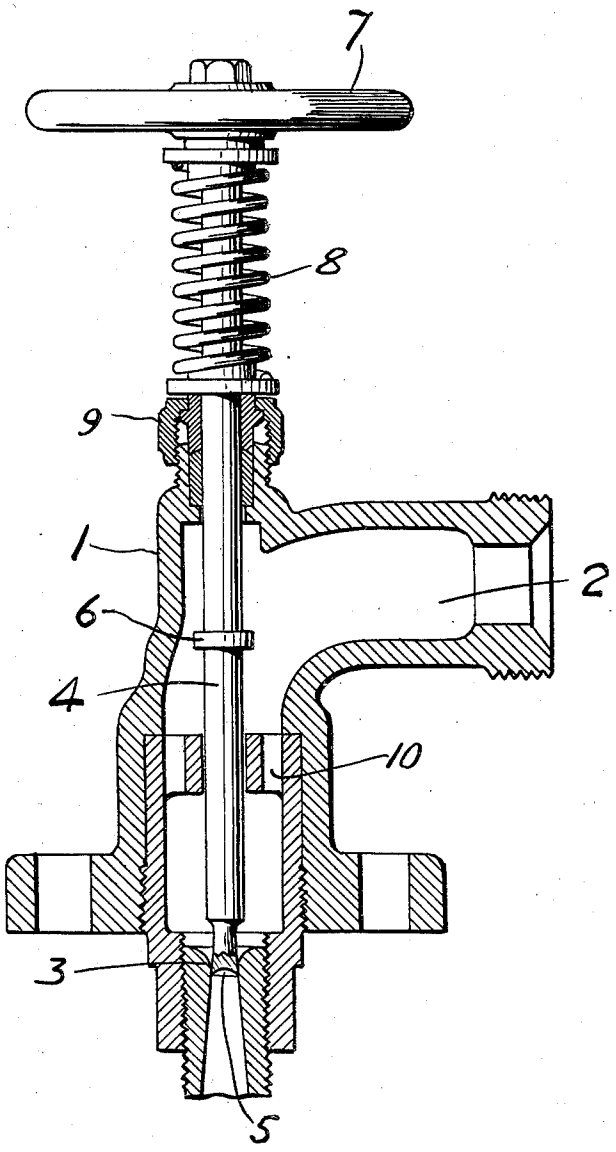
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JET CLEANING DEVICE

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JET CLEANING DEVICE

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2 Claims. (Cl. 299—59)

A principal object of the present invention is to provide simple, reliable and efficient means for cleaning the nozzle orifices of jet devices such as are provided in steam jet air pumps and in other apparatus of the same general class or type.

Another object of the invention is to provide a cleaning device arranged for both rotary and endwise movement in respect to the nozzle orifice and so constructed that it operates to push objects, that obstruct the orifice, out and clear of the same.

Other objects of the invention will appear from the following description at the end of which the invention will be claimed.

Generally stated the invention comprises the improvements to be presently described and finally claimed.

In the following description reference will be made to the accompanying drawing in which the single figures is a longitudinal central sectional view illustrating features of the invention.

Referring to the drawing, 1 is a body or steam chest and it is provided with a curved fluid way 2 provided with a nozzle orifice 3. These parts are present in one form or another in many well known types of apparatus, such as steam jet air pumps, but the invention is not confined to such apparatus and it is applicable to nozzles through which air or other fluid passes. 4 is a spindle arranged for rotation and for endwise reciprocation through the wall of the curved fluid way. The end of the spindle 5 is shown as concave. It is not necessarily of that form but when it is concave and enters the orifice it operates to push any material that clogs the orifice out of and clear of the same. The concavity shown in the end of the spindle provides a sharp annular cutting edge as is indicated in the drawing. 6 is a stop collar arranged on the spindle and it cooperates with the inner face of the curved wall as a packing when the spindle is in its normal retracted position. The spindle is urged out of the position shown in the drawing toward that retracted position by the pressure of the steam or other fluid introduced through the body or chest 1. 8 is a spring interposed between the stuffing box 9 and the hand wheel 7 and its principal function is to prevent the spindle from sticking, or, in other words, to overcome friction of the spindle. 10 is a spindle guide and it is in the form of a spider.

Normally the spindle is held in retracted position and the pressure of steam on the stop collar 6 and the stress of spring 8 holds it in that position and effects a packing result. The pressure in the chest or body 1 holds the spindle in that position. To clean the orifice 3 the spindle is pushed inward to the position shown and given a few turns by means of the hand wheel 7. In this way the orifice is cleaned and when the spindle is released it returns to its retracted position.

I claim:

1. A jet-cleaning device comprising, in combination, a body portion having an arcuate fluidway for facilitating the flow of fluid therethrough and for providing space for a stop collar, said body having an inner end provided with an inlet to the fluid way and an outer portion provided with a member extending into said outer portion and having an orifice communicating with said fluidway, a normally retracted spindle arranged for rotation and axial reciprocation through the wall of the arcuate fluidway and having a concaved end providing an annular cutting edge adapted to enter the orifice, a stop collar provided on the spindle and positioned in the fluidway and freely exposed to the pressure therein and freely spaced from the wall of the fluidway, said collar adapted to operate flatwise in co-operation with the inner face of the wall of the fluidway as a packing, a stuffing-box packing said spindle, a handle on the spindle, an anti-torsion spring between the handle and the body, and a guide spider.

2. A jet-cleaning device comprising, in combination, a body provided with a curved fluid way for conducting fluid therethrough, a nozzle orifice forming a part of said fluid way, and a spindle arranged for rotation and for endwise reciprocation through the wall of said curved fluid way, one end of said spindle being concaved providing an annular cutting edge adapted to enter the orifice and operating to push any material that clogs the orifice out of and clear of the same.

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