Oct. 14, 1924. 1,511,223

E. V. LA CHAPELLE

OIL SAMPLING DEVICE

Filed April 8, 1920

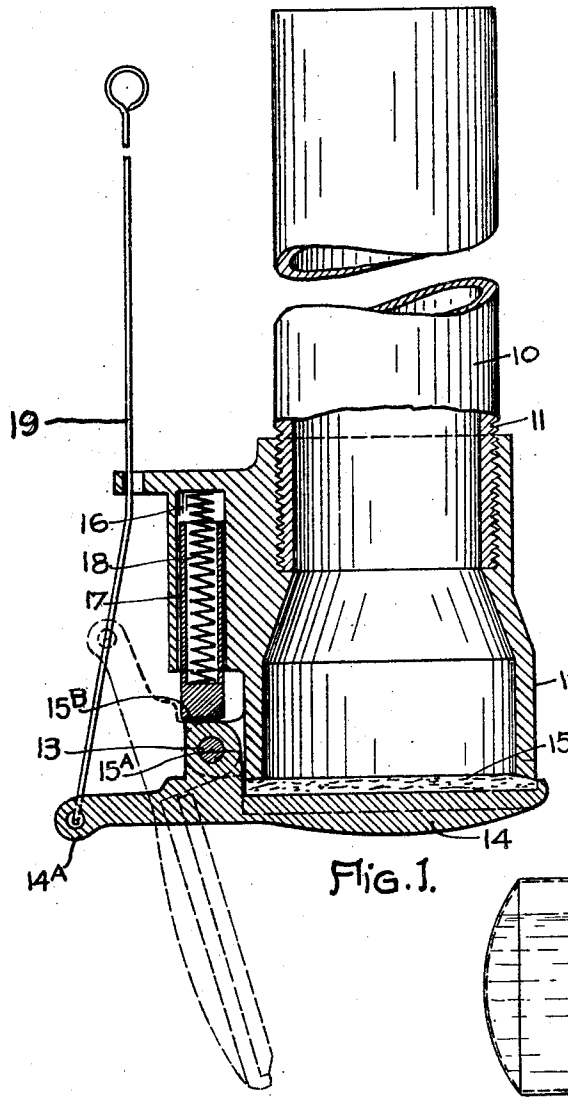


FIG. 1.

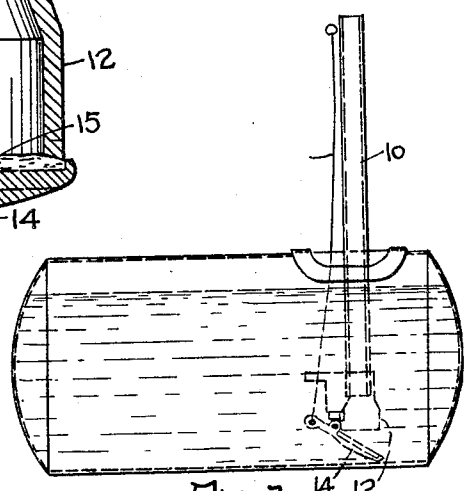


FIG. 3.

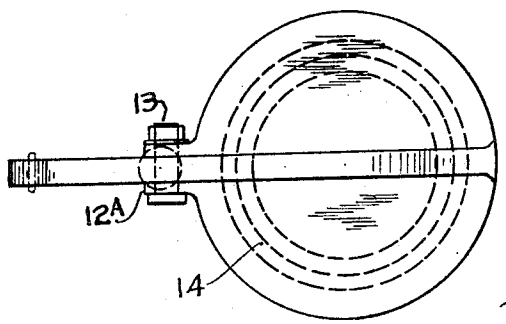


FIG. 2.

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Patented Oct. 14, 1924. 1,511,223

UNITED STATES PATENT OFFICE.

ELMER V. LA CHAPELLE, OF CHICAGO, ILLINOIS.

OIL-SAMPLING DEVICE.

Application filed April 8, 1920. Serial No. 372,276.

To all whom it may concern:

Be it known that I, ELMER V. LA CHAPELLE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Oil-Sampling Devices, of which the following is a specification.

This invention relates generally to sampling devices but has particular reference to an improved device of this character which shall be adaptable for taking or extracting a true "core" sample from a fluid body or mixture.

Many fluids, semi-fluids or even plastic or granular materials repose normally in layers, as for example, certain oil mixtures will contain the lighter oils in the upper layers and the heavier oils near the bottom, and in taking a true "core" sample it is of course desirable that such extraction be representative of the whole in its layers, elements and proportionate relation.

The device contemplated by this invention assures, by its construction and arrangement, the extraction of such true core sample.

With these and other objects in view my invention consists in the novel construction, combination and relative position of the parts and members hereinafter described and shown in the accompanying drawings, and particularly pointed out in the appended claim.

Referring to the drawings in which like reference characters indicate like or corresponding parts:—

Figure 1 is a view in part elevation and part section showing one embodiment of my invention. Figure 2, is a bottom view thereof. Figure 3, shows a partly filled liquid tank and the method of extracting sample with my improved device.

In the illustrations, 10 indicates the container which is here preferably shown cylindrical in form and open at the top. The bottom of the container 10 is threaded at 11 for screw connection with the valve head 12.

The valve head 12, which may be made of cast iron, is provided with a pair of cast ears 12^A for the pivot pin 13. A suitable leather or rubber washer 15 may be provided as a seal or gasket.

The valve head 12 is cast with an integral adjacent chamber 16 which is open at the lower end and in which is slidably mounted the retaining plunger 17. It will be observed that this plunger 17 is hollow and open at its upper end to receive one end of the coil spring 18 the other end of which abuts within the chamber 16.

The compression spring 18 tends at all times to press the retaining plunger 17 downward against either one of the square shoulders 15^A or 15^B to retain the valve 14 in open or closed position.

It is obvious that in extracting a sample, the container is inserted into the body to be sampled and with the valve 14 in open position, the fluid is permitted to enter the container. Observe that the valve 14 will not close until forcibly released from the position shown dotted by its engagement with the bottom of the tank. By this method of operating valve 14 the container 10 must pass through the entire body and will therefore contain a true "core" of the body.

In the aforesaid specification and in the following claim, I do not wish to be understood as limiting myself to the use of my invention for fluid bodies only as I contemplate a broad use. Fluids, semi-fluids or even granular materials can be sampled with my improved device.

It is thought that the foregoing description and illustrations clearly disclose the construction and operation of the invention, hence a more extended explanation is omitted.

I claim:—

In a device for extracting representative samples from a substance, a container having an opening in the bottom thereof, a valve oscillating about an axis at right angles to the container axis and closing said opening upon the container engaging the bottom of a receptacle containing said substance, and a spring-pressed plunger arranged to retain said valve in open and closed position, respectively.

In witness whereof, I have hereunto subscribed my name this 5th day of April, 1920.

ELMER V. LA CHAPELLE.