

Forerunners of Modern Farm Implements and Machinery.

In tracing the progress of farm implements and machinery towards their present state of perfection, we find that in all ages and countries improvements have taken place as agriculture has advanced. Up to the middle of the present century, and even later than that period, we find that in Spain, Portugal, Russia, and Palestine and other eastern countries little, if any, improvement had been made for perhaps two thousand years. Thus we find even a few decades ago that the Israelites, instead of employing in their warm climate a threshing machine, or even a flail, to thresh out their grain, were accustomed to turn their oxen onto the farm floor to slowly tread out the seed. Their modes of cultivation were quite as rudimentary, as we find the first improvement upon treading land with hogs was scratching it with something similar to these animals' feet, and this was the road to the Egyptian sarcle or plow. (Fig. I.) In the alluvial soil of Greece, where an instrument more favorable to the covering of seed was necessary, the hand rake had its origin, and from the Egyptian sarcle we trace our plow.

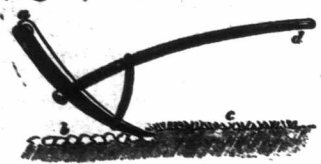


FIG. I.—EGYPTIAN PLOW.

It was not till about 1845 that anything like a rapidly improving condition of farming implements commenced in England, where we find there was a keen interest taken in draining, subsoiling, different methods of cultivating, sowing, harvesting, and threshing. In the *Farmers' Magazine* of the early forties we find considerable controversy as to the comparative advantages of sowing wheat broadcast or dibbling it in by hand, as potatoes are now usually planted. One of the greatest objections to the dibbling of wheat was considered to be the difficulty of getting the seed dropped into the holes with regularity, children being generally employed, and independent of time being required to teach them, the carelessness attendant upon youth was claimed to stand in the way. To overcome this difficulty by those who chose this method of sowing, because of the saving of seed and making it possible to hand hoe the crop, a hand dibble was invented which dropped the grain

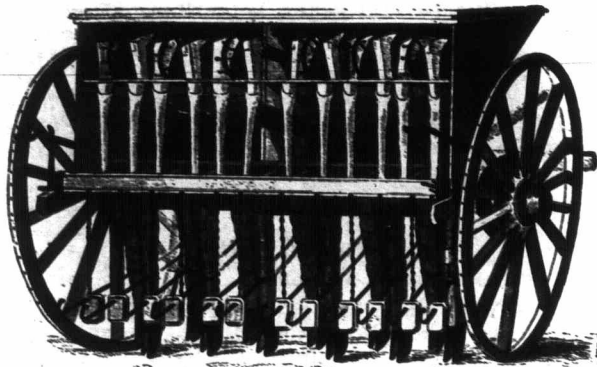


FIG. II.—GENERAL PURPOSE DRILL, 1841.

with certainty and regularity—two, three or four grains, as required. It closely resembled the hand corn planter, but was double, taking two rows at a time. There were grain drills in those days, and we find that tests between dibbling and drilling wheat proved that four pecks per acre, dibbled, yielded as much as ten pecks drilled. The drills used were to some extent in principle similar to our own of the present day. In 1841 we find that a prize of twenty-five pounds was awarded to Mr. Hornsby, at the Royal Agricultural Society Show of England, for the general purpose drill herewith illustrated. (Fig. II.) It was used to sow manure and corn at one operation. While much of the broadcast grain was sown by hand, broadcast seeders on

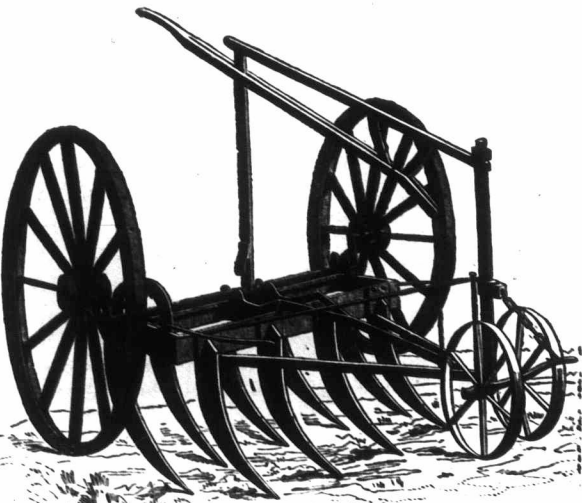


FIG. III.—BIDDELL'S SCARIFIER OR CULTIVATOR, 1839.

wheels were used, and consisted in a long seed-box suspended between two wheels. The box hung in front of the axle, and distributed the grain from the front, while the driver sat in a seat behind the axle, to some extent relieving the weight of the seed-box from the horse.

The matter of cultivating the land has, since the early part of this century, undergone many changes. Some fifty years ago, in England, the plow and the spading fork competed for supremacy, with a final victory for the plow, due only to the increasing expense of human labor. Tests between plowing and forking are recorded as having taken place in the forties, with the result that land prepared for carrots by forking gave three tons greater yield per acre than land that had been plowed and harrowed, while mangels on forked ground produced nearly five tons greater yield per acre than land prepared by horse cultivation. At that time the plow of the present day had not been perfected, and almost yearly new styles were being brought out. Cultivators and harrows were also being improved year by year, as they have also up to the present day. Fig. III. represents a cultivator known as "Biddell's Scarifier," for which the English Society's gold medal was awarded in 1839. It was very highly thought of in making summer-fallows and in preparing ground for grain seeding or for roots.

For harvesting grain the reaphook or sickle held sway through many ages, and we find that even as late as 1845 they were very generally used in England. In 1841 scythes commenced to displace reaphooks, and it was about this time that the grain cradle (Figure IV.) was invented in the United States. Reaping machines were suggested by the ancient Romans, but the first machines



FIG. IV.—GRAIN CRADLE, 1841.

that attained to much efficacy were made in the United States between 1830 and 1850. In 1833 Obed Hussey, of Ohio, patented a machine to which he applied saw-toothed cutters and guards. Fig. V. represents the machine as it appeared about 1840. Some years before this Bell's machine was invented, and by 1850 it had been perfected to the condition shown in Fig. VI. The grain after passing the knife fell upon the travelling canvas and was deposited as from a good cradler, as shown in the illustration. In 1834 McCormick, of Virginia, patented a reaper which had been so far improved by the year 1851 that it was awarded a medal at the World's Fair in London, England. It had a sickle-edge sectional knife, reciprocating by crank movement with the bearing and drive wheels. It also had a reel and two dividers, one on each end of the platform. The grain was elevated into a platform and raked off by hand. The self-rakers and self-binders marked the general changes from then to the present day. It is little more than two decades ago since the binder was turned out a successful machine—a huge, cumbersome affair, constructed largely of wood. It bound the sheaves with wire, and cost about \$300. It required three stout horses to haul it, but did a fairly creditable job in a standing crop. The improvements upon this machine came in quick succession from many sources along the lines of lightness, strength, and efficiency, until we now have the many makes of light steel cord binders—easy to run and to operate

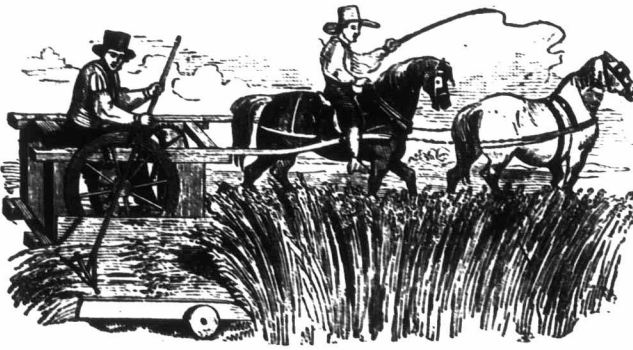


FIG. V.—HUSSEY'S REAPING MACHINE, 1840.

even in a tangled crop, and purchasable at little more than one-third of the price of the binder of twenty years ago.

Threshing grain by treading it out by oxen on a hard clay floor was the system followed by the Egyptians and Greeks. The flail seems to have been the next step in advance, and until quite recently it was largely used in Britain and can still be found in Canada. Michael Menzies, of Scotland, is supposed to have been the first inventor of a threshing machine, which was merely an adaptation of suitable mechanism to drive a large number of flails by water power. In 1758 a rotary machine

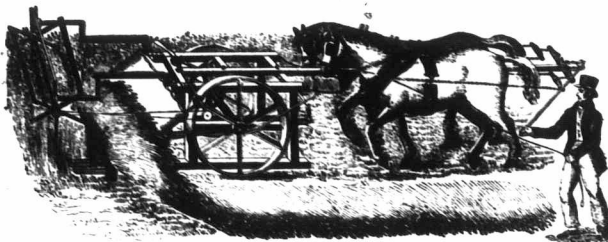


FIG. VI.—BELL'S REAPING MACHINE, 1851.

was invented, which gave rise to the revolving cylinder machines. Fig. VII. represents the threshing machine meriting highest honors at the

Royal Agricultural Society Show of England in 1840. This machine is reported to have had no spikes in the drum or cylinder, which were soon introduced in America. To this was added the separating machinery and other improvements, until the

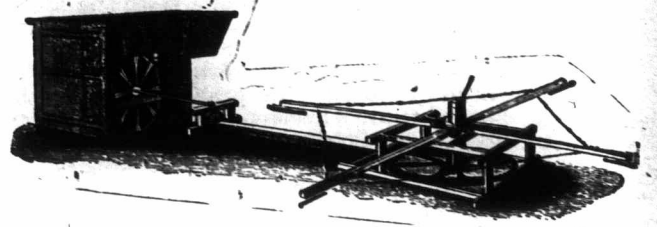


FIG. VII.—THRESHING MACHINE WINNING HIGHEST HONORS AT THE ROYAL SHOW, ENGLAND, 1840.

present complete machines were arrived at. What the coming few decades will produce no man knows, as the march of mechanical advancement seems to hasten with the progress of time.

Potato Growing.

To the Editor FARMER'S ADVOCATE:

SIR,—The soil on which I grew the potatoes that I was awarded the prize for at the Toronto Industrial was black loam, plowed in the fall and cultivated in the spring. I plant as early as I can work the ground, in drills 30 inches apart, and about 18 inches apart in the drill, and I put the manure in the drill. I prefer large potatoes, cut to the single eye. I do not get so much top. I make a scratch with plow about 3 inches deep and drop my sets, and then scatter the manure on, and cover with the plow, and then in a few days harrow them down. I use the scuffler often to keep the ground loose and the weeds down, and when I mould them up I do not cover very deeply. I dig with the fork as soon as the tops are dead. My early potatoes were all ripe at the time of the Exhibition, and the late ones that I planted early were very nearly ripe. I have about 40 different varieties, and for early ones I like the Early Harvest, Early Thoroughbred, Early Wisconsin, Good News, and Early Northern; and for late, Carman No. 3, Empire State, Barnaby, Mammoth, Great Divide, and Adirondack. I have one variety imported from the Old Country two years ago that I think will be a good potato, I call it Spark's Beauty. A. W. THOMSON, York Co., Ont.

Canadian Poultry in England.

Mr. Joseph Yuill sends us the following letter from the gentleman who disposed of the experimental chickens fed by Mr. Yuill's family, and which proved such a signal success.

Messrs. Yuill & Sons, Carleton Place, Ont.:

I find that you fed and packed the chickens that I received and sold on behalf of the Department of Agriculture, of which J. W. Robertson, Esq., is the worthy commissioner.

The whole transaction was so completely successful and satisfactory in every particular that I am loth to let time pass without venturing to enquire as to your intentions in regard to the export to England of your fattened poultry. Being the first to handle your stock, I would hope to continue to do so, being sure that no one in England could offer you the same facilities, service and interest that I can command.

Anticipating, therefore, that you will be inclined to favor me with your consignments, I take this early opportunity of encouraging you to extensive operations in poultry for the coming season. You need have no fear as to the ultimate results. Only turn your poultry out in the same order and condition as you did the experimental lot and I will see that profits will accrue.

I am confident that I can create a large trade for Canadian poultry if I am able to secure responsible and reliable feeders and packers like yourselves. The business will need co-operation of a willing and intelligent order. The trade will then be readily established, and it will only be the packer's fault if he does not maintain his position and hold the business.

I might say that the English market receives poultry from every country in Europe as well as from Australia and New Zealand. I can state, however, without the slightest fear of contradiction, that the Canadian poultry has no compeer, and therefore no competitor on equal terms. For not only is the Canadian poultry superior as to quality and suitability, but its condition is always assured through the services of the refrigerator.

Liverpool, March 2, 1890.

JAMES RUDDIN.

Successful and Profitable Pea Growing.

To the Editor FARMER'S ADVOCATE:

SIR,—In reply to your enquiry as to the pea bug, I am pleased to inform you that we have not had it in this township (St. Vincent). The pea is becoming our main crop, as we can get from 25 to 40 bushels per acre, and during this winter there was a firm in Montreal sending men amongst the farmers, and giving them 70c. per bushel at their barns for any of the larger kinds of peas, such as the Mummy, Marrowfat, Black Eye, Canadian Beauty, Potter, or any of the large sizes, which all do well here. J. W. HARTMAN & SONS.

Grey Co., Ont.