

The Importance of the Binder on the Farm

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WE HAVE only to look back over past history and compare the stage of agricultural development, the kind of machinery, the methods of doing work employed by the people of that time, and the various stages of development along other lines, of 100 years ago with the stage of agricultural advancement, the improved machinery and the stage of development which other things have attained at the present time, to realize the importance of the farm machine on the farm.

Agricultural machinery has done much for the agriculturist by enabling him to accomplish more in a given time and with less expenditure of energy than before its introduction. Although this is true of all agricultural machinery, it is especially true of harvesting machinery. It has been estimated by authorities on this subject that the amount of labor required to produce a bushel of wheat has been reduced from three hours and three minutes to ten minutes by the use of harvesting machinery alone, or we might say, in other words, the change from the sickle to the self-binder has produced this effect. The importance of the binder to Canada alone will be clearly seen by the following figures. In 1908 we find that approximately 15,526,330 acres of wheat, oats and barley were in crop (in Canada) exclusive of British Columbia, for which province no figures were available.

The harvesting period covering about fourteen days and a man with a cradle is good for one acre per day. From the above figures it will be seen that it would require 1,109,024 able bodied men to harvest Canada's wheat, oats and barley crop within the period of 14 days and without the use of the self-binder. This does not provide for other crops handled by the self-binder, nor does it provide for men to bind the sheaves.

The use of harvesting tools dates back as far as 1500 years B.C. They were used at that time by the ancient Egyptians. These people first produced a style of sickle very much like the sickle of the present day. This tool was slow and difficult to operate and only served for harvesting very small crops. But nevertheless it served to reap the crops of that time and as the most improved tool in that line, compared very favorably with those in other lines. The sickle was closely followed by the scythe which improved conditions slightly as it was swifter and easier operated. The cradle was the next to follow and was produced about 3200 years later than the sickle. This

was and is the most efficient hand harvesting tool ever produced. Thus we see the advancement along the line of agricultural machinery was exceedingly slow during the 3200 years from the time of the production of the sickle until that of the cradle. But we also find that it kept pace with other mechanical advancement and not until then was a general awakening among agricultural machinery experimen-

invented, factories were established to handle the farm produce, towns and cities of business grew in size and number to consume the products of the soil. The effect of this advancement was increased invention and increased interest in science of all kinds. Mechanical investigation was the subject which possibly interested more men at this time than any other. And from this time on interest increased and investigation continued to reveal new things. Many inventions were made and thus a great many of the necessities or valu-

known of mechanical science and very little progress was made. But at about that time (1780 or 90) advancement, improvement and invention in the agricultural machinery line was begun in earnest and other development followed accordingly and farming has become during that time rather than a means of livelihood for the laboring man a profession for the shrewd business man. And further the effect of development has not all been upon science. The social position of the farmer as well as the professional man has been greatly improved. More attention is paid to education. Pleasure is indulged in to a greater extent and the farmer lives an enjoyable, as well as a useful, life.

Heretofore I have been treating with the importance of the development of harvesting machinery and the introduction of the binder. But the total importance of this machine does not lie in its introduction and development. Its greater importance since its introduction lies in its performance and improvement.

The performance of the binder (with which I will deal first) depends somewhat upon the firm by which it was made, because the different makes of machines must differ a little in performance, being constructed by different firms. The construction of these various makes of machines, although slightly different, is based on the same general principles and almost any make of machine on the market to-day will put up a pretty good performance. But then, again, there are individual machines of every make which will not do good work. I have seen a binder of a particular make do excellent work in every way while another one of the same design produced the same year would not give satisfaction. This occurrence, however, is rather rare and is generally due to some mistake in building.

There are a number of points which I consider of special importance to the good performance of any first class machine. I will mention these in the following paragraphs.

The table or platform of a binder may be made of either wood or steel. The steel one is preferable first because it is stronger and second because it does not warp and decay with the weather. The steel table has come into such universal use that it is scarcely necessary to mention this.

The drive wheel, although it may not be considered very important by a great many, it is, because upon it depends a great deal of the draft of the machine. The wheel may be either large or very



The Sickle—the White Man's Burden.

ters, did advancement take place along other mechanical lines.

Not long after the invention of the cradle there was a general awakening in mechanical interest, and the invention of a horse reaper was among the earliest productions. There were a great number of reapers produced and a lot of experimenting was done, but of all the machines placed before the public, only two, those invented by Hussey and McCormick, were of any particular im-

portance. They were crude affairs but from them developed the self-rake reaper and later the self-binder, the machine which has had such an effective influence upon the mechanical progress of the world. Closely following the inventions in agricultural lines came the invention of such machinery as the locomotive engine and accordingly railroads were built, factory machinery was



The Cradle—a Step in Advance.

mainly of life were produced. Many of these were minor things and not being so wonderful as useful were soon forgotten. But some which were produced in later years and were such wonderful productions of science that they are not likely to even be forgotten are: The telegraph followed a little later by the telephone. And the latest great wonder, wireless telegraphy, with a possibility of successful aerial navigation in the near future. All this wonderful advancement in mechanical science has followed the introduction of high class agricultural machinery and that

From the foregoing we see that the era of mechanical development has been during the last 120 years; but we believe even then it is only in its infancy and many greater things will take place in the following years. In the years previous to the time I have mentioned (120 years ago) little was