

Care and Operation of the Separator in the Field

By J. H. M.

WE see a great deal of advice printed as to the running of the various makes of gas and kerosene engines and how to adjust and keep them in repair, but the running of the separator very seldom seems to be mentioned; although it has been the experience of the writer, that this end of a threshing outfit gives the most bother; for no matter how careful we are as to the sowing and harvesting of our crops, carelessness during threshing will neutralize to a great extent a whole season's care. A few remarks therefore as to the care and adjustment of the separator in the field, may be helpful to some person who is trying to get the best out of his machine.

In setting the separator to thresh, be sure that it is level sideways; it does not matter so much whether it is level endways, although it should not be too low in front, but be sure that it is level sideways at the rear end. Some makers attach so much importance to this point, that they put a spirit level on the machine in order that the operator can tell when it is level. The reason for this is, that the chaff will have a tendency to bunch on the low side, so that the wind blast cannot move it, consequently the grain will go over with the chaff and the other side will be comparatively bare, allowing the grain to be blown over. After the machine is set level to start with, watch it, as one wheel may sink lower than the other in a stubble field, allowing it to get out of level.

Coming to the feeder—one of the most abused parts of the machine—be sure that the knives are sharp, and do not allow bands to go to the cylinder uncut. This also is a very important point in the running of a machine, for it is expensive work cutting twines with the cylinder and concaves, especially when using a gas engine. The knives should be sharpened before the start of the season, and at least once in the middle of the season, it being a good practice to carry a spare set of knives with you, so that they can be put on in a short time, while the other set is sent away to be sharpened. The governors of the feeder should be set to feed as regularly as possible, and the pitchers cautioned to pitch properly, for irregular feeding is one of the greatest drawbacks to good threshing, and it is impossible for any machine no matter how well designed or built, to do good work, if it is fed in this fashion—a big wad and then stop and run empty, and then another great wad, and so on over and over again, with the machine alternately under and over speeded.

The cylinder is the heart of the machine, and must be properly cared for. It must, in the first place, be kept properly balanced. If it is out of balance it will be impossible to keep it from getting endplay. To test for balance, make a chalk mark on cylinder and a mark on concaves, and rotate rapidly. If it stops at the same place often, it is out of balance. When putting in new teeth, be sure and put them in evenly all around the cylinder, for if too many are put in in one place they will help to throw it out of balance. After it is balanced test for endplay, allowing about $\frac{1}{8}$ inch. Take this up by adjusting boxings, care being taken to see that teeth center, as teeth not centering will cause one side of cylinder teeth to run too close to concave teeth, cracking grain; while the other side will run too far apart, letting unthreshed heads through.

In the adjustment of the concaves, it is found to be good practice, to use fewer teeth and keep concaves tight up, thus allowing cylinder teeth to keep concaves clean and act, as they were intended to act, as grates, also to prevent unthreshed heads getting through. It is also good policy to spread the rows of concave teeth in concaves, for if the rows of teeth are bunched the cylinder has a tendency to grab grain through too quickly. The idea to work on, is to keep the grain going through in a thin, even stream, and this system will use less power than if the grain is going through in wads.

The causes of cracking grain at the cylinder, a common occurrence when the wheat is large and the straw very dry, are: (1) Overspeeding. (2) Endplay. (3) Returning too much grain through the tailings. (4) Running empty by irregular feeding.

Be sure to keep cylinder running at the speed the maker has stenciled on the machine, although in tough grain a little faster does no harm and in very dry grain the machine can be run a little slower. The cylinder should be tested for endplay every day. Do not allow clicking teeth. The tailings should be examined periodically, and should consist of 90 per cent chaff and unthreshed heads. If too much grain is coming through, open the adjustable sieve a little. Do not allow grain to go through cylinder any more times than is necessary, as it is not safe until it is in the wagon box. Irregular feeding has been touched on previously, and should not be allowed; when cleaning up, slow machinery down.

The grates behind the cylinder should be raised up, when grain is tough, in order to allow beater to throw the straw back in a thin,

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