Mowing Machine Encyclopedia Article

Mowing Machine

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Mowing Machine

Mowing machines are designed to cut grasses and other crops grown for hay and silage. They are also used to cut grass along highway rights-of-way, which may be used for feeding livestock.

Mowing machines are distinguished from lawn mowers in that the latter are used to keep ornamental grasses closely trimmed. They also differ from reapers in that reapers are used to harvest mature grain crops while mowers cut the crop while it is green, requiring a sharper cutting instrument. Some machines, however, have been designed to perform both types of cutting. Before mowing machines were invented, grasses had to be cut manually while wet--a laborious task completed by teams of men using scythes.

Peter Gaillard of Lancaster, Pennsylvania, obtained the first patent on a mowing machine in 1812. However, his attempt to recreate the cutting action of the scythe proved unsuccessful. In 1822, Jeremiah Bailey of Chester County, Pennsylvania, patented a mower which had a revolving circular scythe set horizontally a few inches above the ground.

In 1831, American William Manning invented a cutting arm with reciprocating toothed blades which was manufactured by Obed Hussey's farm machinery company beginning in 1850. This cutting arm, or bar, is still used today. Another mower appearing in 1831, patented by American Cyrenus Wheeler, was designed to cut close to the ground without clogging or damaging the sod. As with many other types of machinery, the internal combustion engine was added to mowers in the early 1900s, making them self-propelled.

Modern mowing machines fall into three categories. First is the *reciprocating cutting bar*, a side-mounted bar added to a tractor for local cutting. The length of the bar is limited to five or six feet to reduce the chance of striking hard objects and to minimize clogging. Second, there are *flail mowers*, consisting of free-swinging knives, or flails. The grass is bent forward by an overhanging bar and is then undercut by the blades. Finally, *impact-type cutters* use a single fixed blade to cut material that is rigid enough to oppose the cutting element. After cutting, the grass is raked and conditioned, or dried. It is then delivered to feeding troughs, storage bins, and silos.