

The Thresherman's Question Drawer

Answers to Correspondents

P.A.Y. Q. About how **LASHAM**, much lead must a **SASK.** valve have?

2. Which is the more economical and will give better results, a valve set with an equal lead and an equal cut-off or with an unequal lead and an equal cut-off, and why?

A. One-thirty-second of an inch is usually the right amount of lead for the average size traction engine.

2 There will be very little difference in the economy of either way, but the equal cut-off will give better results, and will give a uniform sound to the exhaust, which is desirable.

P.R. Q. My engine **SHELLBROOK**, makes a squeaking noise; it is either in the cylinder or in the guides. I can't tell which. The front of the upper guide is a little rough. the engine has been run two seasons. The man in charge of it the first season said the sight lubricator wouldn't work. There was plenty of oil went through the cylinder, but depended on the oilers on the steam chest. He would fill it and in about fifteen minutes it would be gone, and the engine would then run about half an hour without oil.

A. The best way to lubricate a cylinder, is to have the oil fed by drops continuously. If the engine continues to squeak after being oiled, this would indicate that the cylinder is out of line with the guides or that the crosshead is not properly adjusted, causing the piston rod to be forced out of center. Sometimes a squeak comes from the valve or valverod.

F.P. Q. How do you **CARDSTON**, figure the horsepower of a cylinder **ALTA.** I don't mean with the indicator but just knowing the dimensions, boiler pressure and piston speed.

2. How do you figure the safe working pressure on the walls of the fire box?

3. Is not an 11x11 cylinder stronger than a 10x12 under the same conditions?

4. Do both cylinders on the Reeves cross compound give the same power on the crank shaft? If not, what is the difference?

A. There is no exact way. You can make an estimate that is close enough for comparative results, but that is all. For non-condensing engines it is customary to take half the gauge pressure as the average working pressure for the whole stroke. This multiplied

by the area of the piston and the number of feet it travels in a minute will give you the number of foot pounds of work done. If this product be divided by 33,000 the quotient will be the horsepower.

2. The rule says: multiply the square of the thickness of the plate, express in sixteenths of an inch, by 112, and divide this result by the area supported by one stay bolt. The result will be the safe working pressure for plates up to 7-16 an inch in thickness. For plates thicker than this divide by 120 instead of 112. To illustrate: If the plate is 5-16 of an inch thick multiply 5x5x112 and divide by the area supported by the bolt. If the bolts are spaced 4x5 inches from center to center the area supported is 20 square inches, and this should be used as the divisor.

3. Under full steam pressure there is very little difference. At low steam pressure and a very early cut-off there may be considerable difference. A complete answer to your question would cover several pages.

A.R. Q. Do you think **BRESAYLOR**, a coal oil injector **SASK.** putting oil into the boiler at all times drop by drop while running is of any benefit?

2. Can you give me the address of any company from which I can get spring lock washers up to one inch or 1 1/4 inches?

3. Is there any cylinder oil that tests 725 fire test? How do they test it and how can one tell a good oil?

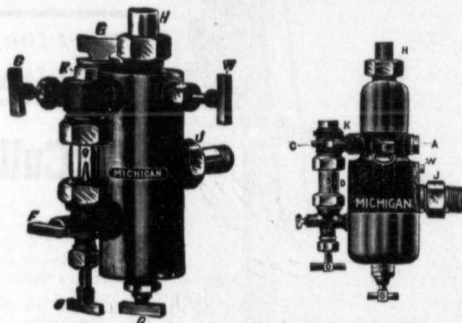
A. An injector such as you describe is sometimes used to keep scale from forming in the boiler. The action of the kerosene is to prevent the scale from sticking together and forming a hard crust. It has some objectionable features and is not generally recommended by engineers of good standing.

2. We do not recall the name of any company that manufactures washers of this kind, but your local hardware dealer can easily get what you want.

3. We have no records of tests that have gone as high as this, but we hardly think there are any steam cylinder oils made with such a high burning test, although it is possible that there may be some gas engine oils. Some of the mobile oils on the market show tests well above 600.

The test is made by heating the oil to a temperature at which the surface will take fire when a lighted taper is applied. The

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