

Parents, guardians, employers! are you doing your duty in respect to the youth placed under your charge and control? Do you look after the moral and educational improvement of those youths, with the same zeal and anxiety that you watch their progress in the art or business in which they are engaged? Do you, employers, fully realise the importance to your interests, and to the safety and well-being of society resulting from a high moral and intellectual training of your apprentices and employees? If not, and we are confident that you do not, we entreat you to take the initiative at once.

If the youth in your employ attend no evening classes during the winter months, purchase tickets for them for the coming season, and induce them to enter for instruction, if possible. Some of them will no doubt feel it irksome at first, but after a while the associations of the class room will be more attractive to many of them than were their former associates.

Encourage the institutions that are organized for the education of the industrial classes. Why should the managers of these institutions work on alone for the benefit of the employed, while the employers—in whose interests their labour is also to a great extent given—stand aloof, both as to their presence, and material assistance? Consider of how much more value to you is the workman or apprentice whose intellect has been sharpened by education, and correct moral training, than is the one whose mind is a vacuum to all but the grosser passions and indulgences, and whose mouths are frequently filled with oaths, or the coarse ribald jest.

Our language is strong, but not too much so. We know whereof we write, for we have both seen and heard the evil for ourselves, through a long series of years, and are anxious to see our fellow-mechanics take that position in society to which they *should* be entitled, and to which they should ever aspire.

REAPING AND MOWING MACHINES.

We are accustomed to hear, and generally believe, that the Reaping Machine was originally an American invention. This is by no means true, although the Americans have, no doubt, made various improvements on the machines previously in use; nor is the cutting of grain by machinery at all a modern idea, for we find Pliny the Elder, supposed to have been born A.D. 23, thus describing a machine then in use. He says "There are various modes of reaping. In the extensive fields in the lowlands of Gaul, vans of large size, with projecting teeth on the edge, are driven on two

wheels through the standing corn by an ox yoked in a reverse position. In this manner the ears are torn off and fall into the van."

Palladius, an eastern prelate born A.D. 391, gives an account of this machine in the following words: "In the Gallic lowlands they employ a more expeditious method of reaping, requiring, in addition to the labour of man, the assistance of a single ox during the whole harvest time." After describing the construction of the machine he says:—"When he (the driver) proceeds to drive the vehicle through the corn, all the ears are caught by the teeth and fall in a heap into the cart, the broken stalks being left behind. The driver, who follows, generally regulates the elevation or depression of the teeth; and thus, by a few courses backwards and forwards, the whole crop is gathered in the space of a few hours."

This machine was probably as great an improvement on the modes of cutting previously in use, as the present reaper is on the ordinary cradle scythe of modern times. It seems, however, to have fallen into disuse, and until near the close of the last century no effort appears to have been made to devise a plan for mechanical reaping.

In the year 1783 the Society of Arts, London, offered a premium for "An efficient Reaping Machine," (a) which offer it continued to make for thirty-six years. The conditions annexed to this prize were:—

"For inventing a machine to answer the purpose of mowing or reaping wheat, rye, barley, oats, or beans, by which it may be done more expeditiously, and cheaper, than by any method now practiced—provided it does not shed the corn or pulse more than the methods in common practice, and that it lays the straw in such a manner as may be easily gathered up for binding—the gold medal.

"The machine, with certificates that at least three acres have been cut by it, to be produced to the Society on or before the second Tuesday in December, 1783.

"Simplicity and cheapness in the construction will be considered as principal parts of its merit."

The first English patent for a reaping machine, that we find recorded, was obtained by Joseph Boyce, in the year 1799; and in the following year Robert Meares obtained a patent for "a mechanical reaper." In 1805 Letters patent were granted to T. J. Plucknett, for "a reaping machine having an arrangement of parts for gathering the cut corn and delivering it in small sheaves. (b) In 1807 Mr. Salmon, of Woburn, also invented a machine, with apparatus for gathering cut corn and laying it in swathes. (c) Messrs. Kerr, of Edin-

(a) See Transactions of the Society, vol. I. p. 107.

(b) See Loudon's Encyclopedia of Agriculture, p. 427.

(c) See Farmer's Dictionary, plate 23.