

irregular firing, the trouble not being confined to any one cylinder. A flat cam roller may cause every cylinder in the engine to miss, one at a time.

A dirty distributor or one covered with a deposit of carbon dust from the wear of the brush will sometimes cause the cylinders to receive the spark at the wrong time, causing the engine to stop suddenly, or knock heavily at intervals. Clean the carbon dust out of the distributor with a cloth moistened with gasoline.

After several years of service, the magnets may become weak and require remagnetizing. The magnets will generally last two or three years before remagnetizing is necessary, and often much longer than that. The magnetizing should be performed by the makers or by a man that makes magneto repairs a specialty. Weakening magnets do not cause sudden stoppages as a rule, but cause a gradual decrease in the power of the engine, with increasing misfires at low speeds, and they also become evident through increasing difficulty in starting the engine.

A broken or defective "stopping" switch may cause the engine to stop suddenly by short circuiting the primary current. See that the switch is in the proper position when starting the engine. Be sure that the ground connection is clean and tight between the magneto and engine frame. Imperfect ground will cause an open circuit.

See that there is no "back lash" or lost motion in the gears that drive the magneto, as this results in bad timing. A loose gear or driving pinion may stop engine completely, as many a missing key that originally held the gear on the driving shaft. The magnets sometimes loosen on the magneto frame, and cause a poor spark. Tightening the magneto screws will remedy this trouble.

Dead engine, starting troubles, misfiring with loud reports at the end of exhaust pipe, and sudden stopping of engine can usually be traced to the ignition system. Continuous heavy pounding may be caused either by the ignition being too far advanced or to preignition. Try the effects of slowly retarding the ignition. If this does not reduce the pounding, cut out ignition altogether by means of the switch, with the throttle open. If the engine continues to run without spark, still pounding away, the trouble is due to preignition. Pour a little kerosene into the spark plug hole or a little turpentine and let stand for a while. This treatment may loosen the carbon deposit that causes the trouble. If this does not remedy the trouble, the inside of the combustion chamber and the top of piston must be scraped free from the carbon scale.—From "Gas Engine Troubles and Installation."

Care of Storage Batteries.

1. Keep voltage above 1.8 at all times. While batteries should not be discharged below the point where the voltmeter registers 1.8, they should not be recharged oftener than necessary. The maker generally specifies a fixed voltage (usually 1.9) to which the battery should discharge before recharging is started.
2. Do not handle cells roughly or subject them to excessive vibration.
3. Keep the solution above the tops of the plates.
4. Do not short-circuit cells, or draw a greater current from them than specified in the maker's directions.
5. Do not charge cells faster or with a greater current than specified by the makers.
6. Be sure that the charging current travels through the cells in the direction opposite to that furnished by the cell when discharging.
7. Begin recharging a battery as soon as discharged.
8. Open vents when charging.
9. Remove plates from jar occasionally, and clean out any sediment that may collect in the bottom.
10. See that no white deposit or "sulphate" covers the active material on the plates.
11. When plates are removed from the electrolyte make inspection as rapidly as possible, not keeping the plates exposed to the action of the air any longer than absolutely necessary, as the air rapidly oxidizes the spongy lead.
12. Note the color of the plates. If they show lighter than at the time of a former inspection, they should be treated for "sulphating."
13. Give the batteries an over-charge about once every month, not oftener.
14. Incessant over-chargings waste current and loosen the active material.
15. Cut off charging current when negative plates "boil" or give off quantities of gas.
16. Keep the specific gravity of the electrolyte at the point specified by the makers.
17. Be sure that the separators are in place between the plates, and remedy short circuits that are caused by loose active material bridging the plates or by buckled plates coming into contact with one another.
18. Keep the temperature of the cells below 100 degrees F.
19. Repair any leaks of the electrolyte from the jar at once.
20. Keep the cells insulated from each other and from the ground. Keep the jars and insulation dry.
21. Be sure that nothing drops into the electrolyte, and that the water and acid are as pure as can be obtained.
22. Do not use an ammeter for testing cells of storage batteries.
23. Test cells frequently with voltmeter. A sudden drop in the voltage may be caused by sulphating.
24. Cells that are to stand idle for a considerable time should have the electrolyte removed and replaced with distilled water.

26. Clean terminals, wires and connections frequently, that are used on storage batteries. Corroded connections often are the cause of open circuits. Paint with paraffine.

27. Loss of capacity may be caused by insufficient electrolyte, by dirt in the bottom of the cell, by sulphating, by short circuits in or between the cells, by shedding of the active material, by excessive heat or cold, by impure electrolyte, and by contraction of the spongy lead.

28. Be sure that plates have not broken loose from the battery terminals. Look over battery connection lugs (lead) occasionally, as the lead joints often break and open the circuit.—From "Gas Engine Troubles and Installation."

Commoners Discuss Standardization of Implement Parts.

Late in May the Committee on Agriculture and Colonization of the Dominion House of Commons raised and discussed the question of standardization of farm implements, particularly repair parts most commonly required. The subject was first introduced at a meeting by A. B. McCoig, Kent, Ont., who moved, seconded by S. F. Glass, East Middlesex, that the matter be taken up at a regular meeting of the Committee. Readers will perhaps be familiar with the fact that at the last annual meeting of the Ontario Association of Fall Fairs and Exhibitions and of the Nova Scotia Farmers' Association this subject was discussed and some reform approved of. Every farmer at least is familiar with the great disadvantage he faces as a purchaser in having to put up with the high cost of repair parts and the difficulty in obtaining them quickly.

At the beginning of the meeting referred to Mr. McCoig was asked by R. C. Henders, Chairman to

are required, for instance, for the dyke grasses of the Maritime Provinces than for the prairie grasses; and the European countries require a lower cutter bar than do the prairie provinces because European farmers are more particular about saving all of the straw. However, the speaker stated that manufacturers want to put out as many of one type as possible because increase in volume for each type lessens the cost of distribution. He had never heard of standardizing repair parts and thought the logical thing would be to standardize types before attempting to standardize repair parts and believed this impracticable except by law. To standardize parts it would be necessary to discard patterns, jigs and dyes and to make some changes in other parts than those standardized. He agreed, however, that it would be quite feasible to standardize certain parts but was not prepared to say how far this could go. It was quite obvious in his opinion, that if manufacturers have to carry large stacks of repair parts for all different sizes, types and kinds of machines the cost of distribution and therefore the purchase price to the consumer is higher than would otherwise be the case.

Chairman Henders mentioned standardization of the width of binder canvasses and standardization of bolts, which for many makes of machines are not now threaded alike. Jno. Harold, Brant, recalled the great advantage to manufacturer and farmer of the amalgamation of the Harris, Massey and Patterson concerns in 1902, through which elimination of many types of farm implements was secured. He pointed out also that through the work of the Conservation Commission of the War Industries' Board in the United States 287 patterns of rubber tires had been reduced to 3 and that stoves were reduced 50 per cent. and agricultural implements 40 per cent. during the war. Since the war United States manufacturers have asked the Government to continue the existence of some body of this nature. J. W. Edwards, Frontenac, thought action in this matter should come from this committee

but reiterated the opinions of other speakers that no move should be made that would put a damper on the initiative and inventiveness of manufacturers. The little things that could be easily standardized were the most troublesome to the farmer.

Dr. J. H. Grisdale, Deputy Minister of Agriculture was present, and was asked to speak. He stated that the matter has been attracting the attention of the Department of Agriculture for some time and that the Dominion Experimental Farms system was very much interested in the matter in as much as they were probably about the largest users of farm implements in the Dominion. He could see no reason why standardization could not be easily accomplished with many small articles and

mentioned binder chains, carriers and blower pipes. An investigation has been started on all the experimental farms to determine the wear and tear on different parts of implements and on different soils. He said he expected to secure some results in four or five years.

S. F. Glass made a motion which was seconded by J. W. Edwards and carried that a committee consisting of Messrs. Henders, McCoig, MacNutt (Saltcoats), Best (Dufferin), Harold, Kay (Missisquoi), and Dr. Grisdale, be appointed to draw up a resolution and report at the next meeting of the Committee.

THE DAIRY.

Parturient Trouble in Cows.

Parturient Paresis or Parturient Apoplexy—Commonly Called "Milk Fever."

This is a disease peculiar to cows. Its nature and pathology are not thoroughly understood. Many theories as to the cause, the condition of the internal organs during the disease, the manner in which treatment effects a cure, etc., are and have been, advanced, but no person has yet been able to prove his theory correct. A post mortem of an animal that has died of the disease without complications does not reveal anything definite.

Cows that are heavy milkers, or in gross condition, or both are more liable to an attack than others, but cases have been noticed in animals under mostly all conditions, except that there are no cases on record of it occurring following the first calf and very rarely the second.

Symptoms.—The first symptoms are usually noticed from about 6 to 48 hours after parturition, but cases have been known to develop shortly before or during the act, while on the other hand it may occur several days after the act. In fact cases, the symptoms of which are identical with those of this disease, and which yield to the same treatment are occasionally noticed in cows during the period of lactation. This still further



Rower (Imp.)

This bull, now owned by John Pringle, London, Ont., is the sire of Rower's Draconis, which recently won the Theatre Cup, the most coveted prize on the Island of Jersey.

introduce the subject, which he did very intelligently from his knowledge of the implement business. The speaker referred to the great necessity and advantage to Canada of increased production secured as economically as possible. It is admitted that under present conditions the use of agricultural implements is not nearly as economical for the purchaser as it could be were there some standardization of repair parts effected. Many machines are thrown away after a few years' use, said Mr. McCoig, because some small repair parts are no longer obtainable and the machine rendered useless. He spoke of cutter bar sections, guards, and ledger plates on mowers and binders, rake teeth, cultivator teeth, plow points and wagon arms and nuts, as being in great need of standardization and urged that this would not only benefit the farmer but the implement manufacturer as well who would be in a much more favorable position on foreign markets if he could point out that all these parts on machinery of Canadian manufacture were interchangeable.

Col. Arthurs, Parry Sound, said that one of the best examples of the need for this improvement occurred in connection with the Canadian Expeditionary Forces during the war. A great number of wagons of Canadian manufacture were taken to England for war purposes but found quite useless, simply because the parts were not interchangeable. Consequently, it was necessary to use the less serviceable and inferior English wagon because it did not possess this handicap. He favored standardization of type as well as wearable and easily breakable parts and claimed that thousands of dollars are thrown away every year on this account. The manager of one of the implement companies was called upon to speak for the manufacturers and this gentleman stated that the agricultural implement business is the outgrowth of many years development. Instancing Quebec he stated that 18 or 20 different wagons are demanded by purchasers in various sections of the Province. In the Maritime Provinces also when the large manufacturers of wagons first sought a market there, they had to meet the demand for many types of wagons first established by the small wagon shops that formerly were to be found in every small village. Moreover, different cutter bars

confuses n
hese case
"Parturi

The fir
of the fee
dilation of
pearance o
condition)
conditions
and strong
The temp
unless com
mismomer,
justified in
Sometimes
She more
and will li
to regain h
again, and
partial or
will assum
limbs, hea
upon the s
muzzle res
be straight
back to th
impression
of that side
the flank
marked de
When com
to anything
motion. I
fact that
almost non
stertorous.

Preventi
and invest
natures, it
to preven
depends up
full for ab
to feed lig
nature is a
are in high
disease are
but takes
practically
allowed to
cases bette
dry in the
for any rea
should be c
be drawn
for at least
understood
there are e
be apparent
a smart c
disease ne
sometimes

Curative
cow loses t
not noticea
by the mou
the larynx
If sufficien
the cow wi
less quanti
which usual
cases does
be made to
it is necess
action, but
veterinaria

We have
the disease
tends to cu

So far a
to make li
so long as
gland may
oxygen gas
plan. The
appear in c

The ude
fluid as a
ticipies or
all the mi
inflation.
under the u
which the
infected i
introduced
into the qu
good pract
prevent esc
this way:
even in c
revives suff
filled in v

It is go
every 1/2 h
is usually
hours infla
not be infl
hour. The
hours after
every 4 or
be milked
up to 48 h
quantities o

Oxygen
as it is pu