May 30, 1967 A. J. BRAUNGER 3,321,793

DEVICE FOR STEAM CLEANING AND DE-ICING
THE LOW PORTIONS OF AUTOMOBILES
Filed March 19, 1965

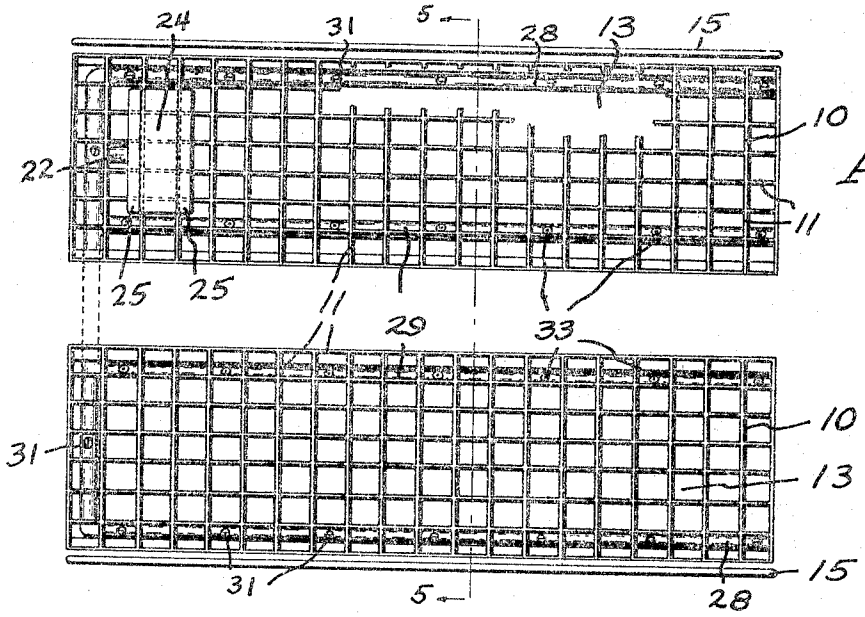


Fig. 1

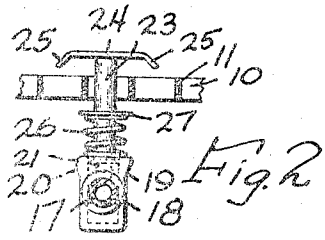


Fig. 2

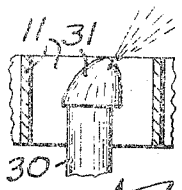


Fig. 3

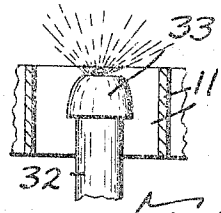


Fig. 4

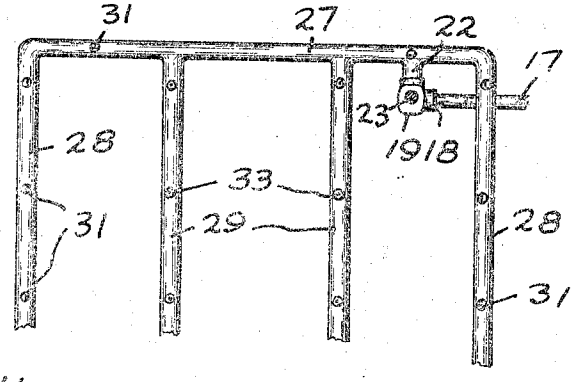


Fig. 6

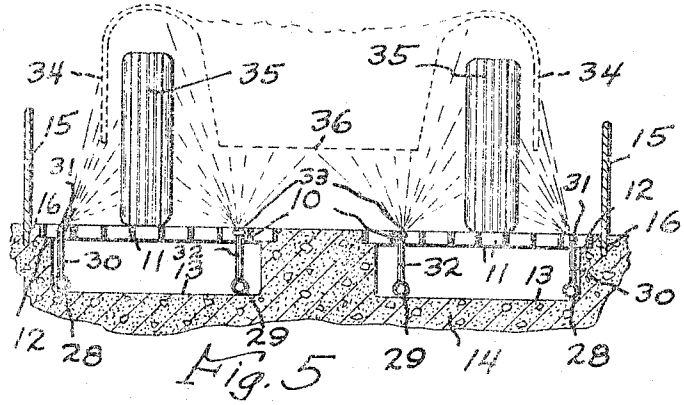


Fig. 5

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3,321,793

DEVICE FOR STEAM CLEANING AND DE-ICING THE LOWER PORTIONS OF AUTOMOBILES

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1 Claim. (Cl. 15—302)

My invention relates to a de-icing arrangement especially for automobiles.

An object of my invention is to provide a de-icing and cleaning device which will automatically provide for the ejection of hot steam against the lower automobile portions, and to thereby melt the ice which has formed thereon, and also to remove the salt which will adhere to the automobile lower portions when said salt is used for melting ice on roadways, etc.

A further object of my invention is to provide an arrangement of this type which can be used on automobiles of varying sizes.

A further object of my invention is to provide an arrangement which is simple in construction, and which is not cumbersome or unduly large.

With these and other objects in view, my invention consists in the construction, arrangement, and combination of the various parts of my device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claim, and illustrated in the accompanying drawings, in which:

FIGURE 1 is a plan view of my device,

FIGURE 2 is an enlarged detail of the valve structure,

FIGURE 3 is an enlarged detail of one of the steam emititng nozzles,

FIGURE 4 is a further enlarged detail of a further nozzle,

FIGURE 5 is a generally cross sectional view of FIGURE 1 taken along the lines 5—5 thereof, and

FIGURE 6 is a general view of a portion of the steam circuit.

My invention contemplates the provision of an arrangement wherein the automobile driver can drive over the same, the arrangement being of a small enough size so as not to occupy too much room in a service station or the like, and wherein hot steam will be ejected or forced against the lower portions of the vehicle and to thereby melt off the ice, snow, salt, etc. which will be suitably drained through the arrangement.

In describing my device I have used the character **10** to indicate generally a pair of laterally spaced grilles made of fairly heavy bars **11**, thereby leaving a multiplicity of open spaces, these grilles being suitably received within the marginal portions **12** of the cavities **13** which cavities are provided within the cement **14**, and I have further used the character **15** to indicate a pair of vertical baffle plates suitably secured as at **16**.

The character **17** indicates a feed line which is suitably connected to a source of steam pressure, which line **17** communicates as at **18** to a valve structure or housing **19**, and received within the housing **19** is the valve member **20** having a circular port **21** which communicates with a further pipe section **22**. The character **23** indicates a plunger attached to the plate **24** having the inclined sides **25**, and the character **26** indicates a helical compression spring which bears against the washer **27** which is attached to the plunger **23**.

The pipe section **22** communicates to the pipe **27** which

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connects to the further outer pipes **28** and also to the inner pipes **29**, and attached to the pipes **28** are the vertical tubes **30** which terminate in the nozzles **31** which nozzles are adapted to force the steam centrally and to one side angularly and upwardly.

Attached to the inner pipes **29** are the further vertical tubes **32** which are attached to the nozzles **33** which allow the steam to be ejected centrally and to both sides as shown in FIGURE 4.

The cavities **13** include suitable sumps and can be inclined suitably to allow for drainage to any connecting sewer and the like.

The device operates in the following manner. When it is desired to remove the ice, snow and salt from the lower portions of the vehicle, and which salt must be removed before the eroding action takes place, the driver of the automobile will merely drive over the grilles **10**, whereupon the right hand forward wheel of the automobile will rest upon the plate **24**, and the plate will be forced downwardly thereby causing the port **20** to communicate with the steam circuit, and the steam will then be ejected out of the nozzles **31** and **33**.

The dotted lines **34** in FIGURE 5 illustrate the enclosing portions which enclose the wheels **35**, the dotted lines character **36** indicating the lower central portions of the automobile, and it will be noted that the steam ejected from the nozzles **31** will be directed angularly upwardly against the portions **34**, and the inner nozzles **33** will be directed against the central portions of the automobile as well as the other wheel enclosing portions, so that as a result the ice, snow, etc. will be melted and will fall through the grilles **10** and will be suitably drained. The baffle plates **15** provide an important function in that they will have the tendency of concentrating the temporary heat effects generated by the steam. As soon as the operator hears the steam being ejected, he will know that he is on the plate **24**, and after the necessary interval he can then drive ahead, with the lower portions of the automobile being completely cleaned.

It will now be noted that I have provided the various advantages mentioned in the objects of my invention with further advantages being apparent.

Some changse may be made in the construction and arrangement of the parts of my invention without departing from the real spirit and purpose of my invention, and it is my intention to cover by my claim any modified forms of structure or use of mechanical equivalents which may be reasonably included within their scope.

I claim as my invention:

A device for steam cleaning and de-icing the lower portions of automobiles comprising a horizontally positioned grille structure adapted to receive an automobile thereon, a plurality of steam jets positioned beneath said grille structure for ejecting steam onto the lower portions of said automobile, steam pipes communicating to said jets, a valve member for releasing steam to said jets, a plate positioned above said grille structure and attached to said valve member for releasing said steam to said jets when the weight of a portion of an automobile rests upon said plate, certain of said jets being positioned outwardly, and being adapted to provide steam jets passing angularly upwardly and inwardly, a further plurality of jets being positioned inwardly and being further adapted to impinge upon certain lower portions of said automobile.

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