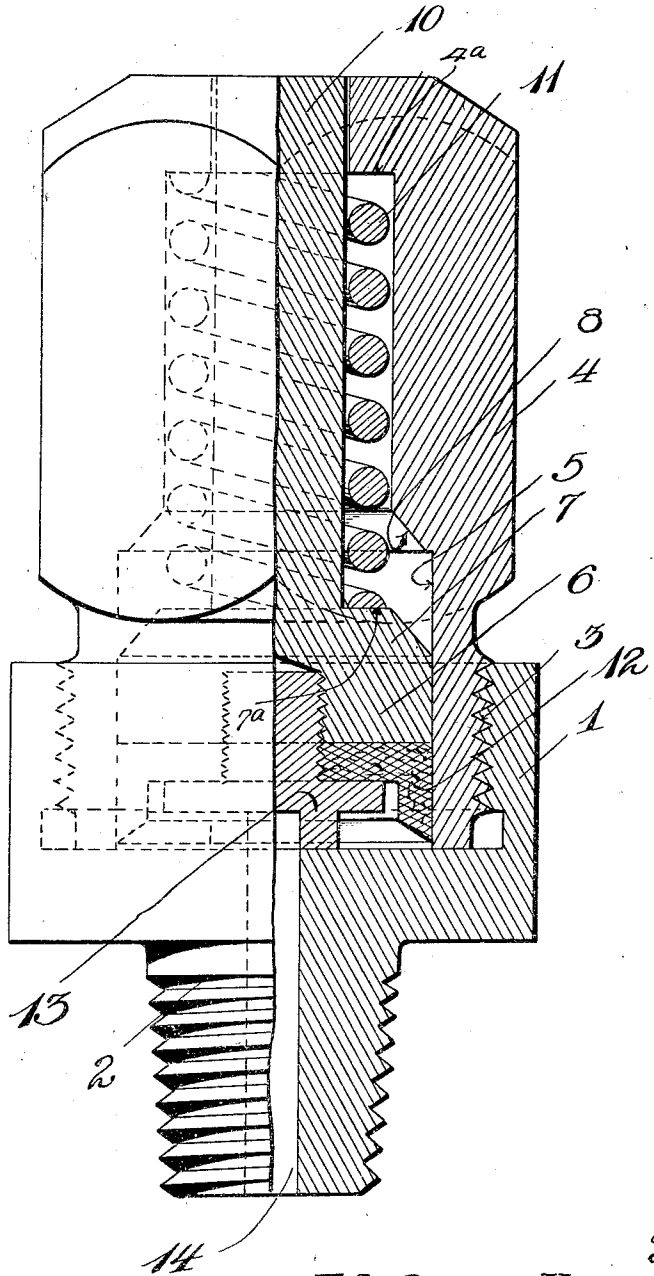
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F. A. GOODFELLOW

TELLTALE FOR MECHANICAL LUBRICATORS

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TELLTALE FOR MECHANICAL LUBRICATORS.

Application filed September 9, 1922. Serial No. 587,244.

To all whom it may concern:

Be it known that I, FRANK A. GOODFELLOW, citizen of the United States, residing at Altoona, in the county of Blair and State of Pennsylvania, have invented certain new and useful Improvements in Telltales for Mechanical Lubricators, of which the following is a specification.

This invention relates to improvements in telltales or indicators for mechanical lubricating systems and more particularly to small mechanical devices adapted to be associated with the lubricating systems of locomotives, for example, although it is, of course, to be understood from the following disclosure that it is applicable to various other types of systems as well.

In order that a clearer perception of the present invention may be had it will hereinafter be described particularly with relation to its application to that type of lubricating systems employed in locomotives for injecting a small amount of oil under relatively high pressure into the steam pipe leading to the cylinder for the purpose of lubricating the slide valve, piston rod, etc.

One of the objects of the present invention is to provide a simple, compact and self-contained device of the above character which may be easily and quickly applied to lubricating systems now in general use.

A further object is to provide a substantial, durable and strong device of the above character adapted to withstand the relatively high pressures exerted upon it and to positively prevent leakage of oil.

A further object is to provide a device of the above character having relatively few parts which may be inexpensively manufactured and assembled.

Other objects will be in part obvious and in part pointed out in the following disclosure. While the invention will hereinafter be described with reference to its application above stated, it is, of course, to be understood that without material modification it may be applied to other types of apparatus operating in a similar manner.

The invention accordingly consists of the features of construction, combination of parts, and the unique relation of the various members and to the relative proportioning and disposition thereof, all as more clearly outlined hereinafter.

To enable others skilled in the art to which this invention relates to so comprehend the underlying features thereof, that they may embody the same by numerous modifications in structure and relation contemplated by this invention, drawings depicting a preferred form have been annexed as illustrating one embodiment and forming part of this disclosure, in which there is shown partially in section and partially in elevation the complete device.

Referring now to this drawing in detail, 1 denotes a base member provided with a threaded nut 2, adapted to be screwed into a tapped out hole in the main pipe leading from the pump to the part to be lubricated. This base member is cup-shaped, as indicated, and has its interior wall threaded at 3 to receive a body member 4 recessed to provide a cylinder 5. Within this cylinder there is adapted to reciprocate a piston 6 having associated therewith a valve 7 adapted to coact with and seat upon a valve seat 8. The piston is provided with a stem 10 loosely mounted in the interior of the body member 4 and surrounded by a spiral spring 11 normally urging the piston downwardly, as shown in the drawings. This spring 11 engages shoulders 4^a and 7^a of the body and valve respectively and is purposely designed to offer resistance to movement of piston and stem until 35 pounds pressure is reached in the oil line. It has been ascertained on tests that if the pumps in this lubricator would build up 35 pounds pressure they would deliver oil at any pressure in excess of this amount. The underside of the piston is provided with a cup-shaped packing member 12 secured to the piston by means of a screw 13.

As seen from the drawing, the interior of the flange or shoulder of the packing member 12 is beveled to meet the outer bearing surface of the same, whereby, as pressure is exerted from the oil pump system to the underside of the shell packing member, the beveled portion of the packing being relatively weaker, is more sensitive to the pressure exerted and is forced into closer coaction with the walls of the cylinder, thereby minimizing the possibility of leakage.

It will be noted that the screw 13 is provided with a downwardly extending head which is adapted to engage the bottom of the base member 1 when the piston is down, thereby to prevent the edges of the packing member 12 from coming in contact with

the base and thus becoming mutilated. The set screw also has a laterally extending portion which closely approaches the interior surface of the cup-shaped packing member 12 which further holds it in shape and also tightly against the member 6 to which it is secured.

The base member is provided with an opening 14 adapted to communicate with the interior of the main conduit, whereby the fluid or oil will pass under pressure upwardly through the opening 14 and co-act with the underside of the piston to force the same upwardly against the action of the spring 11. As the piston moves upwardly the valve 7 co-acts with the seat 6 and positively prevents leakage of any oil into the upper part of the body member 4. The upper part of the stem is projected upwardly above the top of the member 4, whereby it may not only be easily seen but may be felt, as is frequently necessary when the device is being inspected at night.

Referring to the drawings, and to the above descriptions, it will be seen that this type of telltale is operated by the static pressure of the fluid in the oil pump system differing from the indicators and telltales now in use, of the type in which the fluid circulates under the pistons through inlet and outlet connections and in which the springs in a general way do not govern the lift of the pistons.

It will be understood that the oil passing to the cylinder is forced through the conduit under high pressure, that is, greater than the steam pressure within the cylinder, and than the pressure of the spring holding the check valve at the outlet nozzle closed. It sometimes happens, therefore, that the main supply pipe or the pump break down and were it not for the indicator or telltale above described the inspector or engineer would have way of knowing whether or not the oil was being properly fed to the part to be lubricated.

It is believed that the construction is clear from the above disclosure, as well as its operation in use. It is doubtless sufficient to state that the peculiar packing member 12 normally prevents leakage of oil past the cylinder as the piston is forced upwardly and this when supplemented by the valve 7 produces a substantially oil-tight construction.

It is thus seen that the present invention provides a simple, practical and reliable device well adapted to withstand the hard usage to which it is subjected, and designed to accomplish among others all of the objects and advantages hereinafter set forth.

I claim:

1. A telltale for mechanical lubricating systems, comprising a cylindrical body member, a base member having an oil pump communication to the interior of said body member, a piston adapted to reciprocate in said body member, a piston stem associated with said piston and adapted to extend outwardly of said body member when said piston is under pressure, a packing washer mounted on said piston, and a fastening means holding said packing washer in place having a lug extending below said packing washer and adapted to engage said base member to prevent mutilation of said washer.

2. A telltale for mechanical lubricating systems having a mounting body provided with a cylinder, a telltale piston operable in said cylinder, a washer carried by the piston and engaging the wall of the cylinder, fastening means securing the washer to the piston and extending inwardly beyond said surface to engage the adjacent end wall of the cylinder, said piston having a beveled valve seat and a shoulder extending inwardly therefrom, said body having a valve seat engageable by the first mentioned valve seat, a stem extending from said piston inwardly of said shoulder, said body being hollow about said stem and having a shoulder adjacent its outer end in line with the first mentioned shoulder, and a spring to control movement of the piston occupying said hollow and engaging said shoulders.

3. A telltale for mechanical lubricating systems having a mounting body provided with a cylinder, a telltale piston operable in said cylinder, a washer having a surface reduced substantially on an angle extending inwardly and away from the proximal end of the body and subject to the direct pressure within the system, a screw securing the washer to the piston and extending inwardly beyond said surface to engage the adjacent end wall of the cylinder, said piston having a beveled valve seat and a shoulder extending inwardly therefrom, said body having a valve seat engageable by the first mentioned valve seat, a stem extending from said piston inwardly of said shoulder, said body being hollow about said stem and having a shoulder adjacent its outer end in line with the first mentioned shoulder, and a spring to control movement of the piston occupying said hollow and engaging said shoulders.

In testimony whereof I affix my signature

FRANK A. GOODFELLOW