Dec. 31, 1929. W. L. BRASACK ET AL 1,741,915

GRIT ELIMINATOR

Filed Dec. 6, 1928

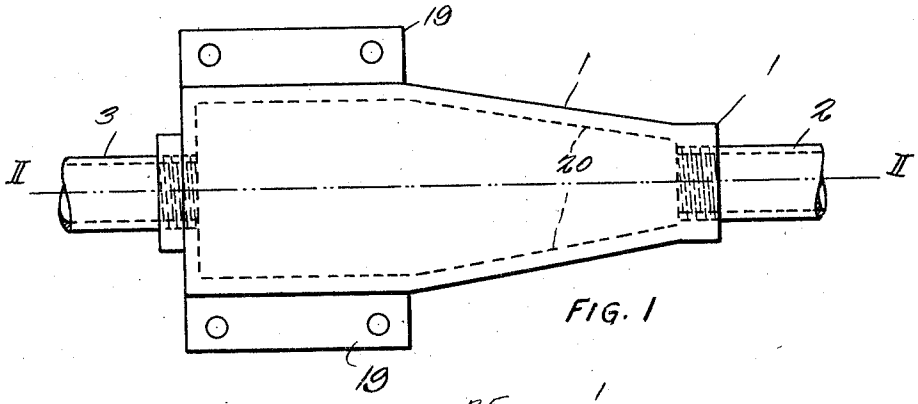


FIG. 1

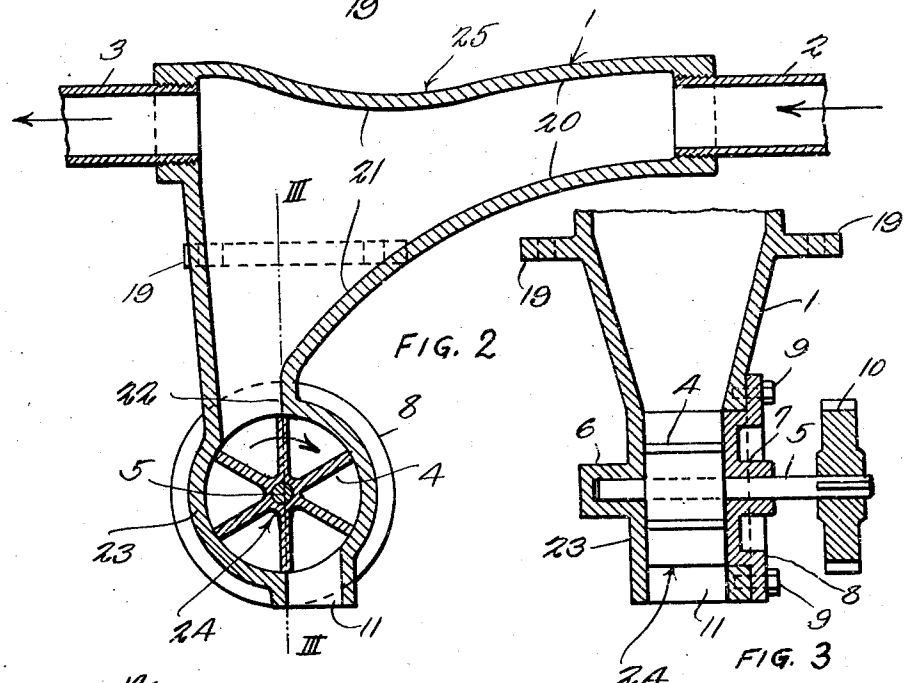


FIG. 2

FIG. 3

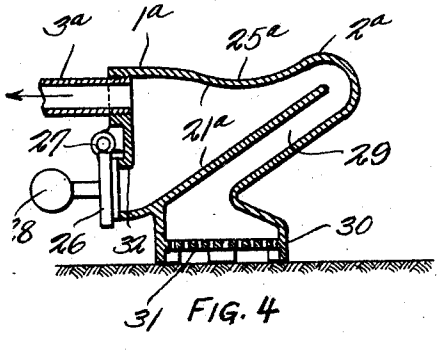


FIG. 4

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UNITED STATES PATENT OFFICE

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GRIT ELIMINATOR

Application filed December 6, 1928. Serial No. 324,225.

The object of the invention is to provide a device which can be placed in the suction line of a pump, or elsewhere, to collect grit and the like, it being a matter of common knowledge that when grit is permitted to find its way into a pump, deterioration of the pump proceeds rapidly.

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 top plan, a device constructed in accordance with the invention;

Figure 2 is a section on the line II—II of Figure 1;

Figure 3 is a vertical transverse section on the line III—III of Figure 2;

Figure 4 is a vertical section showing a modification.

Referring to the form depicted in Figures 1, 2, and 3 of the drawings, there is provided a hollow body 1, supplied with lateral attaching flanges 19. The body 1 has a liquid inlet 2 and a liquid outlet 3, which are spaced apart and located closely adjacent to the top of the body. It is evident from the dotted line showing of Figure 1, that, considered horizontally, the body 1 widens, as shown at 20, from the inlet 2 toward the outlet 3. Noting where the reference numeral 21 is applied in Figure 2, it will be seen that the body 1 increases in depth from the inlet 2 toward the outlet 3. In view of the foregoing, the body 1 may be said to increase in cross sectional area from the inlet 2 toward the outlet 3.

The body 1 has a reduced neck 22 communicating with a drum-like valve casing 23 having a reduced depending outlet 11. The casing 23 is supplied with a lateral bearing 6, and the casing has a removable closure 8, held in place by securing elements 9.

The closure 8 is supplied with a bearing 7, and in the bearings 7 and 6, a shaft 5 is journaled for rotation. A valve 24 is secured to the shaft 5 and is made up of radial blades 4 which fit closely within the casing 23. The valve may be made of any suitable material, but, if it is desired that the valve have some flexibility, the valve may be made out of rubber or a rubber compound. Any suitable means may be provided for rotating the valve shaft 5; in the drawings a sprocket wheel 10 is employed for the purpose specified.

The liquid enters the body 1 by way of the inlet 2, and as the liquid proceeds across the body 1, from the inlet 2 to the outlet 3, the flow of the liquid is retarded because the body 1 increases in cross sectional area from the inlet 2 toward the outlet 3, The grit in the liquid settles, as the liquid is slowed up, and the grit accumulates in the neck 22. The valve 24 is rotated by means of the shaft 5, and the grit is carried down and ejected through the outlet 11. A small amount of liquid, of course, finds its way out along with the grit, but this is desirable rather than objectionable because the liquid passing through the valve 24, along with the grit, tends to wash away the grit. The top of the body 1 is downwardly concaved, as shown at 25, this construction serving both to retard the flow of the liquid and to deflect the liquid downwardly.

In Figure 4 of the drawing, parts hereinbefore described have been designated by numerals previously used with the suffix "a". In this form of the invention, the rotary valve 24 is dispensed with and its place is taken by a vertically disposed flap valve 26, hinged at its upper end at 27 to the body 1^a, the valve 26 being provided with a combined weight and handle 28 which holds the valve closed upon the reduced neck 32, the neck 32 being in one end of the body instead of at the bottom of the body, as shown at 22 in Figure 2.

The inlet 2^a is prolonged downwardly and inwardly, as shown at 29, and communicates with an enlarged foot 30 in which there is a

screen 31. The liquid flows upwardly through the foot 30, chips and the like being held back by the screen 31. The liquid flows upwardly through the part 29, through the inlet 2a, and out of the outlet 3a. The valve 26 can be opened at any time, through the instrumentality of the weighted handle 28, to dispose of the accumulated grit.

What is claimed is:—

1. In a device for eliminating grit and the like from flowing liquids, a body having a liquid inlet and a liquid outlet which are spaced apart and located adjacent to the top of the body, and a grit-discharge valve in the lower portion of the body, the body increasing in cross sectional area from the inlet toward the outlet, thereby to retard the flow of the liquid and to cause a precipitation of grit against the valve, the top of the body being downwardly inclined to retard the liquid and to deflect the liquid downwardly as it passes from the inlet to the outlet.

2. A device of the class described, constructed as set forth in claim 1, and further characterized by the fact that the valve is mounted for rotation, means being provided for rotating the valve from a point without the body.

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

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