labor cost, the prices o tractors are bound to advance, in fact, they should be sold higher right now and would be were it not for the fact that manufacturers are afraid of each other's competition.

Kerosene is the most logical and most economical fuel. The farmer who buys a tractor that is guaranteed to burn kerosene is showing a spirit of patriotism not only that, but he is showing a streak of wisdom, because gasoline is liable to be needed for the war and may be restricted in its use. There are tractors on the market that are guaranteed to handle kerosene successfully, economically and satisfactorily.

When the farmer makes a purchase of a tractor he should immediately receive the manufacturer's instruction book and study it carefully. He should avail himself of the opportunity of attending the tractor schools. Then when his tractor arrives at the railway station, during the time it is being delivered to him and run to his farm, it should be carefully handled, watched and studied; no bearings should be allowed to wear; careful examination should be made at short periods to see that everything is running properly; after it is delivered to the farmer, he should continue to familiarize himself with every piece and part, both design of construction and mode of operation. Tractors will stand an overload of 20 to 25 per cent. for a few minutes, covering such conditions as plowing through a hard spot, disking over a hill, or pulling a tree or stump. It should not be expected to work at the utmost capacity continuously.

My advice to the beginner in running a tractor is to take it carefully; any unusual sound, knocking, pounding or rattling should be the signal for the wise operator to stop and determine what is the matter before causing serious damage to his tractor. The wise operator pays attention to these signals and if he is unable to locate and remedy the difficulty, he calls for assistance for he knows that if he should persist indefinitely he will encounter serious trouble. If the operator could understand these unusual noises to be the scolding and cussing of the machine because it had an operator who did not understand his business or was neglecting to tighten up bolts or make adjustments or put some oil in a certain bearing, he would be more prompt to act.

Tractors should not be forced to work a certain way because that work has heretofore been accomplished by horses in such a manner. Do work with a tractor the tractor way. Use care in laying out the field that is to be plowed, for instance. Leave a margin of 30 to 40 feet around the edge for turning space. After the center is plowed out, then plow around the field and plow out this margin that was left for turning space. Study the science of laying out the field and the art of plowing it with a tractor in a booklet furnished by the company from which you purchase the tractor.

The operation of a tractor is very simple and easy to understand; it is simply a matter of study and practice. Ingersoll became a great orator by careful study and practice; that is true of any undertaking in life. The man who gives study and practice to attain an undertaking is the man who makes the greatest success. The tractor is an agricultural implement and it performs efficiently just in proportion to the amount of efficient handling it receives from the operator. The ignition apparatus is perhaps the most delicate part of a tractor's construction. My advice to a tractor owner is first to carefully examine the ignition apparatus; do it intelligently, it only takes a few seconds. Don't go to making adjustments of carburetor, governor, air tension value and various other things before you are sure you have located the trouble. Any farmer with ordinary intelligence can take the direction book and in thirty minutes familiarize himself with the essential elements of a magneto. There is nothing hard or complicated to understand about a modern tractor.

They have a slogan down in some county in Missouri which goes something like this: "Make an effort to get acquainted with your neighbor—you might like him." I think this applies to the tractor—the farmer should make an effort to get acquainted with it—he might like it.

The country is calling for more food production. The prices are ranging high. The farmer is being offered through the tractor the means of more than doubling his output and the boys are going to the war. The boys are compelled to take a course of strenuous training for the job they have in hand. Is it asking too much, under the circumstances, that the farmer study the advantages of the tractor and when he adopts it, that he give a little time and attention to the matter of learning how to operate it in the most successful and efficient manner, being assured that if he does he will receive a handsome reward in the form of profits.

G. E. BARTHOLOMEW.

Tools For The Road.

It is perfect folly to attempt to operate a motor car any distance from your home if you are not properly equipped with those tools and accessories which may become indispensable at any moment. City people can always step to a telephone and call a garage, but the farmer must depend upon himself. It is all right to say that you have been motoring for a certain length of time or over a large mileage without having any difficulty on the road, but the time is bound to come when you will find it necessary to open up your tool-kit. If the proper instrument is not ready to hand you are going to suffer inconvenience.

Every new automobile carries a kit with the purchase price. It consists of those things which are most generally useful. There is always a small set of nut wrenches and a punch, a tire pump, an auto jack and handle, tire repair outfit, hub cap wrench, starting crank, spark plug wrench, valve cage wrench, demountable rim wrench, oil can, oil funnel, oil gun, extra spark plug, trouble lamp cord assembly, and instruction books. This collection will encompass nearly all your requirements but there are other important ones which they cannot handle. We would suggest that you also carry some socket wrenches. Files are likewise very valuable for a number of different uses, and do not forget a cotter pin puller. Nothing is more exasperating than to have to devise some awkward way in which to remove a cotter pin. You will find a hundred or more opportunities for the use of a brace and screwdriver bit. A valve lifter frequently comes in handy and a blow-torch is not only valuable for mechanical purposes but useful in drying out wood for a fire on a wet night or after a rain storm and for heating water, tea, milk, etc. The purposes to which an offset screw driver and a rivet hole punch may be put do not require a great deal of emphasis. Perhaps you will fail to find it necessary to carry a spring leaf spreader but it is just as well to have one along as it does not take up much room. A hydrometer syringe is not an essential on a short trip because if your battery is properly looked after at regular intervals the specific gravity should not drop to any danger point in a short time. If you are going on a long tour, however, the hydrometer will relieve you of a lot of worry. Wheel pullers are carried by some motorists but we cannot see their value. In other words we do not believe that the trouble of packing them around is ever repaid. We would recommend a goodly supply of cotter pins, washers and nuts and some pieces of sand and emery paper. They will prove advantageous and almost indispensable in many instances. Do not forget some grease, clean oil, and also distilled water for the battery. A small ball of string and some wire are good things to have about. With a short length of soft wire you can often overcome a difficulty that nothing else will alleviate, and electric tape is valuable on many occasions.

Very few motorists ever go out in the winter without at least a pair of chains for the rear wheels. Their idea is to prevent skidding and to make travel as safe as possible. You should not forget, however, that certain country roads contain mud holes that remain wet and sloppy throughout most of the summer. If you should slip into one of these, chains are about the best life-savers you can have. There are a number of devices that will take their place, however, should you get into a boggy spot and find yourself without them. Pieces of rope tied around the tires, or an old sweater coat generally provide the wheel with enough gripping power to pull it up on to hard land. We always advise automobile people to carry a small hatchet. With it boughs and pieces of wood can be cut and put under the tires and across soft places in the highway. A hatchet is also indispensable for making a fire. Most good accessory houses now carry a short handled spade that fits very neatly into your tool box under the front seat. It is bent only slightly and consequently requires a very small amount of space. You will find it invaluable in digging your rear wheels out of difficulty. Another contrivance that is practically indispensable is a spot light, not one of those expensive windshield rigs but just a little hand flash light. If you have difficulty with your motor at night it is madness to strike matches and it also takes a certain amount of time to have your trouble light cord assembled. With a little flash you can quickly make any preliminary investigation that may be necessary. These small electric lights are also handy in locating signs, notices, etc., along the road. This is a time in the world's history when expenses should be kept down but we do not think that you will ever regret the few dollars spent on extra tool kit equipment for they will repay themselves may times over if you happen to be one of those individuals who occasionally have small troubles while touring.

AUTO.

THE DAIRY.

Eastern Dairy School Examination Results.

In order to obtain a pass and thus qualify for a diploma by successfully managing a creamery or cheese factory for the six months following, students are required to obtain a minimum of 33% on each subject with a total of 45% on the whole. Those obtaining a total of over 60% and under 75% are granted 2nd Class and those obtaining 75% and over 1st Class.

Ranked in order of merit the successful students are as follows:

1st Class.— W. O. Gardiner, Kemptville; C. Chambers, Hoards; H. Derby, Ettyville; H. Green, Queensboro; E. Trueax, Bonville; L. A. Lindsay, Osgoode Station.

2nd Class.—A. Sauve, St. Rapael West; F. Lesarge, Arnprior; D. A. Harris, Russell; L. E. Davis, Bellamys; A. McConnell, Merrickville; J. C. Davis, Bellamys; F. Wright, Westport; Thos. M. Johnston, Campbellford; G. D. Dier, Westport.

Pass.—C. Buro, Mille Roches; J. Cross, Harold; Fred Schinnik, Bancroft.

Noted Ayrshire Cow Died Recently.

The Ayrshire breed has lost one of its greatest representatives in the death of Jean Armour 3rd, a daughter of that famous cow, Jean Armour, whose death was reported some months ago. Jean Armour 3rd early showed signs of having inherited her mother's ability to produce the lactic fluid. On official test, as a two-year-old, she gave 14,987 lbs. of milk and 599.91 lbs. of fat; as a senior three-year-old she made a world's record of 21,938 lbs. of milk and 859.35 lbs. of fat. Ayrshire breeders were looking forward to this particular cow making still greater records and possibly holding the world's record for all breeds.

O. A. C. Dairy School Examinations.

There were two new features in the Dairy School work for 1918,—the Farm Dairy Course was one of four weeks, instead of twelve weeks as formerly, and there were no examinations at the close of the term for Farm Dairy Students; the second new feature was that of prizes given for judging dairy cattle, for the manufacture of butter and cheese, and bottling milk for city trade; and prizes for proficiency standing in the factory class.

There was no course this year for Dairy Instructors its place being taken by the Dairy Conference.

The registration by Courses was as follows: Factory Course, 24, of whom 21 wrote on the final examinations; Farm Dairy, 8; Cow-testing, 26; Ice-Cream and Soft Cheese, 3. Total, 61.

The Proficiency List for Factory Class is as follows:

(Maximum 1,200.)

1. Muma, 996; 2, Stothers, 988; 3, Richards, 946; 4, Smith, 935; 5, Kerslake, 885; 6, Sinclair, 876; 7, Fairweather, 873; 8, Armstrong, 856; 9, Kauffman, 842; 10, Coombs, 802; 11, Helmuth, 787; 12, Lown, 784; 13, Scott, 759; 14, Roth, 745; 15, Gilbert, 696; 16, Pearson, 654; 17, Quirrie, 641; 18, Brown, 635; 19, Coon, 629; 20, Mott, 591; 21, Hicknell, 529*.

* Will be required to pass supplemental examinations in Miscellaneous and Bacteriology.

The Proficiency List for Cow-testing is as follows:

(Maximum 200.)

1, G. E. Raithby, 184; 2, A. B. Browne, 181; 3, M. G. Gibson, 178; 4, T. C. Richards, 167; 5, E. G. Kerslake, 162; 6, S. A. Stewart, 162; 7, J. C. Barrigar, 162; 8, W. Craddock, 156; 9, W. Matthews, 152; 10, A. Gray, 149; 11, H. G. Jones, 147; 12, S. G. Collier, 147 13, L. Holliday, 147; 14, A. E. Gilbert, 145; 15, J. Finegan, 143; 16, L. Hemingway, 142; 17, R. Peel, 141; 18, H. W. Lennox, 141; 19, R. Davis, 134; 20, W. Penny, 131; 21, G. G. Holmes, 127; 22, C. J. Coon, 126; 23, J. H. Adams, 123; 24, K. Slacer, 122; 25, W. E. Mott, 121; 26, J. H. Marshall, 115.

The following is list of prize-winners in judging:

Ayrshire Cattle.—1, E. Armstrong, Tavistock; 2, E. G. Kerslake, Hampton; 3, P. Pearson, Belton.

Holsteins.—1, W. Scott, Wiarton; 2, T. J. Brown, Mimico; 3, W. J. Fairweather, Guelph.

Jerseys.—1, A. B. Browne, Milton; 2, E. Raithby, Auburn; 3, B. Quirrie, Delaware.

Making Butter.—1, C. Lown, Port Dover; 2, A. H. Coombs, Simcoe; 3, W. Scott, Wiarton.

Making Cheese.—1, C. Sinclair, Bright; 2, M. Muma, and E. E. Armstrong; 3, P. Pearson, Belton.

Bottling Milk.—1, W. Roth, New Hamburg; 2, W. Smith, Kitchener; 3, I. F. Stothers, Lucknow.

Proficiency.—1, M. Muma; 2, I. E. Stothers; 3, T. C. Richards, Glencairn.

Why Not Oleo?

The following open letter was recently addresed to Sir Geo. Foster, Hon. T. A. Crerar, and also to some of our leading agricultural papers:

We note that the Government is concerned, and rightly so, at the present time, with the trade balance against us in the U. S. A. and the high rate of exchange. If our daily newspapers are correct, it is proposed to adjust, or at least partially adjust, this trade balance, by prohibiting the importation of automobiles, boots and shoes, patent medicines, rubber tires, etc. Might we suggest that you add to this list Oleomargarine? If our town people spent their money in buying real Canadian butter instead of sending across the lines for an imitation it would surely help this trade balance. Every pound of Oleo bought from our good neighbors to the south means that money must be sent there to pay for this. Even if that pound of Oleo is manufactured in Canada money must be sent to the U. S. A. to buy a large portion of the ingredients that go to make up the pound of Oleo. If our citizens would buy real Canadian butter this money would be sent to the rural parts of Canada. This looks like good patriotic business.

Might I ask permission to publish your reply in the same agricultural papers in which this letter is published?

Thanking you for this courtesy,

I am,

Yours respectfully,

(Signed) MACK ROBERTSON,

Pres. Belleville Creamery Limited.

The Dairy Produce Commission Starts Work.

The Initial meeting of the Dairy Produce Commission was held recently at the offices of the old Cheese Commission, which organization the new Commission is to replace. Both the personnel and the scope of the Commission for 1918 are as follows:

The Chair of the Allied Provisions Export Commission, New York, or his Deputy, A. J. Mills; Jas. Alexander of Montreal; J. A. Ruddick, Dairy Commissioner, Ottawa; Jas. W. Robertson, Representing the Canada Food Board; Jas. Donaldson, President, Dairymen's Association of Western Ontario, Atwood, Ont., and A. Gerin, of Coaticook, Que., representing the producers.

In 1917 the Cheese Commission represented the