection contary what those least an expansion on old time agricultural methods such orable for the rapid spread of weeds, that those men able to make use of these materials may be an expansion on old time agricultural includes such who are interested have seen that strict precautions grown in succession to some crop which either as the achievements of all the preceding centuries put who are interested have seen that strict precautions grown in succession to some crop which either ogether could not equal, could not even compare to. must be taken against their further spread. ogether could not equal, could not even compare to mass be taubling mustard. Russian thisle, Russian the soil, or else has been a sparing user of those since the stone age man had changed the materials weeds and tumble weed, owing to our immense Since the stone age man had enanged the materials weeds as tunining mustard, Russian thistle, Russian the soil, or else has been a sparing user of those to about 1850 they were always small one-handed stretches of level, open prairie, and our heavy winds, to about 1850 they were always small one-handed stretches of level, open prairie, and our heavy winds, to about 1850 they were always small one-handed stretches of level, open prairie, and our heavy winds, to about 1850 they were always small one-handed stretches of level, open prairie, and our heavy winds, to about 1850 they were always small one-handed stretches of level, open prairie, and our heavy winds, to about 1850 they were always small one-handed stretches of level, open prairie, and our heavy winds, to about 1850 they were always small one-handed stretches of level, open prairie, and our heavy winds, to about 1850 they were always small one-handed stretches of level, open prairie, and our heavy winds, to about 1850 they were always small one-handed stretches of level, open prairie, and our heavy winds, to about 1850 they were always small one-handed stretches of level, open prairie, and our heavy winds, to about 1850 they were always small one-handed stretches of level, open prairie, and our heavy winds, to about 1850 they were always small one-handed stretches of level, open prairie, and our heavy winds, they were always were always small one-handed stretches of level, open prairie, and our heavy winds, they were always at the sole of they were always at the sole of they were always at the sole of the problems of the problems of they were always at the sole of the problems of the problems of they were always at the sole of the problems of they were always at the sole of they were always at the sole of the problems of the problems of they were always at the sole of the problems of they were always at the sole of the problems in average day's work. The instructure inquiry inquiry into the sciences underlying agriculture than one in the sickle consisted in making its handle and blade lamb's-quarter, after a few miles of shaking on rough into the sciences underlying agriculture than one on the sickle consisted in making its name and onder the site of the bottom of the grain, finds an escape would imagine from a hasty survey of the subject. which the scythe as modernly developed evolved.

Other forms of harvesting machinery rapidly sup-

The early differences in self binders was largely in the materials used for tying the bundles and the first experimented with. The first patent on a self binding machine was granted in 1850. John F. Appleby was the genius who succeeded in combining horse. men following them evolved the perfected machine the advantages of the machines that preceded him of adding some essential features of his own and in

creating a self binding machine that swept the world with overwhelming rapidity. He invented the first which farm methods on this continent are de-successful twine tving device. That solved the great ficient, it is in the rotation of crops. The proper problem with which inventors had labored with for rotation of crops is one of the most important years, the self binding harvester became a reality, the dream of ages had become an actuality. The evolution of harvesting machinery from the crude instruments of the stone men and cave dwellers was pacity cannot be maintained if one crop, and that complete.

Fighting Weeds in Alberta

Editor Farmer's Advocate:

This is a problem," which is now engaging the attention of the farmer, the grain dealer and the legisthrough the cracks of the loosely made box, and is It is in fact, in itself a scientific education.

may be had by getting a new subscriber to the FARMER'S ADVOCATE. There has been a big run on these pictures, and we are hearing from a lot of delighted people who have got them by sending to the ponderous steam driven machine of steel that mechanical differences in construction of the machines the new names. It is a picture that commands necessary for the use of the different kinds of bands. attention on any wall. The FARMER'S ADVOCATE Straw, metal strip, wire and twine were the materials can be recommended to horse-lovers on the ground that it exceeds all other Canadian papers in the publication of matter pertaining to the

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If there is one particular more than another in and most practical matters for consideration by farmers. A soil's fertility and productive cagrain, is grown continuously upon it. Every crop tends to deplete a soil of one essential element of futility more than it does of others. The crop needs to be changed frequently in order that the soil may maintain a balance. Crops differ in their ability to make use of the crude elements of fertility which soil contains. They need to be Such leaves an abundance of elaborated plant food in