

SELF LAPPING BRAKE VALVE DETAILS

Operation ->
When the brake handle is moved to the right, the cam luts against the rocker arm, moving the rocker arm outwards, the exhaust valve spring being weaker than the inlet valve spring, the rocker arm bearing on the inlet valve as a fulcrum, compresses the exhaust valve spring, and forces the exhaust valve on its seat and moves the regulating piston out, increasing the tension on the regulating piston spring. The other end

Self lapping Brake "Type W"

The self lapping brake is used for straight air brake operation. Its function is to admit compressed air from the main res to the brake cylinder to apply the brake and maintain the air pressure in the brake cylinders, and from the brake cylinders to the atmosphere to release the brake.

The brake valve consists of a body in which is enclosed an exhaust valve and springs, embodied in a piston to which is attached a piston spring. The function of the exhaust valve is to exhaust the air from the brake cylinders, and the piston provides the self lapping feature.

An inlet valve and spring is provided to control compressed air from the main res to the brake cylinder. The inlet and exhaust valves are actuated by the rocker arm attached to a roller. The complete rocker assembly is actuated by the cam, when the brake valve handle is moved to the piston position.

Operation:

When the brake handle is moved to the right, the cam luts against the rocker arm, moving the rocker arm outwards, the exhaust valve spring being weaker than the inlet valve spring. The rocker arm bearing on the inlet valve as a fulcrum, compresses the exhaust valve spring, and forces the exhaust valve on its seat and moves the regulating piston out, increasing the tension on the regulating piston spring. The other end

The brake valve past the double check valve into the brake cylinders. Air also passes to chamber "A" and to the regulating piston head.

When the main Res pressure on the regulating piston head overcomes the tension of the regulating piston spring, the piston will move out reducing the pressure on the rocker arm caused by the exhaust valve stem, this permits the inlet valve spring, which is stronger than the exhaust valve spring to force the inlet valve on to its seat, cutting off the supply of main Res pressure to the brake cylinder, the other end of the rocker arm holds the exhaust valve on its seat. To increase the pressure in the brake cylinders the brake valve is moved further to the right, forcing the regulating piston out increasing the tension on the spring, keeping the exhaust valve on its seat and opening the inlet valve and permitting main Res pressure to pass to the brake cylinder and to chamber "A" and regulating piston head.

When the brake valve is placed to the emergency position, the cam forces the rocker arm out closing the exhaust valve, forcing the regulating piston out compressing the regulating spring until it reaches the adjustable stop.

The other end of the rocker arm opens the inlet valve permitting main reservoir pressure to pass through the brake valve, past the double valve to the brake cylinder, also to chamber "A" and regulating piston head. Also the regulating piston has reached

passes to chamber "A" and to the regulating piston head.

When the main Res pressure on the regulating piston head overcomes the tension of the regulating piston spring, the piston will move out removing the pressure on the rocker arm caused by the exhaust valve stem, this permits the inlet valve spring, which is stronger than the exhaust valve spring to force the inlet valve on to its seat, cutting off the supply of main Res pressure to the brake cylinder, the other end of the rocker arm holds the exhaust valve on its seat. To increase the pressure in the brake cylinders the brake valve is moved further to the right, forcing the regulating piston out increasing the tension on the spring, keeping the exhaust valve on its seat, and opening the inlet valve and permitting main Res pressure to pass to the brake cylinder and to chamber "A" and regulating piston head.

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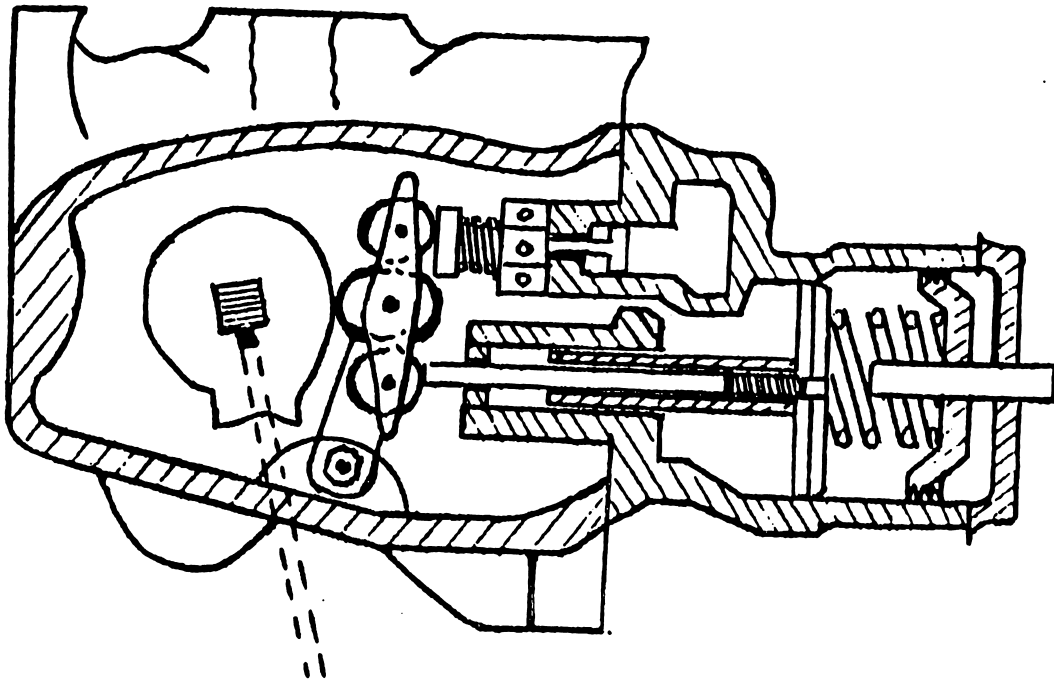
The other end of the rocker arm opens the inlet valve permitting main reservoir pressure to pass through the brake valve, past the double valve to the brake cylinder, also to chamber "A" and regulating piston head.

Also the regulating piston has reached the adjustable stop tension cannot be taken off the rocker arm, and the inlet valve is unable to rest.

Nº 3

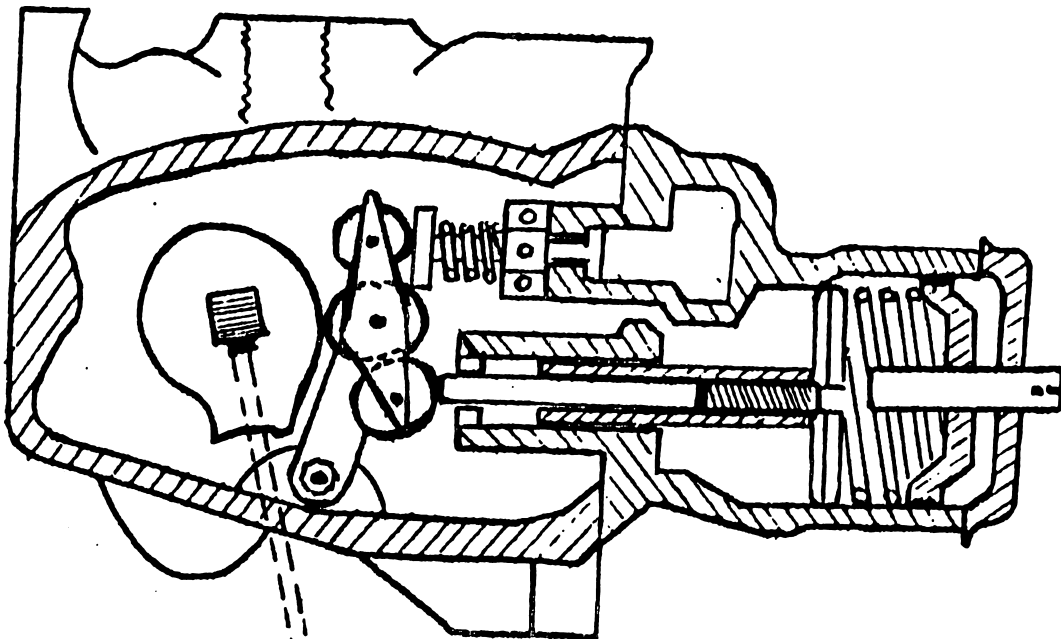
APPLIED

EXHAUST VALVE ASSEMBLY USED AS A FULCROM,
FORCING THE INLET VALVE OPEN.



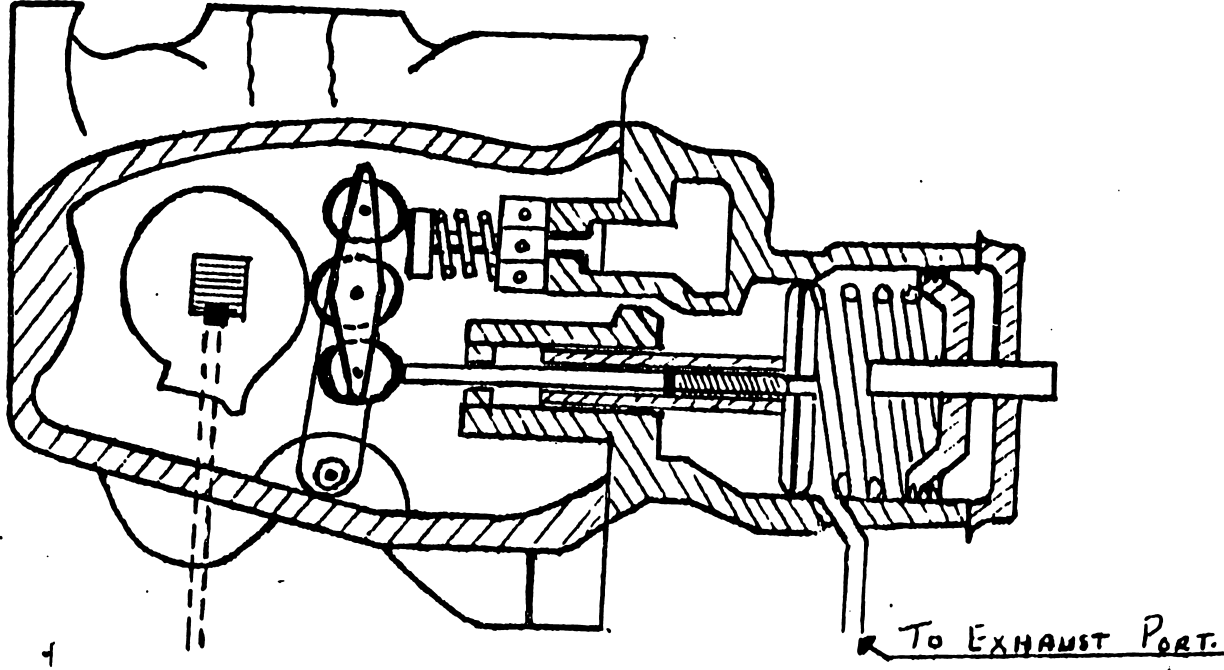
Nº 4 LAPPED

REGULATING PISTON MOVES OUT, REMOVING TENSION FROM
ROCKER ARM, ALLOWING INLET VALVE TO CLOSE. (ROCKER ARM
PIVOTS HOLDING EXHAUST VALVE ON ITS SEAT .



No 5 PARTIAL RELEASE

TENSION IS RELIEVED FROM THE ROCKER ARM, ALLOWING THE EXHAUST VALVE TO OPEN, THE REGULATING PISTON WILL MOVE IN, UNTIL IT COMPRESSES THE EXHAUST VALVE AGAINST THE ROCK ARM (USING THE INLET VALVE AS A FULCRUM).



Self lapper

Cont

A safety valve set at 55 lbs. and fitted to the brake cylinders prevents excess pressure in the brake pressure admitted to the brake cylinder.

Partial Release Position.

Move the brake valve towards the release position, the cam pressure is removed from the rocker arm, the exhaust valve spring will unseat the exhaust valve is permitted air from the brake cylinder and chamber "A" to pass to the atmosphere through the self lapping exhaust port, until such time as the regulating piston spring can force the regulating piston in, seating itself on the exhaust valve, closing communication between the brake cylinder, chamber "A" and atmosphere.

To fully release the brake, the brake valve handle is placed in the full released position. The cam pressure is removed from the rocker arm, the exhaust valve spring will force the exhaust valve to remain open, allowing brake cylinder pressure and pressure in chamber A to pass through the self lapping brake valve exhaust port to the atmosphere, the regulating spring forces the regulating piston in.

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To fully release the brake, the brake valve handle is placed in the full released position. The cam pressure is removed from the rocker arm, the exhaust valve spring will force the exhaust valve to remain open, allowing brake cylinder pressure and pressure in chamber A to pass through the self lapping brake valve exhaust port to the atmosphere, the regulating spring forces the regulating piston in.

N°2 FIRST MOVEMENT : —

EXHAUST VALVE CLOSES, FORCING
THE REGULATING PISTON OUT AGAINST THE SPRING TENSION

