

Oct. 8, 1929.

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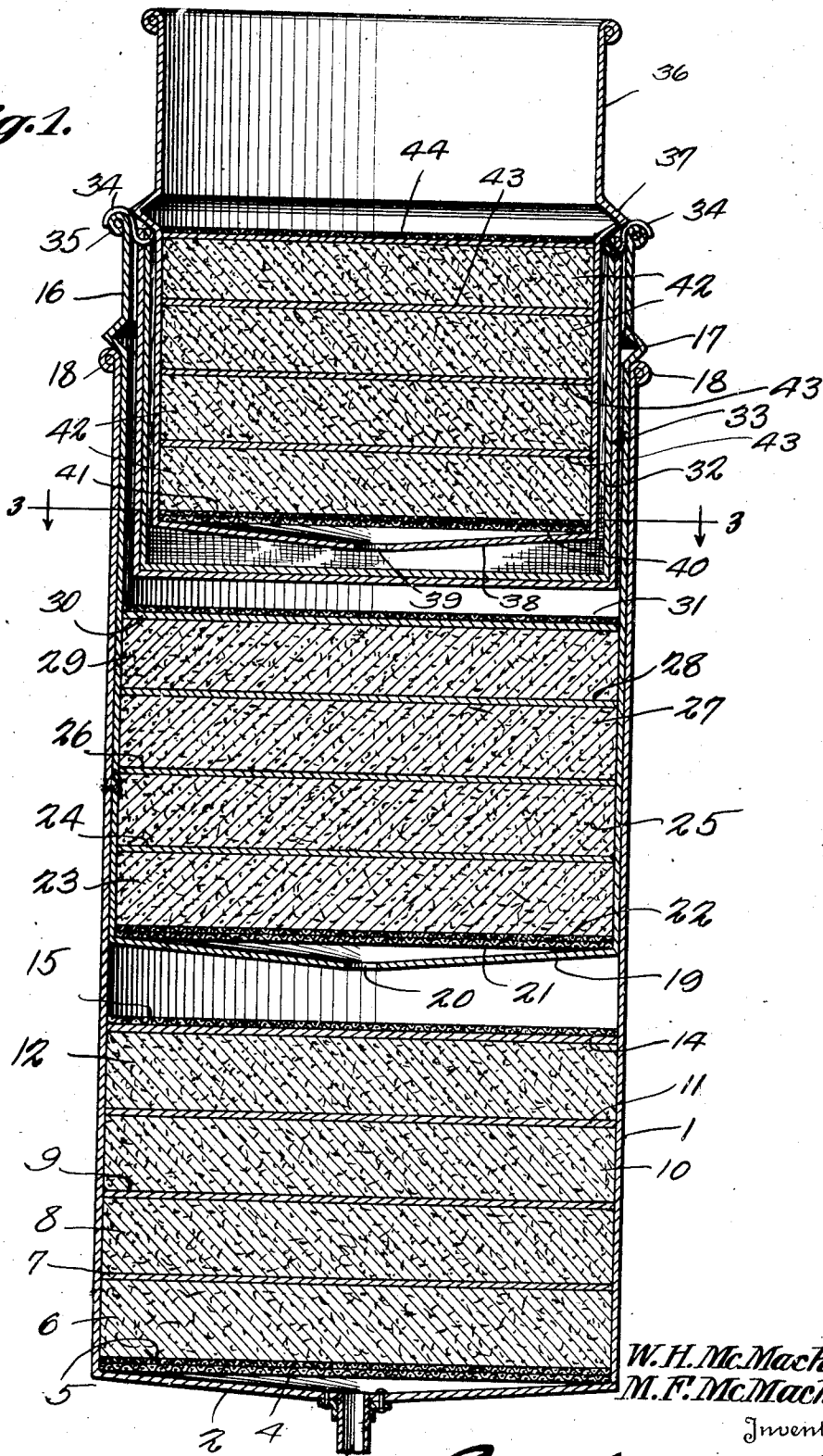
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OIL PURIFIER

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2 Sheets-Sheet 1

Fig. 1.



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Fig. 2.

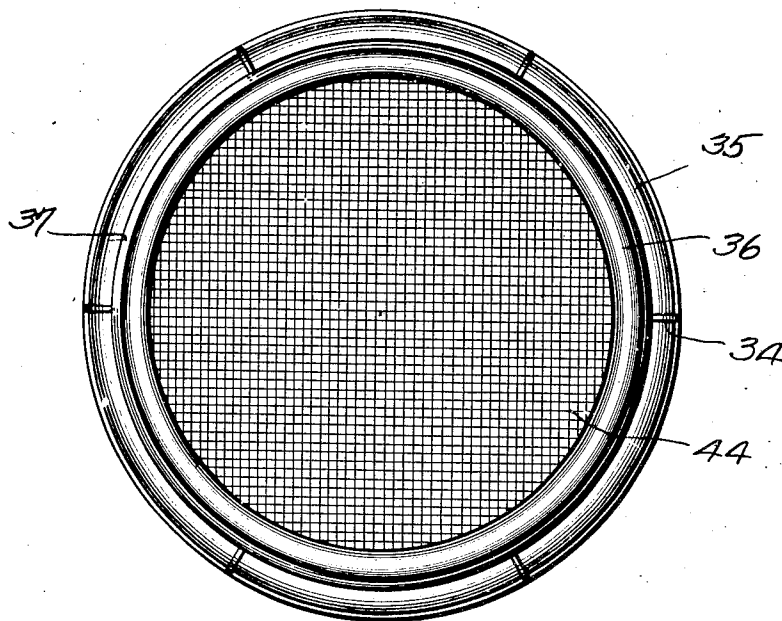
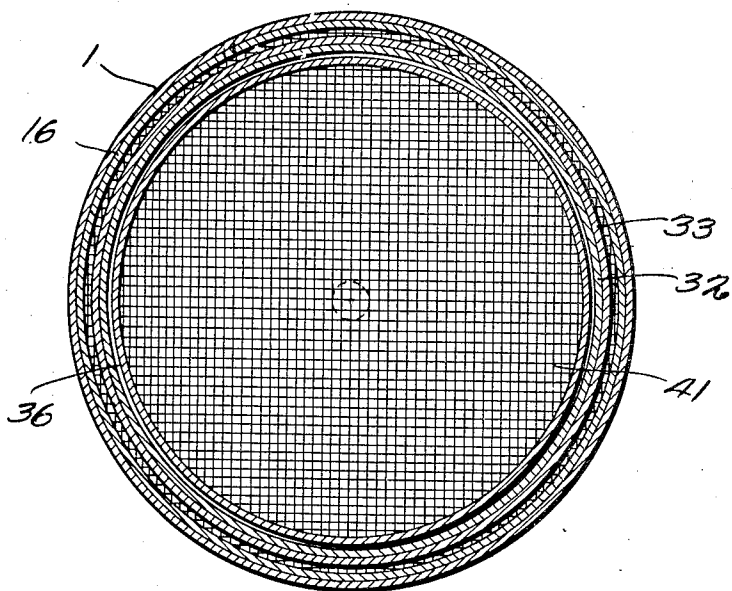


Fig. 3.



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OIL PURIFIER

Application filed November 15, 1928. Serial No. 319,668.

This invention aims to provide a simple but effective structure whereby dirty oil from a crank case, or any other kind of dirty oil, may be rid of its impurities and be rendered fit for further use. Another object of the invention is to provide novel means whereby the constituent parts of the device are held in proper relation to each other.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the invention appertains.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that, within the scope of what is claimed, changes in the precise embodiment of the invention shown can be made without departing from the spirit of the invention.

In the accompanying drawings:—

Figure 1 shows in longitudinal section, a device constructed in accordance with the invention;

Figure 2 is a top plan;

Figure 3 is a cross section on the line 3—3 of Figure 1.

In carrying out the invention, there is provided an elongated tubular casing 1 which is preferably made of metal. The casing 1 has an inclined bottom 2. In the lowermost part of the bottom 2 there is an outlet pipe 3. On the edge of the bottom 2 is supported a platform made up of a course mesh wire screen 4, and a fine mesh wire screen 5 located on top of the screen 4.

The parts 4 and 5 support a mass of filtering material 6, of any desired construction, such as a mixture of sawdust and fuller's earth. Wherever, hereinafter, filtering material is referred to, it will be understood that a mixture of sawdust and fuller's earth is preferred, although the manufacturer can substitute another kind of filtering material, if he prefers. On top of the mass of filtering material shown at 6 is a layer of fabric 7, which may be cotton flannel, silk, or the like. A layer 8 of filtering material rests on the

fabric 7. On the mass of filtering material shown at 8 is placed a layer 9 of fabric. On the layer 9 of fabric rests a mass 10 of filtering material, on which is placed a layer 11 of fabric. On the layer 11 of fabric is placed more filtering material, shown at 12, and on the filtering material 12 is located a layer 14 of fabric, the fabric mentioned hereinbefore or hereinafter being cotton flannel, silk, or the like, as has been stated. A metal wire screen 15 rests on the layer 14 of fabric, to hold it down in place.

The numeral 16 designates a metal container which fits within the casing 1. The container 16 has a circumferential rib 17 cooperating with a bead 18 on the upper end of the casing 1 to support the container 16 in place, as disclosed in Figure 1 of the drawings. The container 16 has a downwardly inclined or conical bottom 19 at the lowermost part of which is a hole 20. The bottom 19 of the container 16 is spaced at some distance from the screen 15.

Within the container 16 is a platform which is supported on the outer edge of the bottom 19 of the container, the platform preferably comprising a lower layer of course wire screen 21, and an upper layer of fine wire screen 22. Then follow in the order specified a layer 23 of filtering material, a layer 24 of fabric, a layer 25 of filtering material, a layer 26 of fabric, a layer 27 of filtering material, a layer 28 of fabric, a layer 29 of filtering material, a layer 30 of fabric, and a hold-down screen 31, preferably of wire netting, on top of the fabric 30.

The numeral 32 designates an inside dirt collector, preferably in the form of a fabric bag, generally made out of medium weight cotton flannel. Around the inside dirt collector 32 is disposed an outside dirt collector 33 which is in the form of a fabric bag, generally made from heavy cotton flannel. The dirt collectors 32 and 33 extend downwardly within the container 16 at the upper end thereof.

The bottoms of the dirt collectors 32 and 33 are spaced from the screen 31. Suspension members, such as hooks 34 are provided, the inner ends of the hooks 34 being engaged

detachably through the dirt collectors 32 and 33, to hold them together, and the outer ends of the hooks 34 being engaged over a bead 35 in the upper end of the container 16.

The numeral 36 indicates a tubular receiver, provided with a bottom 38 having a hole 39 in its lowermost portions. The receiver 36 has a circumferential bead 37 which rests on the outer ends of the hooks 34, to support the receiver 36. The hooks 34 act as spacers which prevent the bead 37 from coming into contact, directly, with the bead 35, and there is, therefore, a space between the beads 35 and 34 through which air can find its way downwardly, both inside and outside of the dirt collector 32—33, it being observed that the dirt collector is spaced both from the container 16 and from the side wall of the receiver. As a consequence, the oil that finds its way down into the collector 32—33 will drip therethrough more readily than would be the case if the collector 32—33 were located in a space that was sealed hermetically, or nearly so.

A platform is located within the receiver 36 and rests on the edge of the bottom 38 of the receiver. The platform comprises a coarse screen 40 and a fine screen 41 superposed thereon, the screens 40 and 41 preferably being made out of wire netting.

On the platform consisting of the screens 40 and 41 is placed several layers 42 of filtering material, with fabric therebetween, as shown at 43. On the uppermost layer of fabric 43 is located a screen 44, preferably made of wire netting, and serving to hold the fabric 43 in place.

In practical operation, the oil to be filtered is cast into the receiver 36. The oil passes downwardly through the screen 44 and the layers 43 of fabric, the oil passing through the alternating layers 42 of filtering material. The oil passes through the screens 40 and 41 and flows out of the hole 39 into the dirt collectors 32—33. The oil flows through the dirt collectors 32—33 and then passes, in order, downwardly through the screen 31, the fabric 30, the filtering material 29, the fabric 28, the filtering material 27, the fabric 26, the filtering material 25, the fabric 24, the filtering material 23, the screen 22, and the screen 21. The oil flows out of the bottom of the container 16 through the holder 20, and the oil from thence passes downwardly through the screen 15, the fabric 14, the filtering material 12, the fabric 11, the filtering material 10, the fabric 9, the filtering material 8, the fabric 7, the filtering material 6, the screen 5, and the screen 4. By the time that the oil has reached the bottom 2 of the casing 1, the oil is clean enough to be used as a lubricant, or for any other suitable purpose, and runs away through the pipe 3.

We claim:—

1. In a device of the class described, a cas-

ing having an outlet in its lower end, filtering material in the casing, a container in the casing and having an outlet in its lower end, filtering material in the container, a fabric bag in the container, suspension devices engaged with the bag and with the upper end of the container, a receiver extended into the bag, and filtering material in the receiver, the receiver having a bead engaged with the suspension devices, thereby to support the receiver, the suspension devices acting as spacers whereby air can find its way about the bag.

2. In a device of the class described, a container having an opening in its lower end, filtering material in the casing, a bag-like dirt collector in the container, suspension devices engaged with the dirt collector and with the upper end of the container, a receiver extended into the dirt collector, and filtering material in the receiver, the receiver having a bead engaged with the suspension devices, thereby to support the receiver, the suspension devices acting as spacers whereby air can find its way about the dirt collector.

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures.

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