you may get out of your difficulty in the following manner: Take the magneto in one hand and determine by rotation where the points of resistance are and mark them. Then set your engine so that the igniter has just tripped; then place your magneto on its resistance position and put it in mesh with the gears, and you are right.

There are still a few friction drive magnetos in use, so a few words about them and the method of placing them in position might be well mentioned here. The magneto should rest on a firm foundation with the friction wheel touching the flywheel just hard enough to cause it to rotate at the proper speed to produce the spark. You will notice a little governor of some kind on the armature shaft which allows the friction wheel to slip when a certain speed is reached. This is to prevent the burning out of the armature. A magneto should never be fastened to a flywheel so that it can not get away when the speed gets too high for it. If it is, you will be in the market for a new magneto.

There is still another magneto which is so unique in its construction as to constitute a class by itself, which we will call the oscillating magneto. Its working give it its name. It consists of a frame, magnets, armature, a wire to the stationary electrode and a finger on the end of the rotor, which corresponds to the armature of the other type of magnetos, to give it the little oscillating motion which is all the motion it needs. The strong points of this magneto are that it will give as hot a spark as when it is running 500 revolutions per minute. It is also arranged so that it operates only when a spark is desired. It is operated by springs. The igniter rod rotates it as far as it is to go in one direction, when it slips off and the springs return it to the rest position, the movement by the spring producing the spark, so you can see that it will work just as quickly at slow as high speed. This magneto is very efficient in starting the engine and requires no batteries whatever. It is very durable, being injured only by over-lubricating and the wear in the bearings. Too much oil will short-circuit it, and if the bearings wear until the rotor touches the magnets at any place this will also put it out of business.—J. L. Hobbs, in American Blacksmith.

Delicately Put

"I do hope you appreciate that in marrying my daughter you marry a large-hearted girl?"

"I do, sir! And I hope she inherits those qualities from her father."—Passing Show.

Advise Use of Best Oils Only

Many a man has been surprised to be told that he saws his whiskers off. Yet this is exactly what he does when he shaves. Examination of the edge of a well sharpened razor, under the microscope, shows not a smooth edge, as was once supposed, but a series of more or less regular teeth. "This saw-tooth edge," says E. R. Gross, of the Colorado Agricultural College, "is the junction between the two surfaces of the blade and cannot be avoided."

"If this is the condition on a highly polished razor blade," continues Mr. Gross, "what enormous hills and valleys must one expect to find on the surface of the ordinary polished bearings used in machinery and motors. These rough surfaces, rubbing together, produce friction, which reduces the efficiency of any machine. Roller or ball bearings overcome friction to a considerable extent, but there are places where they cannot be used. In these cases oil takes their place. Oil actually works very much like ball bearings, the two sliding surfaces rolling over little globules.

"Just as in the case of ball bearings, the little globules of oil finally become 'chipped' so that they no longer roll easily. When this time comes it must be renewed. Oil that has become black from use has left only a small percentage of its lubricating qualities.

"The best grades of oil are most resistant to the destructive agents, heat, friction and wear, which causes it to deteriorate. For most uses, a cheap grade of oil costs more in the end than a good grade. Even the best grade must occasionally be replaced. Probably the hardest task oil is called upon to perform is to lubricate the piston and cylinder of an engine which are exposed to the intense heat of burning gases. For this purpose the oil cannot be too good."

The Stingy Thing

Lysander, a New York State farmhand, was telling his troubles to a neighbor, and among other things said that the wife of the farmer who employed him was "too darned close for any use."

"This very morning," said he, "she said to me, 'Lysander, do you know how many pancakes you have et this morning?" I said, 'No, ma'am, I aint had no occasion to count 'em.' 'Well,' said she, 'that last one was the twenty-sixth.' And it made me so dodgasted mad I jest got up from the table and went to work without my breakfast."—Exchange.