March 10, 1931. J. SZODOMKA 1,796,130

CLEANING DEVICE

Filed Oct. 4, 1930

Fig. 1.

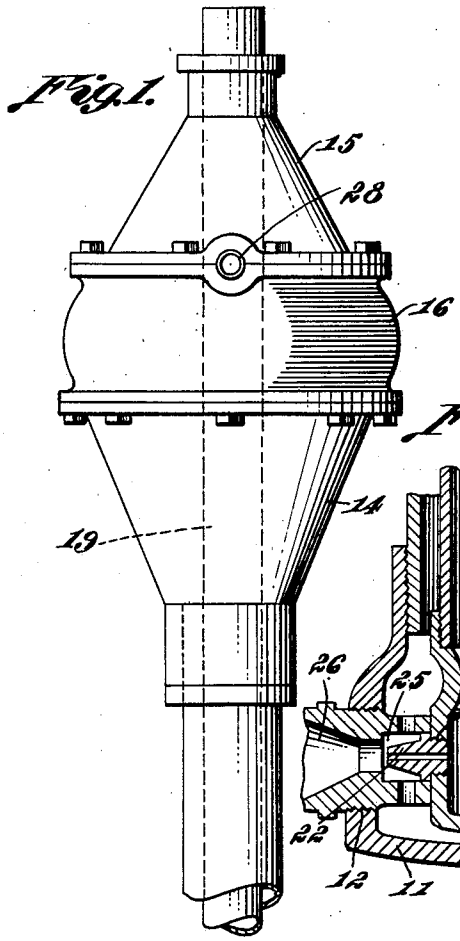


Fig. 2.

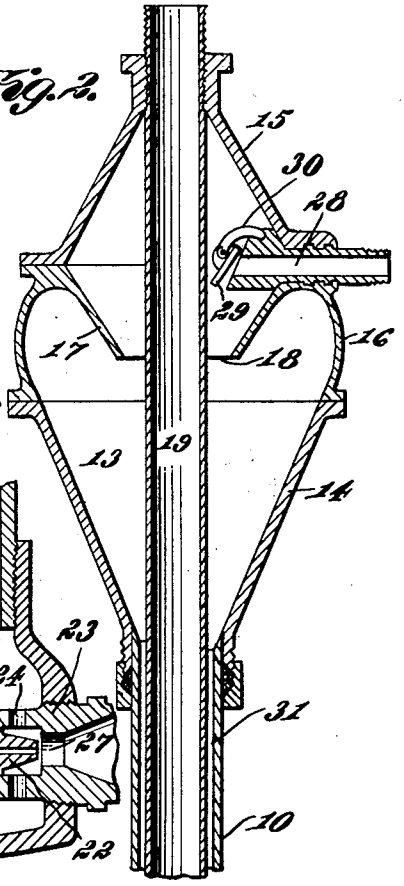


Fig. 3.

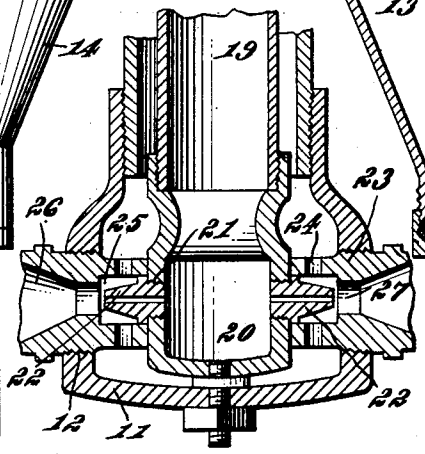
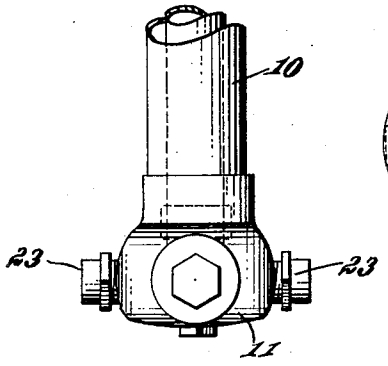
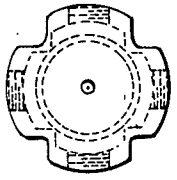
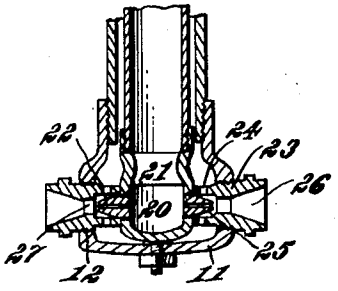


Fig. 4.







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WITNESS: William Thompson

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UNITED STATES PATENT OFFICE

JULIUS SZODOMKA, OF NEW ORLEANS, LOUISIANA

CLEANING DEVICE

Application filed October 4, 1930. Serial No. 486,496.

This invention relates to devices especially designed for cleaning, fumigating, spraying and deodorizing the interior of tanks, ships' holds and other compartments or containers for the removal of foreign substances and for purpose of sanitation.

Another object of the invention is the provision of a device by means of which a liquid or powder may be mixed with steam, air or gas, and a vaporized solvent provided for the purpose above stated, or for cleaning marble, stone or brick surfaces, or for the purpose of extinguishing fire.

With the above and other objects in view, the invention further includes the following novel features and details of construction, to be hereinafter more fully described, illustrated in the accompanying drawings and pointed out in the appended claims.

In the drawings:—

Figure 1 is an elevation partly broken away illustrating the invention.

Figure 2 is a sectional view of the same.

Figure 3 is an enlarged sectional view of the distributing head.

Figure 4 is a bottom plan view of the head per se.

Referring to the drawings in detail wherein like characters of reference denote corresponding parts, the reference character 10 indicates a tubular member which forms the outer casing of the device and which is provided at one end with a distributing head 11 having threaded openings 12. The opposite end of the tubular member 10 has extending therefrom an enlarged portion forming a combined suction and vaporizing chamber 13. This chamber 13 is made of an inner section 14 which is attached to the member 10, an outer section 15 and an intermediate section 16, the intermediate section having an annular inclined spreader flange 17 which provides a restricted passage 18 between the sections 14 and 15.

The section 15 includes an integral collar which is provided with a threaded opening within which is positioned one end of a pipe 19, and this pipe extends into the distributing head 11 and is provided with a cap 20. This cap like the distributing head 11 is provided with threaded openings 21, and extending from the cap and secured within these openings are nozzles 22. The nozzles 22 extend into nozzles 23 which are secured within the openings 12 and these last mentioned nozzles extend from the cap 20 and are provided with inlet openings 24. The openings 24 communicate with an inlet chamber 25 at the inner ends of the nozzles 23 and these chambers communicate with flared discharge mouths 26 through relatively small passages 27.

A nipple 28 extends into the suction chamber 13 and the inner end of this nipple is normally closed by a suction operated valve 29 carried by an arm 30.

The pipe 19 is designed to be placed in communication with a source of steam, gas or air, while the nipple 28 is adapted for communication with a suitable preparation, either liquid or powder, for mixture with the steam, gas or air so as to provide a solvent for the removal of foreign substances. Steam, etc., passing through the pipe 19 will thoroughly heat the pipe and the material or preparation from the pipe 28 will be drawn inward through the valve 29. This material will fall upon the flange 17 and be directed by said flange against the heated pipe 19 for vaporization. The steam, etc., passing outward through the nipples 22 will create a suction through the ports 24 and the passage 31 and provide a vacuum within the chamber 13, sufficient to open the valve 29 and direct the material or preparation inward for passage through the annular passage 31 provided between the pipe 19 and the tubular member 10, and will enter the distributing head and pass through the opening 24 into the nozzles 23 for mixture with the steam etc. being expelled through the nozzles 22.

By using proper chemicals, the device may be used for cleaning marble, stone or brick surfaces, or for the removal of paint, as well as to extinguish tank fires.

The invention is susceptible of various changes in its form, proportions and minor details of construction and the right is herein reserved to make such changes as properly fall within the scope of the appended claims.

Having described the invention what is claimed is:—

1. In a device of the character described, an outer tubular member, a distributing head at one end thereof, discharge nozzles extending from said head, a vaporizing chamber at the opposite end of the tubular member, valve controlled means within the vaporizing chamber to admit material to be vaporized into said chamber, a steam pipe extending through the vaporizing chamber and the outer tubular member into the distributing head and spaced from the outer tubular member to provide a restricted annular passage having communication with the distributing head nozzles, means to direct material passing into the vaporizing chamber through said valve controlled means against the steam pipe, and nozzles extending from the steam pipe into the distributing head nozzles to create a suction and provide a partial vacuum within the vaporizing chamber.

2. In a device of the character described, an outer tubular member, a distributing head at one end thereof, discharge nozzles extending from said head, a vaporizing chamber at the opposite end of the tubular member, a steam pipe extending through the vaporizing chamber and the outer tubular member into the distributing head and spaced from the outer tubular member to provide a restricted annular passage having communication with the distributing head nozzles, a suction controlled inlet valve in said chamber, an inwardly and downwardly extending annular spreader flange disposed within the vaporizing chamber beneath the valve and terminating short of the steam pipe to direct material from the valve to said pipe, and nozzles extending from the steam pipe into the distributing head nozzles to create a suction and provide a partial vacuum within the vaporizing chamber.

In testimony whereof I affix my signature.

JULIUS SZODOMKA.