April 5, 1927. 1,623,437

W. B. POHLE

SEDIMENT COLLECTOR

Filed Jan. 30, 1926

Fig. 1.

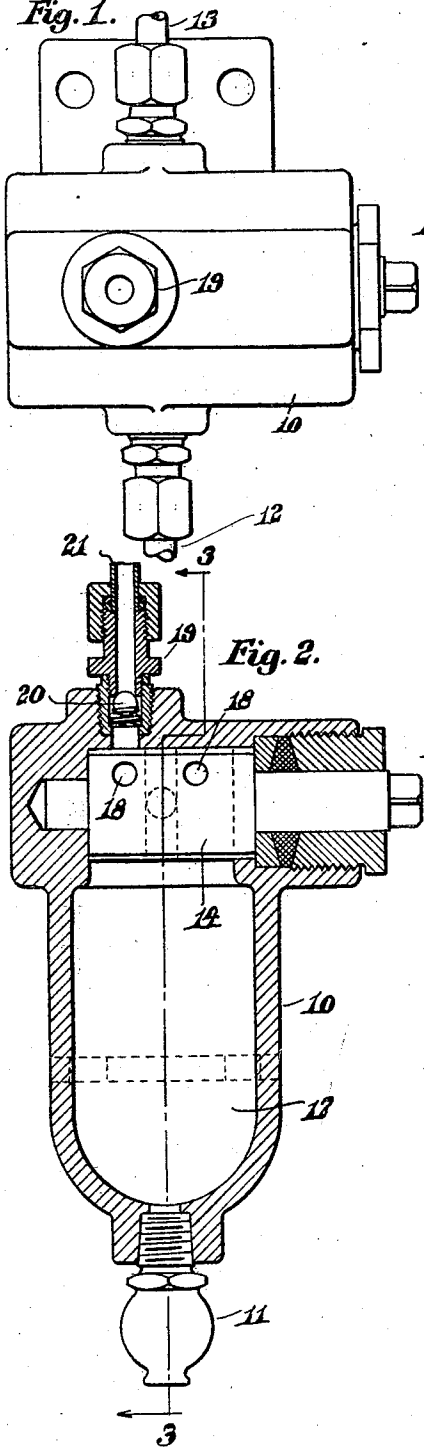


Fig. 4.

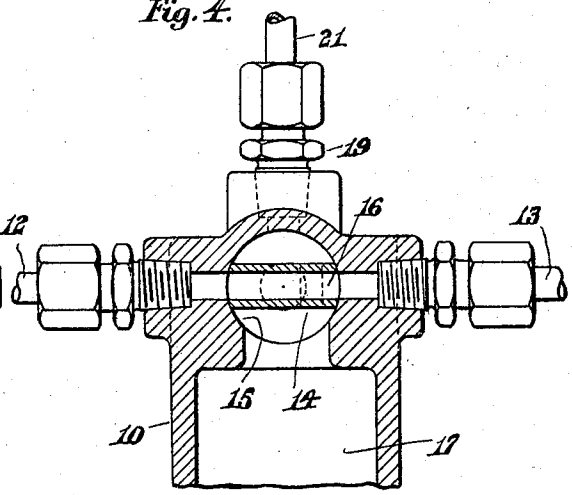
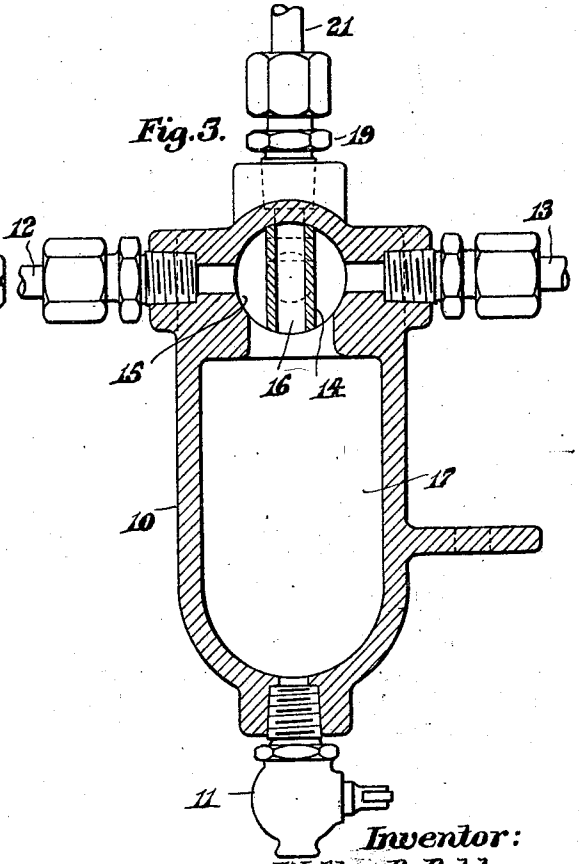


Fig. 2.

Fig. 3.



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UNITED STATES PATENT OFFICE.

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SEDIMENT COLLECTOR.

Application filed January 30, 1926. Serial No. 84,869.

This invention relates to sediment collectors and has for its object the provision of a casing in a line of pipes in which sediment will be collected to be subsequently removed therefrom without interfering with the flow of liquid through said pipes.

This object is attained by the mechanism illustrated in the accompanying drawings.

For the purpose of illustrating the invention one preferred form thereof is illustrated in the drawings, this form having been found to give satisfactory and reliable results, although it is to be understood that the various instrumentalities of which the invention consists can be variously arranged and organized, and the invention is not limited to the precise arrangement and organization of these instrumentalities as herein shown and described except as required by the scope of the appended claims.

Of the drawings:

Figure 1 represents a plan of a device embodying the principles of the present invention.

Figure 2 represents a central vertical section of the same.

Figure 3 represents a transverse section of same on line 3, 3 on Fig. 2 and showing the baffle plate in vertical position, and

Figure 4 represents a similar section of the upper end of the device and showing the baffle plate in horizontal position.

Similar characters indicate like parts throughout the several figures of the drawing.

In the drawings 10 is a casing having a pet cock 11 in the bottom thereof.

Near the top of said casing are the alined pipes 12, 13 the former being the inlet for liquid into said casing and the latter being for the discharge of said liquid.

Many liquids and particularly oils, have considerable sediment therein which it is very desirable to remove before the liquid is used.

In order to accomplish this desired result a baffle plate or deflector 14 is utilized in the casing 10, this plate 14 being flat sided with its flat sides normally opposite the ends of the pipes 12, 13.

As a consequence when liquid is admitting to the casing 10 from the pipe 12 it will strike the deflector 14 and pass to the bottom of the casing 10 where the sediment therein will collect.

The liquid free from sediment will rise in the casing and pass therefrom through the outlet pipe 13.

When considerable sediment has collected and its removal is desired the deflector plate 14 is moved into a horizontal position (as shown in Fig. 4) with the edges thereof contacting with the opposite walls of the cylindrical chamber 15 of the casing 10.

The deflector 14 has a passage 16 therethrough which forms a connection between the pipes 12, 13 when the deflector 14 is horizontally disposed, thereby permitting the oil or other liquid to pass directly from the inlet pipe 12 to the outlet pipe 13, without entering the chamber 17 within the casing 10.

When the pipes 12, 13 are thus connected it is obvious that the sediment in the chamber 17 may be removed therefrom without interrupting the flow of liquid in the pipes 12 and 13 and without undue loss of oil or other liquid.

This sediment may be removed from said chamber 17 by opening the pet cock 11 and allowing the contents of said chamber to pass therethrough.

Generally, however, it is quite essential that some other provision be made to assist in the removal of the sediment.

To this end openings 18 are made in the deflector at right angles to the passage 16 and at one side thereof.

In the same vertical plane with one of said openings 18 is an air valve 19 disposed in the top of the casing 10.

This valve 19 is normally closed by the spring pressed ball 20, so that the liquid within the casing 10 may not escape therethrough.

By securing a tube 21 to the threaded outer end of the valve 19 air under pressure may be forced into the upper chamber 15 of the casing and through the openings 18, 18 into the chamber 17 and if the pet cock 11 has been previously opened the entire contents of the said chamber will be removed through said pet cock.

By means of this invention the flow of oil or other liquid from the source of supply may be continuous even when the collected

sediment in the chamber 17 is being forced therefrom.

When the chamber 17 has been cleared the deflector plate 14 will be returned to its vertical position and the liquid entering the casing 10 will again be deflected to the bottom of the chamber 17 and a new lot of sediment collected therein.

The liquid passing from the chamber 17 will be absolutely free of sediment and ready for use as desired.

With the foregoing explanation it is believed that the operation and many advantages of the invention will be fully understood.

Having thus described my invention, I claim—

1. A casing provided with alined inlet and outlet pipes; a pet cock at the bottom of said casing; a flat sided member in said casing between said pipes rotatable about alined trunnions disposed in the side walls of said casing and having a passage therethrough adapted to be alined with said pipes, the flat sides of said member being separated from the ends of said pipes under normal conditions; and means whereby the sediment may be removed from the bottom of said casing.

2. A casing provided with alined inlet and outlet pipes; a pet cock at the bottom of said casing; a rotatable flat sided member in said casing between said pipes and having a passage therethrough adapted to be alined with said pipes and an opening in said flat sided member perpendicular to said passage; means whereby the sediment may be removed from the bottom of said casing; an air supply pipe in the top of said casing adapted to communicate with said opening; and a valve in said pipe normally closed but adapted to be opened under pressure of air forced through the supply pipe.

3. A casing provided with alined inlet and outlet pipes communicating with the upper part thereof and having means at the bottom thereof whereby the sediment may be removed therefrom; and deflector means within said casing about a transverse axis normally removed from the inner ends of both pipes and movable into position to form a connecting passage between said pipes.

4. A casing provided with alined inlet and outlet pipes communicating with the upper part thereof and having means at the bottom thereof whereby the sediment may be removed therefrom; deflector means within said casing normally removed from the inner ends of both pipes and movable into position to form a connecting passage between said pipes; an air supply pipe at the top of said casing; a valve in said air supply pipe and an air passage in said deflector means adapted to be connected with said air supply pipe.

5. A casing provided with a discharge outlet at the bottom and inlet and outlet pipes near the top; means within the casing adapted to deflect towards the bottom all material admitted to said casing normally removed from the inner ends of both pipes and said means having a passage adapted to be moved into position to form a connection between said pipes, and also having an air opening at right angles to said passage and at one side thereof; a pipe in the same vertical plane with said opening; and a valve in said pipe adapted when opened to admit air under pressure to said casing.

6. A casing provided with alined inlet and outlet pipes near the top thereof; means within said casing movable about a transverse axis adapted in one position to form a deflector interposed between and separated from the inner ends of said pipes and in another position to form a direct connection between said pipes; and means whereby the sediment may be blown out of said casing when the pipes are connected by said movable means.

Signed by me at 746 Old South Bldg., Boston, Mass., this 27th day of January, 1926.

WALTER B. POHLE.