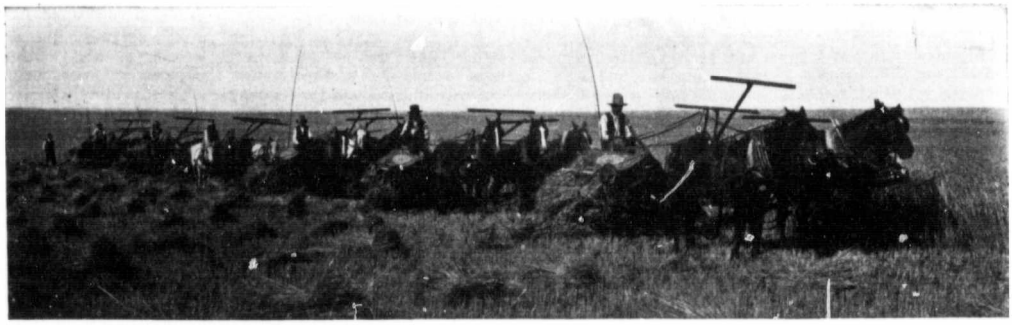

Six Frost & Wood doing a nice piece of work. All that is lacking is the Tractor

machine for heading the grain and elevating it into wagons driven at the side of the machine.

In certain parts of the West, notably California, where conditions are such that grain will cure while standing in the field, a combined machine has been built which cuts, threshes, separates, and sacks the grain as it is drawn along either by horses or by a traction engine. The first combined machine was built in 1875 by D. C. Matteson. Benjamin Holt has done much to perfect the machine. The development of the grain harvester may be summarized as follows:—

Gladstone was the first to have a side-cut machine.

Ogle added the reel and receiving platform.

Salmon gave the cutting mechanism, which was improved by Ball, Hussey and McCormick.

To Rev. Patrick Bell must be given credit for the reel and side-delivery carrying device.

Obed Hussey gave that which is so important, the cutting apparatus.

For the automatic rake credit must be given to Palmer and Williams.

For the practical hand-binding machine the Marsh Brothers should have the honor.

To Spaulding and Appleby the world is indebted for the sizing, packing and tying mechanisms.

Jonathan Haines introduced the header.

Many other handy and important details have been added by a multitude of inventors but all cannot be mentioned.

It is nothing short of romance to see in the simple sickle used by the reapers of the fields of Boaz the legitimate ancestor of of the modern self-binder, which cuts the standing grain on twenty acres per day, ties it up into neat, compact sheaves and deposits these in bundles ready for being built up into stooks. Yet such is the indisputable fact. Such a great advance was not made in a single bound, but was rather the patient process of many centuries.

In discussing the various implements of the modern farm it is probably better to begin with harvesting machinery despite the fact that other operations such as plowing and sowing must precede the reaping.

Many living to-day can remember the first successor of the ancient sickle—the cradle or scythe. This simple implement, which in its time was considered a wonderful device, consisted of a long sickle-like blade surmounted by a sort of long, wooden fingers which carried the grain as the cradle was propelled by a swinging two-arm stroke depositing it in straight rows with the heads all pointing one way. An expert "cradler" could cut from three to five acres per day. Behind him would come a man with a rake who would tie the fallen grain into sheaves. In some rough districts of Eastern Canada and in parts of new Ontario the cradle is still in use.

The wind-board tells the tale.

The move forward from the cradle to the first crude reaper required many years of toil and study on the part of the inventor. The first reaper was a heavy, unwieldy affair, requiring a man to drive the horses and another to follow behind with a rake to pull the fallen grain off the table. A later development included an automatic "hand" which swept the grain off and which was considered by the gaping rustics of a bygone age as a marvellous device. It is reported that one man on seeing this "arm" working for the first time, as it revolved with unfailing regularity, left the field precipitately declaring "It isn't earthly."

Later came a set of rakes which could be regulated in their action so that the sheaf could be made of any desired size. Reapers, so equipped, had a great vogue twenty-five years ago and many of them with various improvements are in use in Eastern Canada to this day.

The idea that a machine could be invented which would cut grain and tie it into sheaves used to be considered as the dream of visionaries. This, however, was successfully accomplished years ago, and the self-binders are in use at present over the greater portion of the Dominion of Canada. The never resting inventor, however, has not been satisfied and has been working toward the perfection of a stooking attachment. Some of these have been built and used in the West already and they promise to become a regular part of the equipment of the prairie farmer very soon, perhaps during the coming harvest. With the stooking attachment satisfactorily developed the farmer of the West will not be so grievously embarrassed on account of a lack of harvest hands.

Another agricultural operation which has offered a wide field to the resourceful energies of the inventor is that of the threshing of the crop. The development of machinery for the separating of the grain from the chaff has been even more remarkable than the development of machinery for harvesting.

If we go back to scriptural times we find that the patriarchs used oxen to tread out the corn, the sheaves being placed upon a threshing floor. This quaint mode has been used in Canada in the early settlement days of the Eastern provinces. Not so long ago, perhaps to this day in some parts, peas are threshed in this way except that horses are used instead of oxen.

Another method, which was used in by-gone days was that of pounding out the grain with a flail. The art of flailing was one not easy to master, for the flail was like a whip with a lash only that the lash was a piece of heavy wood attached to the longer handle with a stout thong. The non-dexterous flailor, or the greenhour, was more than likely to ever and anon administer to his own cranium a smart thump

This farmer likes the Massey-Harris. He is using them to the tune of 8.