

ENGINEMEN'S M.I.C. MOVEMENT

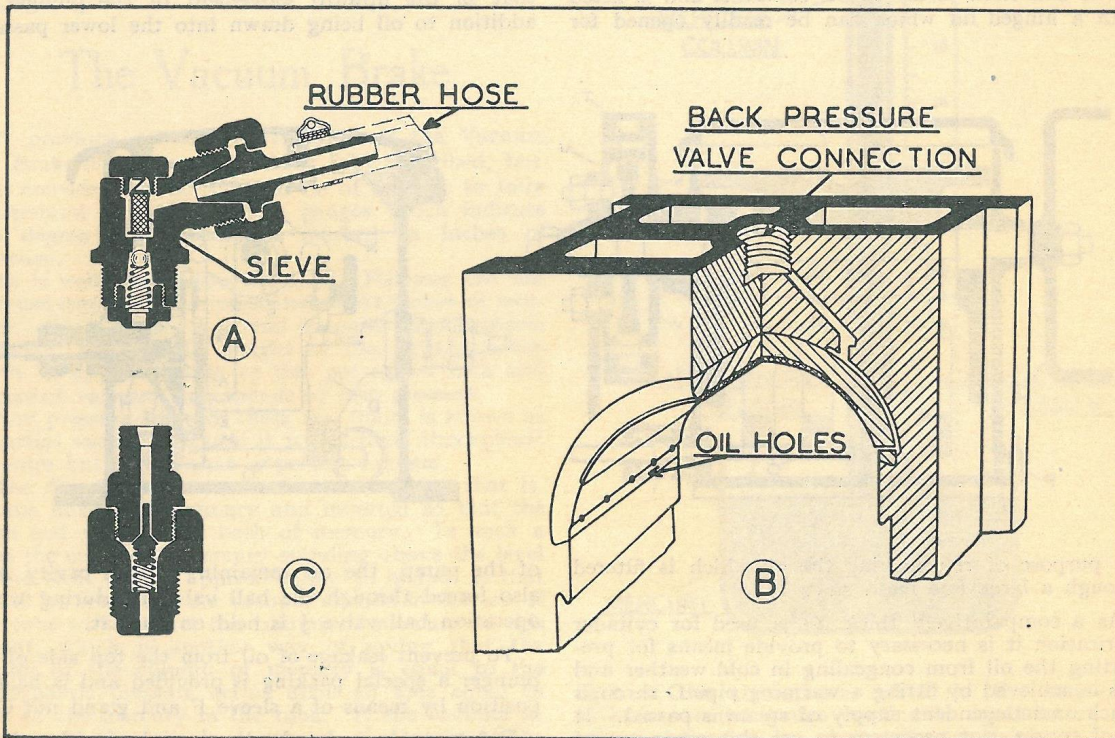
Mechanical Lubricators. Application of Mechanical Lubrication to Axleboxes and Cylinders

FOLLOWING a description of the mechanical lubricator which appeared in the July issue it is now proposed to describe how the oil is fed to the axleboxes and cylinders.

Each coupled axlebox is supplied with oil from a pump in the mechanical lubricator through a copper pipe clipped to the engine frame. It will be appreciated that owing to relative movement between the axlebox and the frame it would be unsatisfactory to couple a copper oil pipe directly to the axlebox.

As mentioned in the previous article, oil has to pass through two sieves before entering the oil system, but as an additional precaution to prevent foreign matter reaching the journal a further sieve is fitted in the back pressure valve.

In the older types of axlebox, the oil having passed through the back pressure valve is fed to the journal through passages and thence into channels cut in the crown of the box. The illustration "B" shows the method of applying oil to the journals in



This difficulty is, however, overcome by terminating the copper pipe in a union connection fixed rigidly to the frame at a point conveniently near the axlebox, the final connection being made with a short length of specially prepared armoured rubber hose.

Before the oil reaches the axlebox journal it has to pass firstly through an important fitting known as a back pressure valve (a) which is screwed into the top of the axlebox.

The function of the back pressure valve is to prevent oil leaking away from the main pipe line when the engine is not in motion, and to ensure that an immediate supply of lubricant is delivered when required. This is achieved by the provision of a spring loaded ball valve which is set to lift at approximately 50 lbs. per square inch. This pressure gives a satisfactory oil seal and at the same time is not detrimental to the rubber hose.

the latest design of axleboxes, and it will be seen that the crown of the box is not provided with grooves but that the oil passes through channels terminating in a number of small holes situated on either side of the box, but not in contact with the journal.

An earlier article described the application of atomised lubrication to piston valves, but where oil is delivered directly to the cylinders a back pressure valve is also provided. As there is no relative movement between the cylinders and the frames, the main supply pipe is coupled directly to the back pressure valve. The cylinder back pressure valve "C" is provided with a simple spring loaded mushroom valve instead of a ball valve.

Before commencing on a run it is the practice of the driver to give a few turns of the mechanical lubricator handle to ensure that the pipe lines are full of oil.