July 22, 1930. W. S. IRELAND 1,771,042

SCALE TRAP

Filed Jan. 29, 1926

Fig. 1

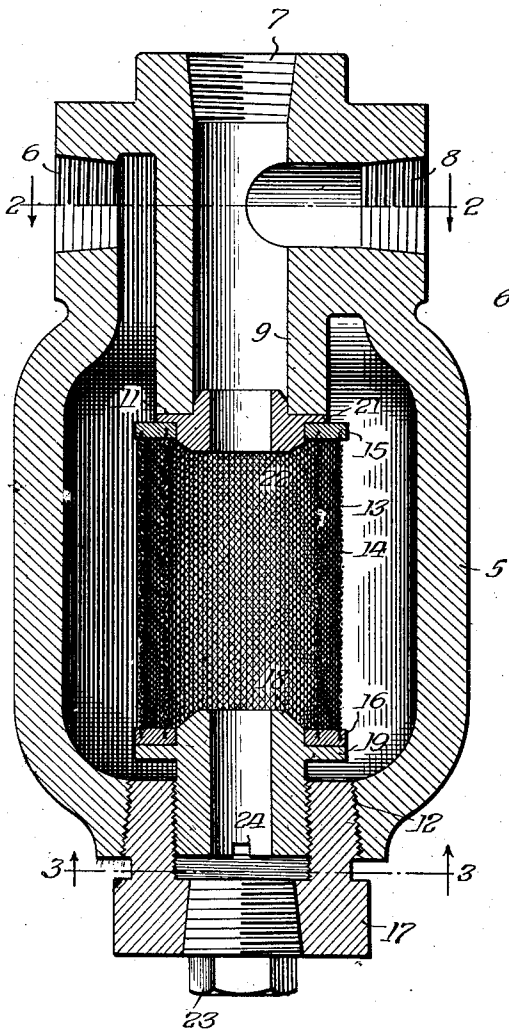


Fig. 2

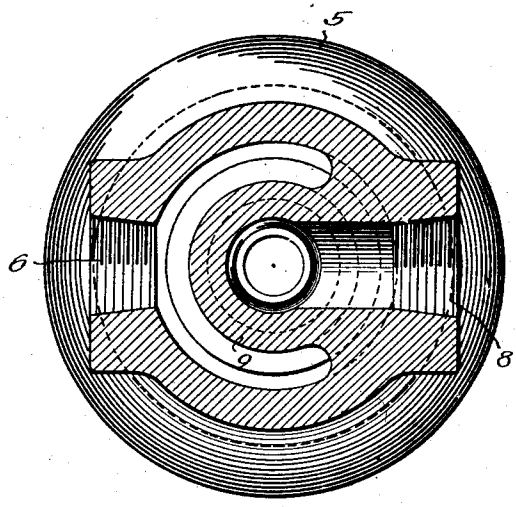
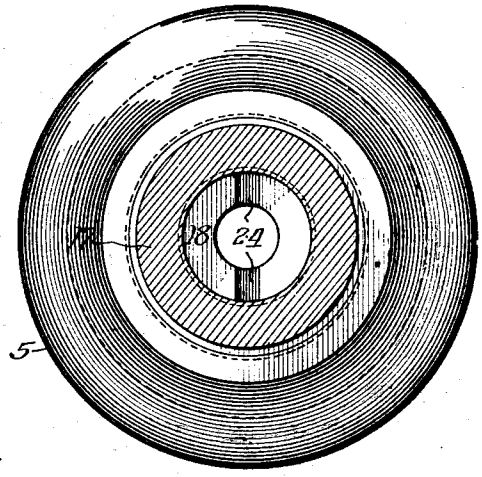


Fig. 3



Witness:
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UNITED STATES PATENT OFFICE

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SCALE TRAP

Application filed January 29, 1926. Serial No. 84,560.

This invention pertains to scale traps adapted for use in the lines of mechanical refrigeration systems and in other places where it is desirable to separate the scale, sediment and solid particles of matter of various kinds from the fluid or gas which flows through the system.

One of the primary purposes of my present invention is to provide a trap of the character indicated which will be effective, efficient and durable in operation, and which can be very easily dissembled for purposes of cleaning the filter or for repairs, if necessary, and very quickly and easily re-assembled.

Other objects and advantages of my invention will be readily appreciated as the same becomes better understood by reference to the following description when considered in connection with the accompanying drawing.

Referring to the drawing:

Fig. 1 is a longitudinal sectional view through a scale trap embodying my invention.

Fig. 2 is a transverse sectional view on the line 2—2 of Fig. 1, and

Fig. 3 is a similar view on the line 3—3 of Fig. 1.

Referring to the drawings more in detail, reference character 5 indicates generally the body or casing of my improved trap, which is preferably cast integrally to provide an inlet port 6 and one or more outlet ports 7 and 8. The two outlet ports shown are provided in order that the trap may be installed either in a straight line of the system in which case the port 7 is plugged or at an L in which case port 8 is plugged. The casing also includes, as a part of its structure, a central depending tubular projection 9 forming the outlet passage to the discharge ports and providing at its lower end an annular shoulder 11 for a purpose which will be later explained.

The lower end of the casing is provided with a large internally threaded opening through which the filtering or screening element may be introduced and withdrawn. This element comprises a plurality of, in the present instance, two cylindrical screen members, which may be of the same or of different degrees of fineness, 13 and 14 concentrically disposed with their upper and lower ends fixedly attached to end rings 15 and 16 respectively, which are preferably cast thereon so as to provide a unitary structure.

The opening 12 in the lower end of the casing is normally closed by a hollow plug 17 internally threaded to adjustably carry an adapter 18 provided with a peripheral flange or shoulder 19 between which and a flange 21, on an upper adapter 22, the filter element is clamped in operative position as shown in Fig. 1. The adapter 18 is hollow, as shown, and the outer end of plug 17 is closed by a stopper or plug 23 which may be removed either for drainage purposes or to permit access to the adapter 18, so that the same may be adjusted by means of a screw driver or other implement engageable with the kerf 24 of the adapter.

In assembling the device, the adapter 18 being lowered into the plug 17 as far as conveniently possible, the screen element is placed upon the flange 19 and the upper adapter 22 is placed upon the screen element. The whole assembly is then introduced through the opening 12 in the casing, and the plug 17 is then screwed into place. The stopper 23 may then be removed, affording access to the adapter 18 which, by means of a suitable instrument, may be threaded upwardly in the plug 17 until the screen element is firmly clamped in position between the shoulder 11 on the tubular extension and the lower adapter.

The adapters positively preclude leakage around the screen element, thus insuring that all fluid flowing through the trap will pass through the screen. The device may be readily dissembled by simply removing the plug 17 and may be cleaned and readily re-assembled again.

If desired, the trap may be so connected in the line that port 6 becomes the outlet port and port 7 or 8 the inlet port, in which event the sediment filtered out would be collected inside the screen and could be readily removed by removing the screen from the casing and cleaning it.

The structural details disclosed may obviously be varied within considerable limits without departing from the essence of the invention as defined in the following claims.

I claim:

1. A scale filtering pocket comprising a hollow casing provided at one end with an opening and having an internal shoulder disposed in alignment with said opening, a hollow plug threaded into said opening, an adapter adjustably mounted in said plug and projecting into the casing, and a hollow screen adapted to be clamped between said shoulder and said adapter upon adjustment of said adapter.

2. A scale filtering pocket comprising a hollow casing provided at one end with an opening, a plug removably disposed in said opening, a cylindrical screen adapted to be disposed within said casing, and means adjustably carried by said plug whereby said screen may be clamped in position.

3. A scale filtering pocket comprising a hollow casing having a tubular extension projecting into the body from one end of the casing, the opposite end of the casing being provided with an opening, a hollow plug threaded into said opening, an adapter threaded into said plug and projecting therefrom into the casing, a cylindrical screen designed to rest upon said adapter, and a second adapter interposed between the screen and said tubular projection, the screen being clamped between said adapters by adjustment of the first mentioned adapter relatively to the plug.

4. A scale filtering pocket comprising a hollow casing open at one end and provided with an annular shoulder in alignment with said opening, a hollow plug threaded in said opening, a flanged adapter threaded into said plug, a cylindrical screen resting upon said adapter, a second adapter interposed between said screen and said shoulder, and a removable stopper closing the outer end of said plug, the first mentioned adapter being accessible for adjustment upon removal of said stopper for the purpose of clamping said screen between said adapters.

5. A scale filtering pocket comprising a hollow casing provided with an opening at one end and an internal shoulder opposed to said opening, a hollow plug threaded into said opening, a removable stopper closing the outer end of said plug, a flanged adapter adjustably carried by the plug and projecting into the casing, a cylindrical screen disposed upon the flange of said adapter, and a second flanged adapter interposed between the opposite ends of said screen and said shoulder, said stopper being removable to permit access to the first mentioned adapter for purposes of adjustment, and said plug being removable to permit withdrawal or insertion of said screen and adapters through said opening.

6. A scale filtering pocket comprising a hollow casing provided at one end with an opening, a plug removably disposed in said opening, an annular screen adapted to be disposed within said casing, and means carried by said plug and adjustable without moving the plug whereby said screen may be clamped in position.

7. A scale filtering pocket comprising a casing provided with an internal shoulder adjacent one end thereof, a hollow screen of substantial rigidity and an adapter adjustably carried by the casing having a shoulder opposed to the shoulder of said casing and removed therefrom, said screen being clamped under pressure between the shoulder on said casing and the shoulder on said adapter upon adjustment of said adapter.

In witness of the foregoing I affix my signature.

WARD S. IRELAND.