Oct. 23, 1956 B. R. FAIRCHILD 2,768,101

PROCESS FOR REMOVING INCRUSTATION FROM A SURFACE

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FIG. 1

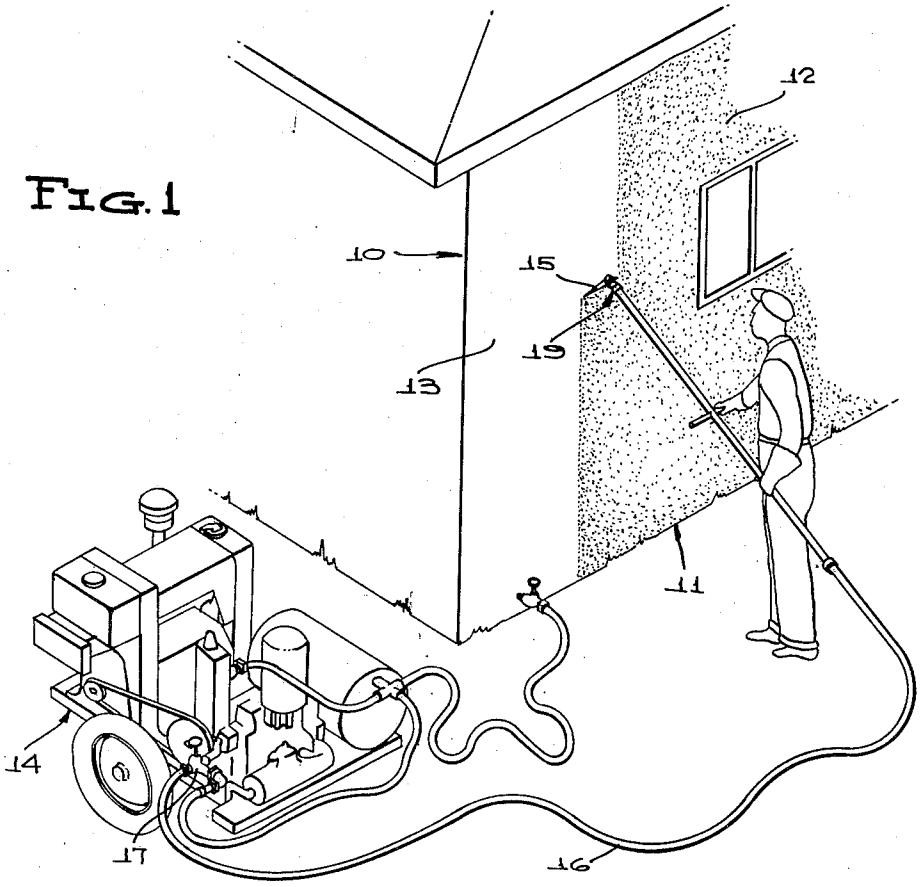


FIG. 2

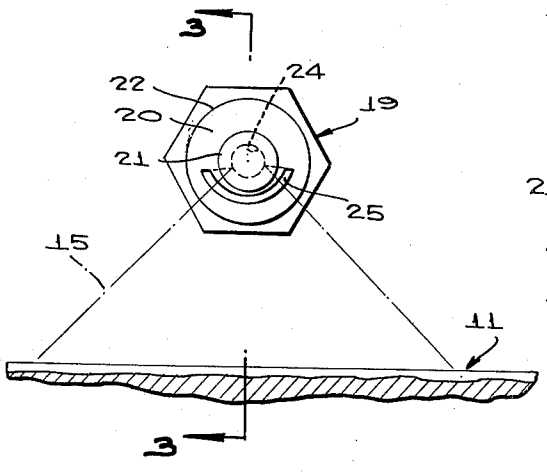
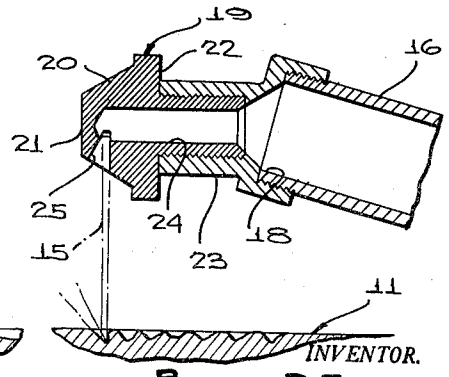


FIG. 3



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PROCESS FOR REMOVING INCRUSTATION FROM A SURFACE

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4 Claims. (Cl. 134—34)

This invention relates to a process for removing incrustation from a surface.

Various processes have been heretofore proposed for the removal of incrustations from surfaces, such as flooring or building walls made of masonry, stone, wood or like materials, by directing upon such surfaces either a stream of water heated to an elevated temperature, or a stream of water having admixed therewith an abrasive or detergent at ordinary or elevated temperatures, or a stream of water under pressure. All of such processes have the disadvantage in that the incrustation is removed only in parts. This is particularly true where the type of incrustation to be removed is either a bacterial growth, mildew, paint or a stain.

An object of the present invention is to provide a process for removing incrustation from a surface in which the removal is effected by forcibly playing a spread fan spray of water upon such surface.

Another object of the present invention is to provide a process for removing incrustation from a surface in which the removal is effected by playing a spread fan spray of water upon and in a direction perpendicular to such surface.

A further object of the present invention is to provide a process for removing incrustation from a surface in which the removal is effected by playing a spread fan sheet of water under high pressure and at ordinary temperature upon such surface.

Other objects and advantages of the process of the present invention will become apparent from the following description taken in conjunction with the accompanying drawing, in which:

Figure 1 is a perspective view of a portion of a building being cleaned of the incrustation on the exterior face thereof by the process of the invention, the apparatus employed in carrying out of such process being diagrammatically shown.

Figure 2 is an enlarged front view of the device of the assembly of Figure 1 for forming the spread fan spray of water.

Figure 3 is a sectional view taken on the line 3—3 of Figure 2.

With reference to the drawing, the numeral **10** designates a building in which the exterior face **11** of the masonry wall has an incrustation **12** which is being removed by the process of the present invention, the numeral **13** indicating the portion of the face **11** from which the incrustation has been removed. The incrustation may either be mildew, paint, stain, a bacterial growth, or the like. A linear line spread fan spray of water **15** at ordinary temperature, but under a pressure of from 600 up to and not exceeding 1500 pounds per square inch, preferably substantially 1000 pounds per square inch, is caused to be played upon the incrustation **12**. Such spread fan spray of water **15** is obtained by causing the water under the aforesaid pressure flowing into the conduit **16** from the pump **17** of the water supplying source indicated by the numeral **14** to flow through the spread

fan sheet forming device **19** at the discharge end **18** of the conduit **16**. The device **19** comprises a frusto-conical shaped nozzle head **20** which, Figures 2 and 3, is arranged so that the smaller end **21** is vertically disposed and spaced outwardly of and remote from the discharge end **18** of the conduit **16** with the larger end **22** also vertically disposed and spaced outwardly of and adjacent to the aforesaid discharge end, the head **20** being detachably secured to the discharge end **18** of the conduit **16** by means of a coupling **23**. The head **20** has a bore **24** which extends inwardly from its larger end **22** to a point adjacent to the smaller end **21**, the bore being in communication with the discharge end **18** of the conduit **16**. The head **20** is also provided in its lower portion with an arcuate slot **25**, the slot extending perpendicularly through the head **20** adjacent the smaller end **21** thereof and tapering inwardly from the exterior of the head with its tapered end in communication with the bore **24**. The water within the pressure range flows out of the discharge end **18** of the conduit **16** through the coupling **23** into the bore **24** of the head **20** and is discharged from the bore through the slot **25** in the form of the linear line spread fan spray **15**.

Preferably, the spread fan spray emitting from the head **20** is so positioned that it is in a direction perpendicular to the exterior face **11** of the building **10**, as shown in Figures 2 and 3. The linear line spread fan spray is advanced back and forth across the face **11** containing the incrustation until all of such incrustation has been detached from the face underneath and has been floated away. This results in the restoration of the face **11** to its original appearance with all traces of the incrustation removed.

While the invention has been described in connection with the removal of incrustation from a wall of a building, it is understood that masonry roofs may be cleaned in a like manner.

For the removal of incrustation from asbestos shingle roofs, water of a pressure about 600 pounds per square inch for the formation of the spread fan sheet has been found to give satisfactory results. For houses having soft cement tile roofs and plaster side walls, water of a pressure of about 800 pounds per square inch should be employed for the formation of the spread fan spray. In the case of houses having hard cement tile roofs and side walls of hard cement, the water for the formation of the spread fan spray should be 1000 pounds per square inch, while in the case of houses fabricated of synthetic marble granite, natural stone or brick, the water for the formation of the spread fan spray should be about 1500 pounds per square inch.

This application is a continuation-in-part of now abandoned application Serial No. 340,118, filed March 3, 1953, Process for Removing Incrustation from a Surface.

Having thus described the invention what is new and desired to be secured by Letters Patent is:

1. A process for removing incrustation from surfaces of building structures which comprises playing upon said surfaces a linear line spread fan spray of water at ordinary temperature and under a pressure of from 600 up to and not exceeding 1500 pounds per square inch and causing said water spray to be moved back and forth across said surface until all of the incrustation has been detached therefrom and floated away.

2. A process for removing incrustation from surfaces of building structures which comprises playing upon said surfaces a linear line spread fan spray of water at ordinary temperature and under a pressure of from 600 up to and not exceeding 1500 pounds per square inch and in a direction perpendicular to said surface and causing said water spray to be moved back and forth across said surface while maintaining the spray in the aforesaid direction

with respect to said surface until all of the incrustation has been detached therefrom and floated away.

3. A process for removing incrustation from surfaces of building structures which comprises playing upon said surfaces a linear line spread fan spray of water at ordinary temperature and under a pressure of substantially 1000 pounds per square inch and causing said water spray to be moved back and forth across said surface until all of the incrustation has been detached therefrom and floated away.

4. A process for removing incrustation from surfaces of building structures which comprises playing upon said surfaces a linear line spread fan spray of water at ordinary temperature and under a pressure of substantially 1000 pounds per square inch and in a direction perpendicular to said surface and causing said water spray to be moved back and forth across said surface while maintaining the spray in the aforesaid direction with respect to said surface until all of the incrustation has been detached therefrom and floated away.

References Cited in the file of this patent

UNITED STATES PATENTS

2,342,533 Edwards ---------- Feb. 22, 1944

OTHER REFERENCES

Moore: "How to Clean Everything," page 106, Simon & Schuster, N. Y., 1952.