

## The "Guardian" of Your Cream Profits

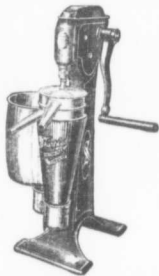
It is not a bell; nor a speedometer; nor muscle—it's the *suction-feed principle* of the Sharples Separator. Other separators do not have this basic advantage—that is why all sorts of make-shifts are adopted. These merely remind you that cream is being wasted—they don't remedy it. To get maximum cream profits you must *skim clean at any speed*—and there's *only one way to do it*—use a

# SHARPLES

## SUCTION-FEED CREAM SEPARATOR

Tests *prove* conclusively that 95% of all separators are turned under speed. As applied to the Sharples it does not matter—at 35 revolutions or at 55 revolutions *clean skimming is certain*. With any other separator (*no exceptions*) there is a constant waste of cream when turning under speed. This cream waste averages about 10 lbs. per cow per year, or the staggering total nationally of over 80,000,000 lbs.

Another big Sharples feature is the one piece bowl, *no discs to clean*. You get done quicker and feel in a better humor. Write for catalog. Address nearest office, Dept. 77



TORONTO, ONT. **The Sharples Separator Co.** REGINA, SASK.

Sharples Milkers—used on half a million cows daily

THE MITCHELL & McCREGOR HARDWARE CO., Brandon, Man.

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## MORE WORK FROM YOUR HORSES

The use of collar pads is humane. Again, your horses will do more work if properly protected by the right kind of pad. TAPATCO is the right kind.

### A NEW AND BETTER HOOK ATTACHMENT

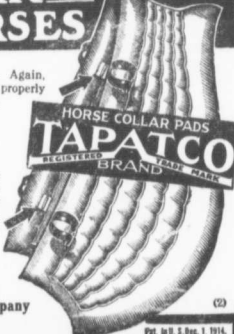
Consisting of wire staple, reinforces with felt washer (note where arrows point). This gives the hooks a better hold and prevents pulling off. The weakest point is made strong and life of pad greatly lengthened.

Look For The Felt Washer.

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The American Pad & Textile Company

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Pat. No. 1,398,119, 1916.  
Pat. in Can. App. 1,918.

## Putting the Car in Working Shape

The Farmer Who Overhauls His Own Car Will Learn Much That Will be of Value to Him as a Driver—Leonard A. Blayne, Norfolk Co., Ont.

AS it is drawing near the time when we may safely venture out upon the roads with our old "speed wagons," one question presents itself to our minds—"What repairing or overhauling must I do before the machine is in good shape to run, and have I taken the proper precautions throughout the winter?" From personal experience I may say that one always feels the desire to have the car in perfect mechanical condition before commencing the season's run, not only because he wants that first spring sensation to be as exhilarating as any auto can make it, but also because, once started running, there are several small details apt to be neglected in the rush of the spring work.

### Overhauling the Motor.

Accordingly then, the first thought is for the power-plant of the car. The motor must be doing good work, or there is something amiss with the foundation of the car's performance. To begin with, the motor must be opened—the method varying with the different types—and the amount of carbon, and the condition of the valves must be noted. Keep one thing in mind, that is avoid mixing up any of the several parts in disassembling. You will find it handy to have numerous little receptacles for the smaller parts, keep them in groups as they are to be assembled. Another wise idea is to thoroughly wash each part in kerosene, to free it of any traces of carbon grease or dirt which might have accumulated thereon.

Either at this stage, or previous to starting to take down the motor, it is also necessary to drain and flush the crank case, especially if the bearings require tightening, and not only must this be done when overhauling but also, at least every 1,000 miles of driving, on account of the quantity of sediment which the best oils seem to contain. Speaking from experience, I know that this sediment exists in quantities which are almost incredible. The first time I removed the crank case from our car I found at least two tablespoonfuls settled around the lower parts such as in the bottom of the oil sump and below the oil-pump; and the oil we used had always been of strictly high quality. To the farmer, this draining the crank-case periodically does not represent any actual expense as the oil used in the oil makes an excellent machine oil, as its lubricating qualities are much in evidence, while the coal oil used to flush out the crank-case may be used indefinitely for washing the small parts, as mentioned above.

### Cleaning Out the Carbon.

With the crank case clean and empty, with the radiator removed, the cylinders opened, and the small parts removed, washed and atomized out of the way, the next step is to scrape the carbon from the combustion chamber and from the top of the piston, in short from any place where carbon may be found. When most of the carbon is scraped off, the judicious use of a fine emery cloth will be found a great help. Precautions must be taken to prevent any of the fine grit being left on any of the parts, as the result will be a disastrous scoring of the cylinder walls immediately upon re-assembly.

When the carbon has been removed the next step is to grind the valves, here the proper care must be used to keep the valves in their right places and to prevent any of the grinding compound from reaching the cylinder walls. After grinding the valves, a slight adjustment of the valve stems will sometimes be found necessary. As the valves are very closely related to

the intake and exhaust manifolds, it seems natural that they should next be inspected and cleaned, although the intake doors are generally accumulated much dirt of any kind.

### Loss of Power Through Muffler.

Directly connected with the exhaust pipe, the next consideration is the muffler which may be the seat of considerable loss of power owing to an over-amount of residue, especially if the car has been driven a long time. The only thing that can be done is to tap lightly all around the outside with a wooden mallet, to jar loose the carbon, which will all be blown out when the engine is started.

In direct relation, also come the carburetor and the other parts connected with it. While there may often be dust drawn into the air intake of the carburetor, it is wise to leave the carburetor alone unless it is giving trouble and then it should be put in the hands of some one who has had experience in such matters. However, the removable air-pipes may be cleaned and reassembled.

### Getting Adjusted.

This overhauling all takes time, but it has at least two good results—first, it gives the motorist a broader view of his car and makes him better acquainted with its various parts, a sort of comradeship. In the second place, he sees just exactly how the car is made up and he is certain to be more careful, more considerate in driving the car, and to look after it. For instance, to the most casual observer, one glance over the steering gear of any car, will show the wisdom of precaution in driving over rough roads, and in turning and street car tracks. Again, any man who has thoroughly examined the clutch, the transmission and the differential gearing of his car, will see the value of careful lubrication and the folly of jerking the car around by engaging the clutch with the engine racing—which, by the way, is a very good method of inviting repair bills.

In connection with tires much has been said and may be said, but in my opinion the main facts to bear in mind are these—(a) never cause the wheels to slip either by applying the brake or engaging the clutch too quickly. Nor drive too fast around corners; (b) keep tires inflated to full twenty pounds per inch cross-section; (c) test the tread, have the tires cleaned and painted the rim, and if the tires require it, insert retiners in them. At all times keep all cutters carefully vulcanized.

Another suggestion I would make is the use of a small can of aluminum paint about the motor, and just at the spring overhauling is the time to use it. The effect is marvellous. When the water pipes, the intake manifold and even all the entire cylinders are painted with it, it considerably changes the general appearance of the motor. The exhaust manifold had best be left black, however, as the paint soon burns off and sadly spoils the looks of it.

To sum up then, (1) So far as possible, keep the motor free from carbon, and keep the valves seated and adjusted properly. (2) Do not allow the cylinder-rod to remain in the crank-case long enough to permit any grit to accumulate, for this ruins the cylinder-walls and also the bearings. (3) Keep all moving parts well lubricated with the proper lubricant, but remember "enough is as good as a feast." (4) Always use judgment and consideration in the operation and care of a car, and always keep one ear open for "new noises" about the machine. (5) Put the motto—"Eliminate the repair bills" second only to "Safety first."

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