Oct. 8, 1935. L. HYATT ET AL 2,016,832

VISIBLE OIL COMPARER

Filed Oct. 5, 1934 4 Sheets-Sheet 1

Fig. 3.

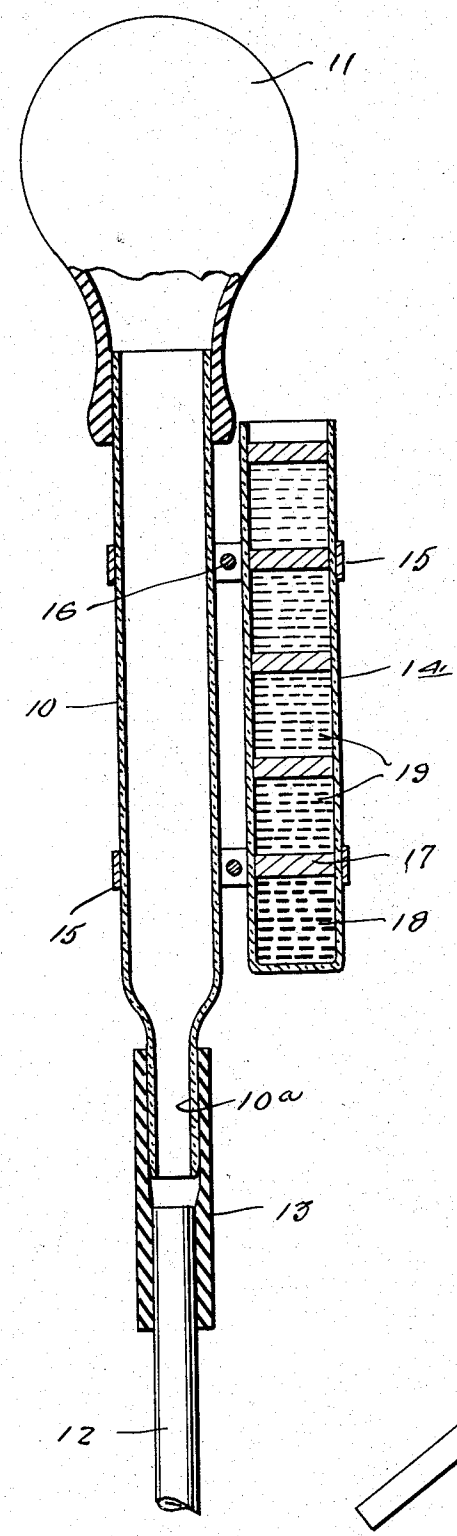
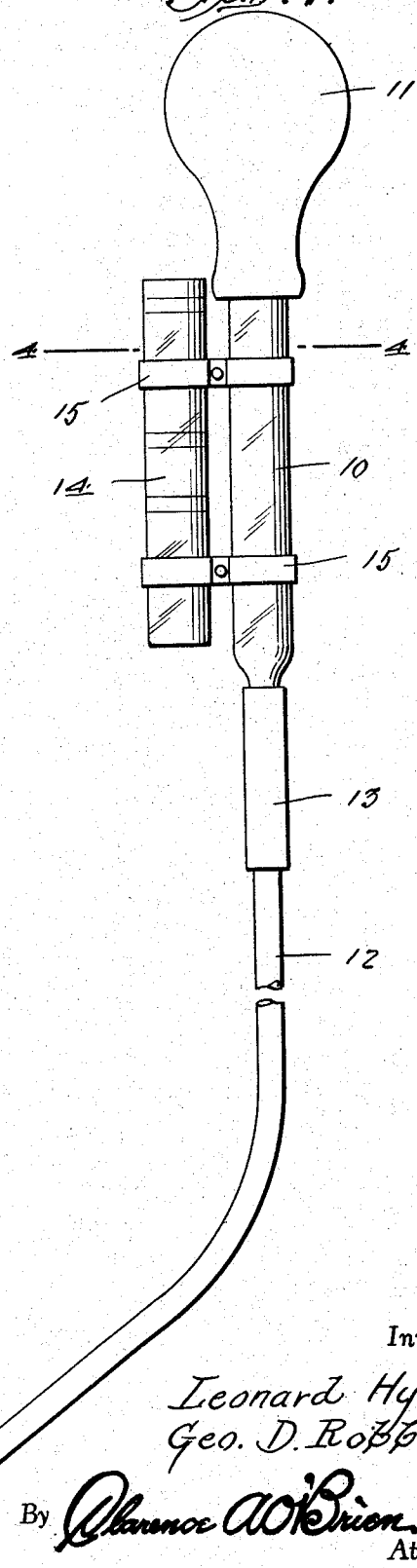


Fig. 1.



Inventors

Leonard Hyatt

Geo. D. Robbins

By Clarence A. O'Brien

Attorney

Oct. 8, 1935. L. HYATT ET AL 2,016,832

VISIBLE OIL COMPARER

Filed Oct. 5, 1934 4 Sheets-Sheet 2

Fig. 2.

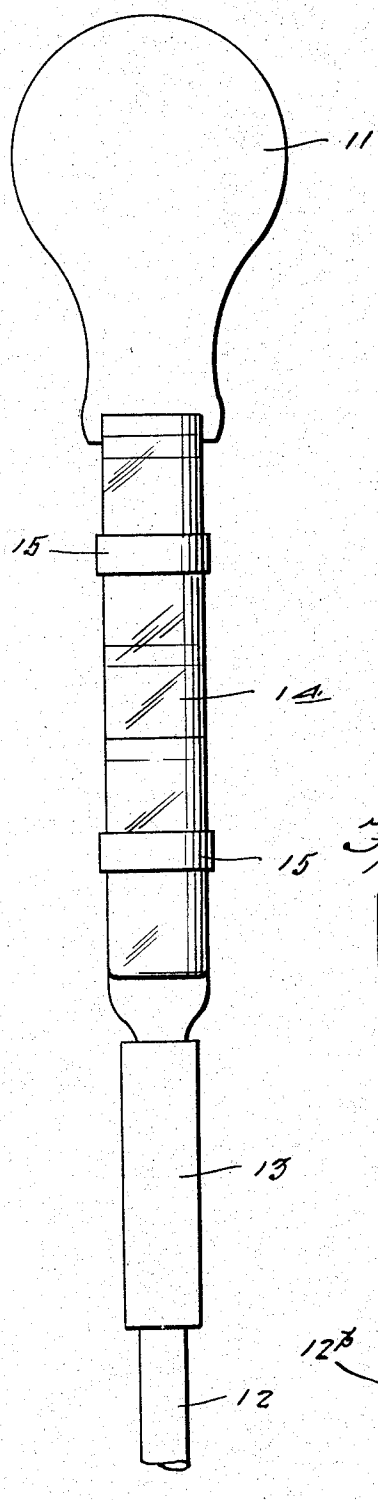


Fig. 4.

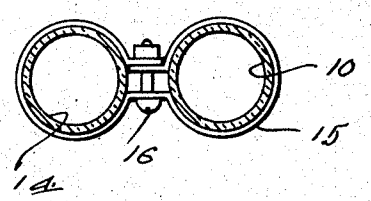
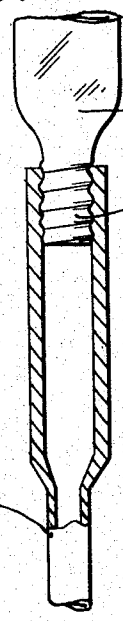


Fig. 5.



Fig. 9.



Inventors

Leonard Hyatt

Geo. D. Roppins

By Clarence O'Brien

Attorney

Oct. 8, 1935. L. HYATT ET AL 2,016,832

VISIBLE OIL COMPARER

Filed Oct. 5, 1934 4 Sheets-Sheet 3

Fig. 6.

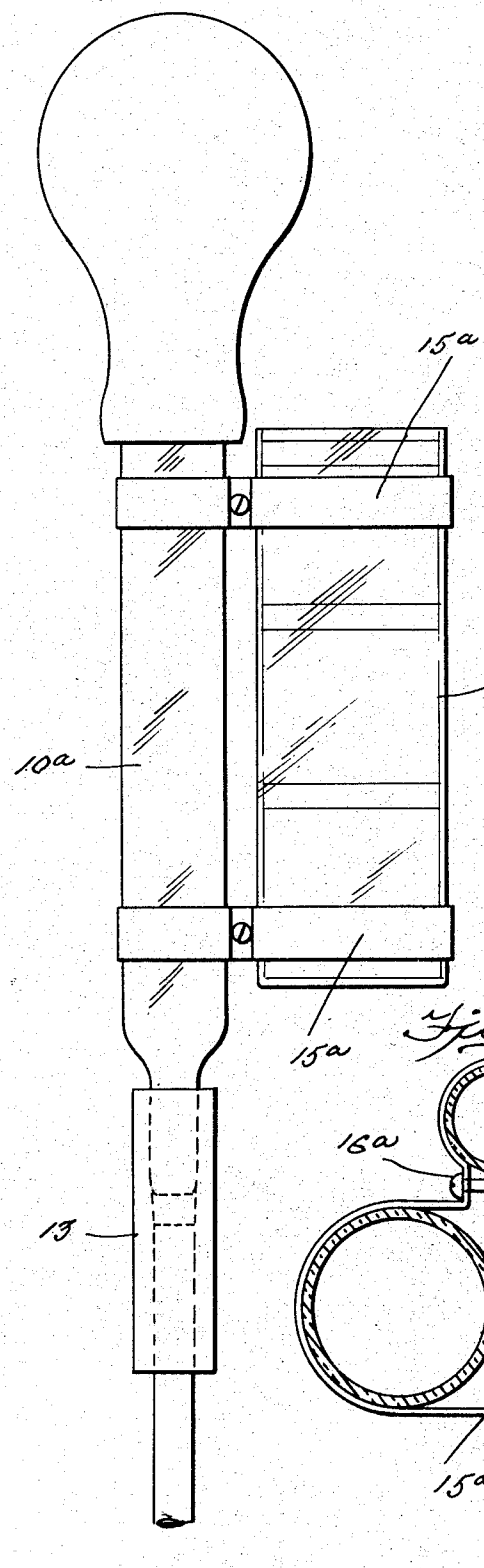


Fig. 7.

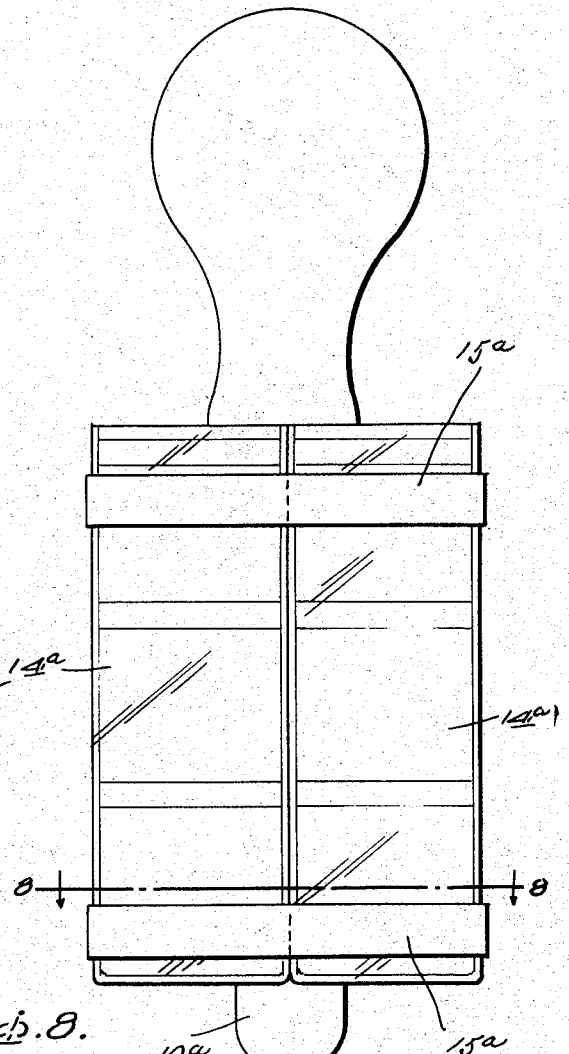
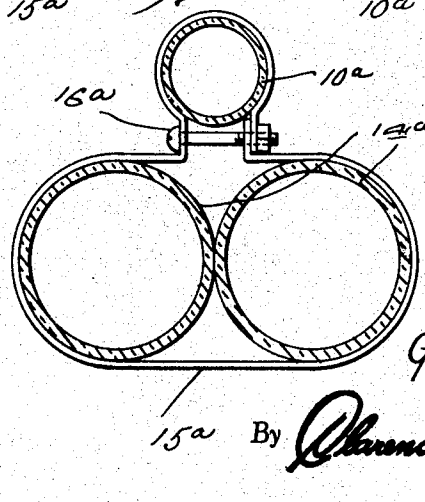


Fig. 8.



Inventor

Leonard Hyatt

Geo. D. Robbins

By Clarence A. O'Brien

Attorney

Oct. 8, 1935. L. HYATT ET AL 2,016,832

VISIBLE OIL COMPARER

Filed Oct. 5, 1934 4 Sheets-Sheet 4

Fig. 12

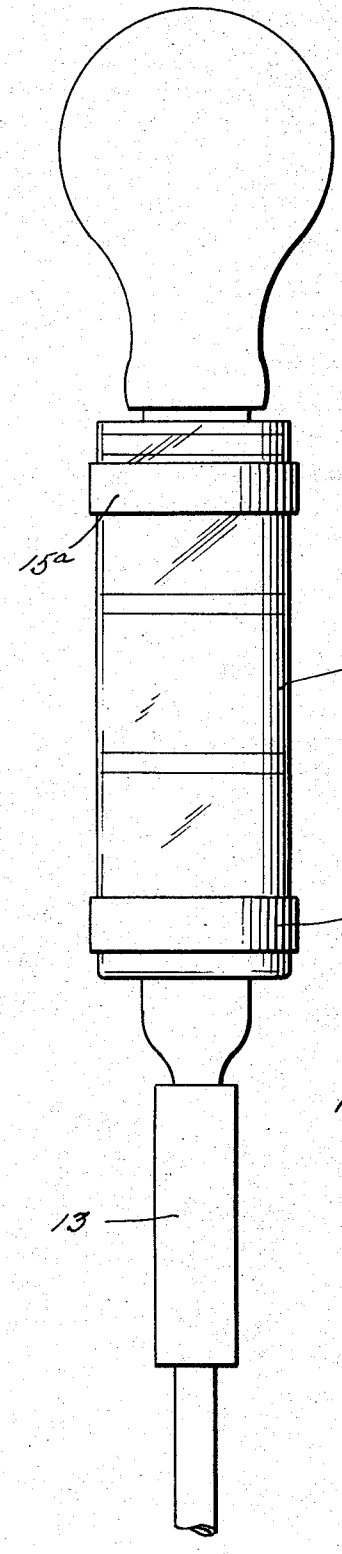


Fig. 13.

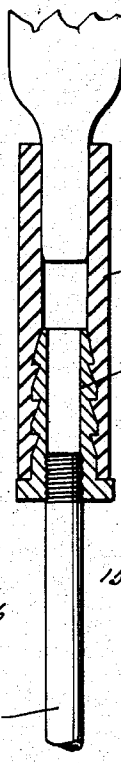
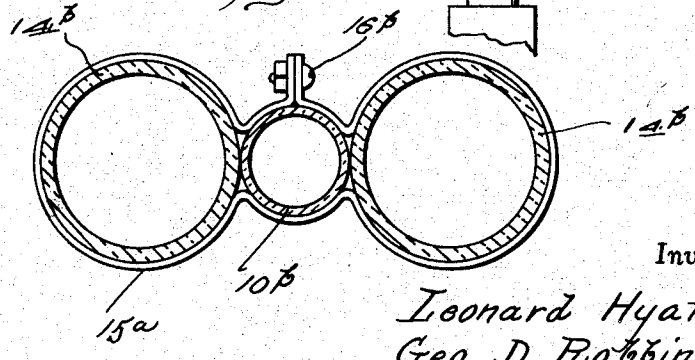


Fig. 10.

Fig. 11.



Inventors

Leonard Hyatt

Geo. D. Roppins

By Clarence A. O'Brien

Attorney

Patented Oct. 8, 1935 2,016,832

UNITED STATES PATENT OFFICE

2,016,832

VISIBLE OIL COMPARER

Leonard Hyatt and George Delbert Robbins,
San Antonio, Tex.

Application October 5, 1934, Serial No. 747,086

1 Claim. (Cl. 88—14)

This invention is a device through the medium of which the condition of the oil in the crank case may, by a garage or station attendant, be shown to a customer in a practical and visible manner.

The invention comprehends the provision of a device which, after removal of the oil level gauge with which internal combustion engines, used in automobiles, are equipped, a sufficient amount of oil may be drawn from the crank case and compared with clean oil and also compared with oil having more or less foreign matter therein in such a manner that the customer may readily see the condition of the oil in his crank case and determine the propriety of changing or replenishing the same.

The invention, together with its objects and advantages, will be best understood from a study of the following description, taken in connection with the accompanying drawings wherein:

Figure 1 is an elevational view of the device embodying the features of the present invention.

Figure 2 is a similar view taken at right angles to Figure 1.

Figure 3 is an enlarged detail sectional view through the device certain parts being shown in elevation.

Figure 4 is a sectional view taken substantially on the line 4—4 of Figure 1.

Figure 5 is a perspective view of a glass tube.

Figure 6 is a side elevational view of a second form of the invention.

Figure 7 is a front elevational view of the second form of the invention.

Figure 8 is a detail view taken substantially on the line 8—8 of Figure 7.

Figure 9 is a fragmentary detail view showing one manner of connecting one end of the bulb-equipped tube with a tube for insertion into the crankcase.

Figure 10 is a front elevational view of a third form of the invention.

Figure 11 is a detail view taken substantially on the line 11—11 of Figure 10.

Figure 12 is a side elevational view of the third form of the invention.

Figure 13 shows another form of connection between the bulb-equipped tube and the tube insertable into the crank case.

Referring to the drawings by reference numerals, it will be seen that the device comprises an elongated tube 10 of glass or other transparent material reduced in diameter at the end 10a thereof. A bulb 11 has the largest end of the tube 10 inserted in the neck of the bulb as clearly shown in Figure 3.

A tube 12 of a diameter substantially equal to the diameter of the end 10' of tube 10 is also provided and this tube 12 is bent as shown, and may be and preferably is metal, being adapted for insertion into the crank case after the usual oil level gauge has been removed. A coupling sleeve 13 of rubber receives therein the end 10' of the tube 10 and one end of the tube 12 in a manner to connect the tubes and as shown in Figure 3. The tube 13 may be of suitable flexible material, preferably rubber.

A tubular receptacle 14 of glass or other suitable material is secured to the tube 10 in spaced parallelism to the tube through the medium of clamps 15. The clamps 15 may be of any suitable construction, and in the present instance the clamps are each formed from a single strap of metal adapted to be disposed around the tube 10 and receptacle 14 with the ends of the straps connected together through the medium of a bolt 16 which also engages an intermediate portion of the strap in a manner to draw the encircling portions tight about the tube 10 and receptacle 14 as is thought apparent.

The receptacle 14 is divided into five sections through the medium of spacer disks 17 arranged therein as shown in Figure 3. In one of the sections, preferably the lowermost section, there is contained oil 18 which is unfit for use and which clearly shows the foreign matter therein. The remaining four sections formed by the disks 17 are filled with new or clean oil 19 of different grades and as shown in Figure 3.

In operation, when it is desired to compare the oil in the crank case with the oils 18 and 19 in the tube or receptacle 14, the usual oil level gauge is removed from the crank case after which the tube 12 is inserted into the crank case. By pressing on the bulb 11 to collapse the same and then releasing the bulb, obviously oil will be drawn from the crank case through the tube 12 into the sight tube 10. Upon removal of the tube 12 from the crank case, the oil drawn into the tube 10 may be readily compared with the oils 18 and 19 thus enabling the attendant as well as the customer to ascertain the condition of the oil in the crank case in a quick, efficient, and effective manner.

After such a test or comparison, the oil in the tube 10 may be returned to the crank case and the device cleansed with gasoline or other suitable fluid.

In the form of the invention shown in Figures

6 to 8 inclusive, and also in the form of the invention shown in Figures 10 to 12 inclusive, instead of using a single receptacle 14, two such receptacles are used. In the form of the invention shown in Figures 6 to 8 inclusive, these receptacles indicated by the reference numeral 14a are placed at one side of the tube 10a in intimate contact and are secured in position through the medium of spaced clamps 15a which, as shown, are each formed from a single strap of metal disposed about the receptacles 14a and the tube 10a in a manner clearly shown in Figure 8, with the ends of the straps connected together through the medium of a bolt 16a which also engages an intermediate portion of the strap in a manner to draw the encircling portions tight about the tube 10a and receptacles 14a in a manner thought apparent, the bolt 16a extending transversely through the tube 10a.

In the form of the invention shown in Figures 10 to 12 inclusive, the receptacles, indicated therein by the reference numerals 14b, are disposed at diametrically opposite sides of the tube 10b and are secured in position through the medium of spaced clamps 15a which are also constructed from strap metal, are disposed about the receptacles 14b and the tube 10b in a manner clearly shown in Figure 11 with the ends of the strap secured through the medium of a suitable bolt 16b.

The second and third forms of the invention will be usable at service stations which sell the oils of two or more separate companies.

If desired, instead of employing a metal tube, such as the tube 12 for insertion into the crank case, a rubber tube, pliable metal tube, or tube of any other suitable material may be used. Where, for example, a rubber tube such as indicated by the reference numeral 12b in Figure 9 is used, the reduced portion 10' of the bulb-equipped tube may be suitably equipped with threads 20 so as to provide an efficient connection between the bulb-equipped tube and the tube 12b, or its equivalent.

Also, if desired, and as shown in Figure 13, where a short rubber coupling such as the aforementioned coupling 13 is used, into the free end of the coupling may be inserted a suitable metallic nipple 21 provided at its outer end with internal threads into which may be screwed the threaded end of a tube 12c, and which tube, for insertion into the crank case, may be of rigid metal, and may be either straight or curved as found desirable and as required by the particular "make" automobile. Thus provision is made for the use of the instrument in testing or comparing the crank case oil in all makes of automobiles.

What is claimed is:

A device for comparing crank case oil with other oils comprising an elongated cylindrical transparent tube having its lower end reduced, a bulb connected with its upper end, a long tube connected with the reduced end and adapted to be inserted in a crank case, whereby by pressing upon the bulb and then releasing the same, crank case oil will be drawn into the first mentioned tube, said tubes being permanently open excepting the end of the first tube closed by the bulb, and an elongated transparent receptacle of less length than the first tube, spaced clamps connecting intermediate portions of the receptacle with the intermediate portions of the first tube with the bottom of the receptacle located above the lower end of the large part of the first tube, and spaced transversely extending partitions in the receptacle dividing the same into a plurality of chambers for receiving used lubricating oil and different grades of new lubricating oil, with which the crank case oil in the first mentioned tube is to be compared the used oil being placed in the lower chamber.

LEONARD HYATT.
GEORGE DELBERT ROBBINS.