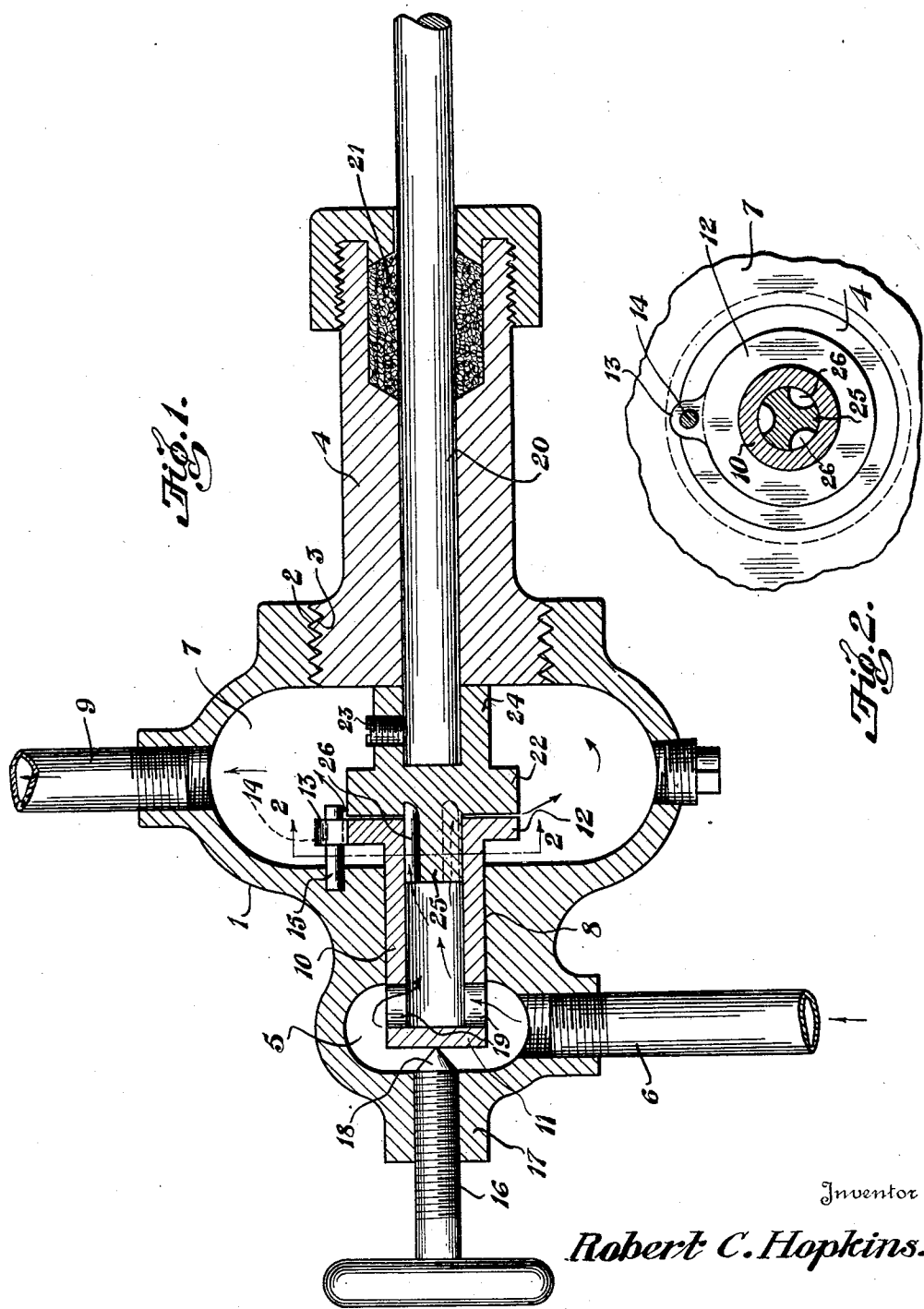


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OIL REGULATING DEVICE
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OIL-REGULATING DEVICE

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The invention relates to a device for regulating the flow of oil, under pressure, to a burner or the like; and the object of the improvement is to provide a device which regulates the amount of fuel passing through the same and provided with means for emulsifying or homogenizing the oil, in order to break up any sludge or heavy particles therein before it passes to the burner.

10 The above and ancillary objects may be attained by providing a chamber through which the oil is passed, under pressure, to the burner, all of the oil being forced between a pair of grinding disks, similar to mill stones, between which the sludge and heavy particles of the oil are broken up or emulsified, the device being especially adapted for use in connection with heavy oils.

20 An embodiment of the invention is illustrated in the accompanying drawing, in which

Figure 1 is a longitudinal sectional view through the improved regulating device, and

25 Figure 2, a transverse section on the line 2—2 of Figure 1.

Similar numerals of reference indicate corresponding parts throughout the drawing.

30 The device may be located within a housing 1 provided at one side with the internally threaded opening 2 for the connection of the enlarged threaded extremity 3 of the cylindrical bearing member 4.

35 A small chamber 5 is provided in the housing 1, communicating with the inlet pipe 6, through which oil under pressure is admitted to the chamber.

40 A larger chamber 7 is spaced from the chamber 5, the axial bore 8 connecting the two chambers. The oil is discharged from the chamber 7 through the pipe 9 which leads to the burner.

45 The non-rotary tube 10, provided with the closed outer end 11, has a sliding fit within the bore 8 and is provided at its inner end with the annular flange 12, which may be in the form of a mill stone or grinding disk. A lug 13 may be provided upon the flange 12, with an aperture 14 for receiving a stud 15, fixed in the side wall of the chamber 7.

50 An adjusting screw 16 is located through

the internally threaded boss 17, and provided with a conical end 18, for engagement with the closed end 11 of the tube 10, for axially adjusting said tube, while the pin 15 prevents rotation of the same. Openings 19 are provided near the outer end of the tube 10 to permit the incoming oil to pass into the tube.

A shaft 20 is journaled in the bearing member 4 and arranged to be continuously operated by any suitable power means, a packing gland 21 being provided at the end of the bearing member for preventing leakage of oil around the shaft.

55 The rotary grinding disk 22 may be fixed upon the inner end of the shaft 20, as by the set screw 23, the collar 24 upon said disk preventing outward movement of the shaft.

The disk 22 co-operates with the non-rotary disk 12 and is provided with the central hub 25, rotatably mounted within the inner end portion of the tube 10 and provided in its periphery with one or more grooves 26 through which all of the oil passing from the chamber 5, through the tube 10, is discharged between the grinding disks.

60 From the above it will be seen that the device acts not only as a valve to regulate the amount of oil passing to the burner, but since all of the oil is forced between the grinding disks, all sludge or heavy particles of the oil will be broken up or emulsified thus preventing the regulator or burner from becoming clogged or stopped up and assuring a continuous flow of oil to the burner.

I claim:

1. An oil regulating device including a housing, the housing including walls forming two chambers and a bore connecting the two chambers, an inlet for one of the chambers and an outlet for the second, a non-rotary tube located through said bore and having an annular flange thereon located in said second chamber, a rotary shaft journaled in the housing and having an end located within the second chamber, a grinding disk fixed to the end of the shaft within the second chamber cooperating with the annular flange, and a grooved hub on the disk journaled in the non-rotary tube whereby oil under pres-

sure admitted to one of the chambers will pass through the tube, along the grooved hub, and between the disk and flange where the same will be broken up and emulsified.

- 5 2. An oil regulating device including a housing, the housing including walls forming two chambers and a bore connecting the two chambers, an inlet for one of the chambers and an outlet for the second, a non-rotary
10 tube slidably located through said bore having a closed end located in said first chamber and having an annular flange located in said second chamber, there being an opening in the side wall of the tube adjacent the closed
15 end for communication between the first chamber and the interior of the tube, a rotary shaft journaled in the housing and having an end located within the second chamber, a grinding disk fixed to the end of the shaft
20 within the second chamber cooperating with the annular flange, a grooved hub on the disk located in the non-rotary tube, and adjustable means located through the housing engaging the closed end of the tube whereby the tube
25 may be slidably adjusted longitudinally within the bore.

In testimony that I claim the above, I have hereunto subscribed my name.

ROBT. C. HOPKINS.

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