April 6, 1926. 1,579,205

G. W. BLAKESLEY ET AL

OIL STRAINER

Filed Oct. 23, 1925

Fig. 1.

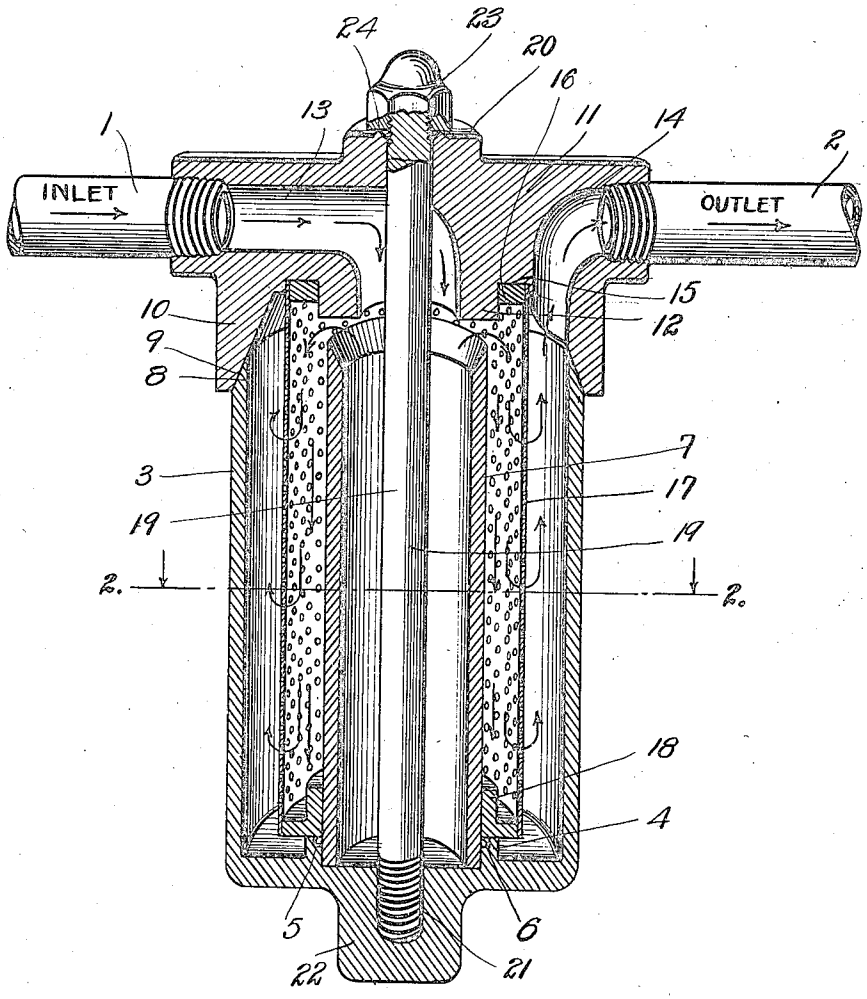
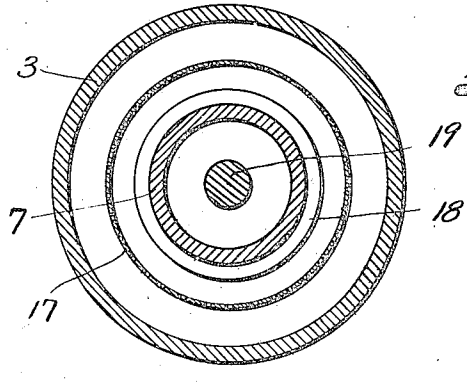


Fig. 2.



INVENTORS.
George W. Blakesley &
W. J. Hempy
BY Arthur A. Brown
ATTORNEY

Patented Apr. 6, 1926. 1,579,205

UNITED STATES PATENT OFFICE.

GEORGE W. BLAKESLEY AND WILBUR J. HEMPY, OF KANSAS CITY, MISSOURI, ASSIGNORS TO THE SECURITY STOVE AND MFG. CO., OF KANSAS CITY, MISSOURI, A CORPORATION OF MISSOURI.

OIL STRAINER.

Application filed October 23, 1925. Serial No. 64,335.

To all whom it may concern:

Be it known that we, GEORGE W. BLAKESLEY and WILBUR J. HEMPY, citizens of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Oil Strainers; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this application.

Our invention relates to strainers, and more particularly to a device of that character for use in connection with oil burners for separating water and sediment from the oil prior to its delivery to the burner, the principal object of the invention being to provide a strainer which will effect the desired separation, which can be easily cleaned and will not leak.

In accomplishing these objects we have provided improved details of structure, the preferred forms of which are illustrated in the accompanying drawings, wherein—

Fig. 1 is vertical, sectional perspective of a strainer embodying our improvements.

Fig. 2 is a transverse section on the line 2—2, Fig. 1.

Referring more in detail to the drawings:

1 and 2 designate sections of a supply pipe to an oil burner (not shown), spaced to permit interposition of a strainer therebetween to include the strainer in the flow line from supply tank to burner.

The strainer itself comprises a housing cup 3 preferably of cast metal and imperforate, as drain or petcocks are not employed in connection with it, both the intake and outlet being from the top of the cup, as presently described.

The cup is preferably cylindrical, and in its floor is a central upstanding flange 4 having an interior shoulder 5 at its upper edge forming a recess 6 for receiving foreign matter that might be scraped from the face of the cylinder when the latter is forced to its seat and might otherwise lodge on top of the flange and prevent proper seating of the screen (presently described).

Drive fitted into the flange 4, to be permanently retained in its seat, is a cylinder 7 which rises to about the height of the cup, and has an interiorly bevelled upper edge 8, the cylinder forming a sump into which raw oil is primarily delivered to permit settling of water or foreign matter contained within the oil.

The upper edge of the cup 3 is bevelled exteriorly to form the seat 9, and ground-fitted onto said seat is the depending flange 10 of a cap 11, the flange being bevelled oppositely to the cup 9 to properly fit the seat.

The cap 11 has a down-set central boss 12 terminating slightly above the mouth of the sump 7, and extending through the boss to the side of the cap is an elbow channel 13 having a threaded outer end for receiving the threaded end of the supply pipe section 1.

Also extending through the cap 11 is a second elbow channel 14 which communicates with the interior of the cup near the wall thereof and extends to the side of the cap, the outer end of the channel being threaded to receive the outlet section 2 of the oil supply pipe.

Upset into the bottom of the cap 11, about the boss 12, is a groove 15, adapted to snugly receive a ring 16 and the upper edge of a cylindrical screen 17 to which the ring is attached.

The cylindrical screen 17 is of such length as to extend from its seat in the cap groove to about the top of the ring flange 4 on the bottom of the housing cup, and is there provided with an interior collar 18, which is adapted to fit snugly but slidably against the sump cylinder 7.

The housing cup and its cap are held together by a bolt 19 which extends through a boss 20 on the top of the cap, through the vertical portion of the inlet channel 13 and through the sump into a threaded socket 21 in a boss 22 on the bottom of the cup, the bolt being provided with a cap nut 23 which is adapted to bear against a ring flange 24 on the top of the boss 20 to seal the cup to the cap and hold the parts together.

In assembling the strainer, the sump 7 is fitted into the housing cup, the screen 17 is slipped over the cylinder to its seat on the flange 4, and the bolt 19 threaded into the socket in the bottom of the cup. The cap 11 is then connected with the supply

pipe sections and the cup applied to the cap with the upper end of the screen and its ring 16 projected into the groove 15, the upper end of the bolt being projected through the aperture in the top of the cap. The nut 23 is then threaded onto the bolt to draw the cup up against its cap and seal the two together to form a liquid-tight vessel.

In operation, raw oil is fed through the inlet pipe 1 into the top of the sump, where the water and sediment sink to the bottom and the purer oil overflows into the chamber between the sump and screen. The oil then passes through the screen into the outer chamber, any impurities which have not settled in the sump being strained by the screen. The pure oil is then drawn out through the outlet pipe 2 and fed to the burner.

At intervals the strainer may be cleaned by separating the housing cup from the cap and emptying and washing out the sump and screen. To effect the separation of cup and cap, the nut 23 is removed and the cup lowered away from the cap, the sump, the screen and the bolt remaining with the cup. The screen may be removed from the cup by sliding the collar 18 along the outer wall of the sump so that the screen may be washed. After the parts have been cleaned they may be reassembled as before described.

It is apparent that in the manner described the impurities in the oil are effectually removed to provide a proper fuel oil and that the cup being imperforate, no means for leakage is afforded, as might be the case if the cup were provided with valves or petcocks for drainage of impurities or withdrawal of oil.

What we claim and desire to secure by Letters Patent is:—

1. In a strainer, a cap member having separate intake and outlet channels opening through its inner face, a cup member comprising a central sump having an open upper end beneath said intake channel and spaced from the cap member to permit overflow, a screen removably mounted on the sump and anchored to the cap member between the openings of the intake and outlet channels to retain it in spaced relation with both the cup and cap members, and means for sealing the cap and cup members together.

2. A strainer comprising a housing cup, a central sump seated on the bottom of the cup and rising to substantially the height of the cup, a cap fitting the top of the cup, a screen removably connected to the cap and having a spacing collar slidable on the sump, the cap having an inlet conduit leading to the sump and an outlet conduit leading from the space between the screen and the wall of the cup, and means for attaching the cup to the cap.

3. A strainer comprising a housing cup having an upstanding annular flange on its bottom, a sump cylinder anchored within the flange, a cap fitted onto the cup and spaced from the top of the sump, a screen removably connected with said cap and having a spacing collar slidable on the sump and forming separated chambers between the sump and the wall of the cup, the cap having an inlet conduit opening above the sump and an outlet conduit opening from the outer cup chamber, a bolt secured to the cup and extending through the sump and cap, and a nut on said bolt for drawing the cup to sealed relation with the cap.

4. A strainer comprising a cylindrical housing cup having a bevelled upper edge, a depending bottom boss and an upstanding annular flange on its bottom, a cylinder seated within said annular flange and having a bevelled upper edge, a cap having a depending flange bevelled on its inner face to fit the upper edge of the cup, having a boss spaced from the top of the sump and having an annular groove, a screen having a spacing collar on its lower edge slidable on the cylinder and having a ring on its upper edge projectable into the cap groove, the cap having an inlet conduit opening to the top of the cylinder and an outlet conduit opening from the cup exteriorly of the screen, a bolt threaded into the cup boss and extending through the cap, and a nut on said bolt engaging the cup to seal the parts together.

In testimony whereof we affx our signatures.

GEORGE W. BLAKESLEY.
WILBUR J. HEMPY.