SEPARATING, EMPTYING, CLEANING DEVICE FOR LIQUID CONTAINING PIPELINES

Filed Oct. 18, 1934

Fig. 1.

Fig. 2.

Fig. 5.
UNITED STATES PATENT OFFICE

2,055,287

SEPARATING, EMPTYING, CLEANING DEVICE FOR LIQUID CONTAINING PIPINGS

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Application October 18, 1934, Serial No. 748,973
In Italy July 17, 1934

2 Claims. (Cl. 15—104.06)

This invention relates to a separating, emptying and cleaning device for liquid-containing pipings, particularly pipings of very large diameter.

10. The device according to this invention comprises a cylindrical brush, composed of cylindrical rings, the terminal ones of which are provided with a hemispherical or tapering end closure, said rings being provided at their peripheries with tufts of bristles forming a brush and being connected by suitable flexible means, such as a coil spring which allows them to adjust themselves to the curves of the pipings and to pass over any deformations said brush being adapted to empty the pipings and separate the liquids contained therein and to clean the pipings during the passage of the brush. Of course as regards separation by the brush the question is of a relative and not complete separation, sufficient however to the necessities of many industries.

The invention will now be further described by way of example with reference to the accompanying drawing in which:

15. Figure 1 is a view partly in section showing the application of the device to a piping;
20. Figure 2 is a longitudinal section of a cylindrical brush employed in the device according to the invention;
25. Figure 3 is an end view of the brush.

The device according to the invention comprises, as shown in the drawing, the brush unit A illustrated in detail in Figs. 2 and 3 and is composed of a series of cylindrical rings fixed in their peripheries. The two terminal rings 4 and 5 instead of having hubs are provided with convex or tapered walls 6 on their outer edges which act as end closures for the brush unit. Said rings are connected to one another by any desired means, for instance by a spring 8 arranged through the aligning hubs 2 and having the ends connected to cross pins 7 in the end rings thereby allowing the rings to adjust themselves so that the brush may freely run along the curves of the piping P and pass over any deformations.

From the foregoing it will be observed that owing to the special construction of my improved brush, and particularly the closed end rings 4 and 5 thereof, the device may serve as a partition in the piping to substantially separate two liquids therein. Of course, it would also be noted my improved brush is particularly adapted to function as an emptying or cleaning device for the piping, by moving the brush within the pipe by any suitable means, such as compressed air 10 or the like, whereby the liquid will be forced along in advance of the brush until said liquid reaches an exit from said pipe.

I claim:

1. A device for emptying and cleaning pipes or the like, comprising a cylindrical brush composed of a series of cylindrical rings, each ring having a central hub arranged in substantial alignment with the hub of an adjacent ring when the rings are in juxtaposed condition, each end ring of said series being provided with an end closure, securing means on said end rings, tufts of bristles projecting outwardly from the periphery of each ring resiliently contractible and flexible means extending through said hubs and having its ends connected to said securing means for connecting the rings together, whereby said rings may adjust themselves to the curves of the pipe and pass over any deformations therein.

2. A device for emptying and cleaning pipes or the like, comprising a cylindrical brush composed of a series of cylindrical rings, each ring having a central hub arranged in substantial alignment with the hub of an adjacent ring when the rings are in juxtaposed condition, said rings normally abutting each other and forming a substantially compact unitary structure, each end ring of said series being provided with an end closure, securing means on said end rings, tufts of bristles projecting outwardly from the periphery of each ring, resiliently contractible and flexible means extending through said hubs and having its ends connected to said securing means for connecting the rings together, whereby said rings may adjust themselves to the curves of the pipe and pass over any deformations therein.

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