Jan. 5, 1926. 1,568,414

J. G. PFADT

SNOW MELTING MACHINE

Filed July 3, 1925

Fig. 1.

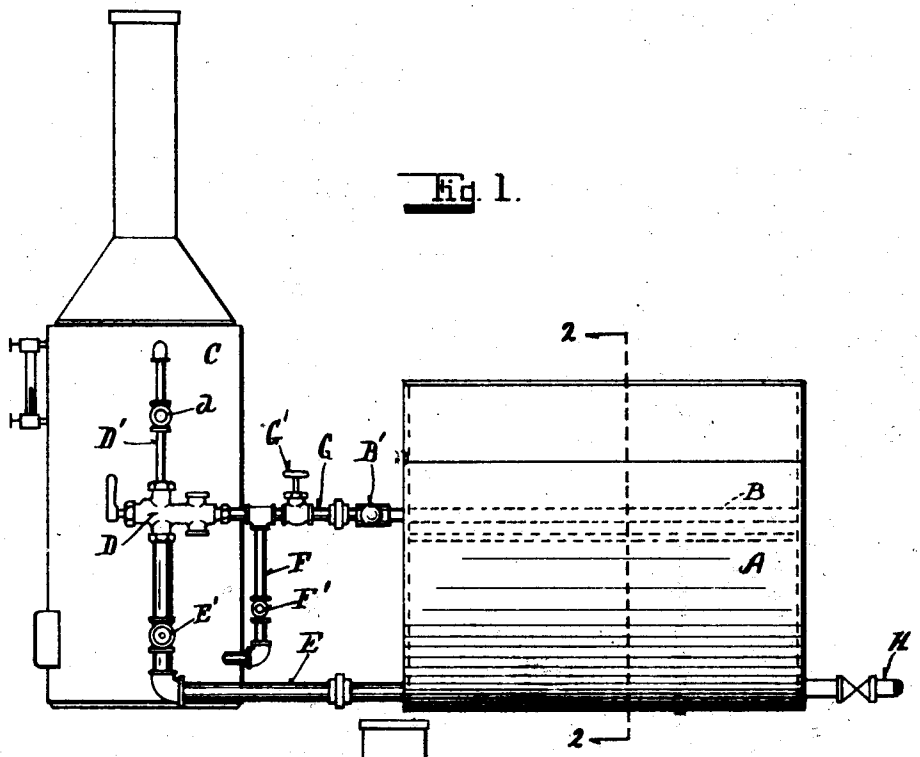
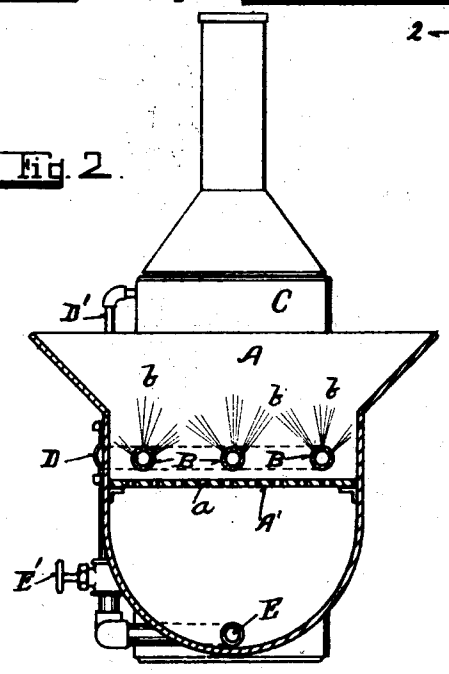


Fig. 2.



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JOHN G. PFADT, OF ERIE, PENNSYLVANIA.

SNOW-MELTING MACHINE.

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To all whom it may concern:

Be it known that I, JOHN G. PFADT, a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Snow-Melting Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, forming part of this specification.

This invention relates to means for melting snow removed from streets.

The usual method is to shovel snow from a street into a truck and cart it away to some designated dumping place, which requires more or less loss of time. With my apparatus the snow is shoveled into a tank mounted on a suitable vehicle wherein it is melted, and the water allowed to run into a sewer.

I have found that hot water is the best means for melting snow and ice, and in my invention I provide means for supplying hot water and spraying it upon snow placed in an open top tank, said water heating means and tank being mounted upon a suitable vehicle, not shown, whereby it can be moved along a street, and snow shoveled into the tank, and the water allowed to run into a sewer.

In carrying out my invention, I provide an open top melting tank in which I provide a perforated, false bottom, above which are placed spray tubes adapted to direct sprays upwardly, and I provide a small steam-boiler, and a suitable feed water injector of ordinary construction to force feed-water into the boiler from the bottom of the melting tank. I also provide a by-pass pipe from said injector apparatus to conduct water from the injector to the spray tubes in the melting tank. These and other features of my invention will appear hereinafter, and are illustrated in the accompanying drawings in which:

Figure 1 is a side elevation of my snow melting apparatus.

Figure 2 is a section thereof on the line 2—2 in Fig. 1.

In these drawings A indicates an open top tank in which is placed a false botton plate A′ which is provided with perforations *a*. The bottom of the tank A is preferably semi-cylindrical. Above the false bottom plate is placed a plurality of tubes B which connect with a transverse tube B′ outside of the tank A. The tubes B are each provided with openings from which sprays *b* are directed in an upwardly direction as indicated in Fig. 2.

In Fig. 1, C indicates a steam boiler of ordinary construction, and D indicates a feed-water injector of ordinary construction, to which steam is supplied from the boiler by the pipe D′, which is provided with a shut off valve *d*. E indicates a water supply pipe adapted to take water from the lower portion of the tank A. E′ indicates a shut off valve in the feed-water supply pipe E.

From the injector D a pipe F leads to the lower portion of the boiler C, through which feed-water is conducted from the injector D to the boiler C. The pipe F is provided with a shut-off valve F′.

The injector D is provided with a by-pass pipe G which leads to the transverse pipe B′ through which water from the injector D is conducted to the spray tubes B in the tank A. The by-pass pipe G is provided with a shut-off valve G′.

The boiler C and tank A can be mounted upon a suitable vehicle (not shown) by means of which it can be conveyed along a street to be cleared of snow. H indicates a drain pipe and valve to which a hose, not shown, can be attached to convey excess water to a sewer opening.

In operation steam is generated in the boiler C, an adequate supply of feed water is placed in the tank A. The injector D is started in the usual manner, and feed water supplied to the boiler C through the pipe F until the water in the boiler is at the proper level, then the valve F′ is closed and the by-pass valve G′ is opened and water from the injector D flows into the jet tubes B at a pressure sufficient to force the jets *b* upwardly. The operating steam flowing to the injector D through the pipe D′ heats the water flowing from the injector sufficiently. Snow is then shoveled into the tank A and readily melts and the water therefrom drops through the perforated plate *a* into the lower portion of the tank, from which it is again drawn by the injector D, and the excess water can be drained off through the pipe H.

Having thus fully shown and described my invention so that others can utilize the same, what I claim as new and desire to secure by Letters Patent is:

1. In an apparatus of the class described, a tank, a perforated false bottom in said tank space above the bottom thereof, a spray tube above said false bottom, a boiler, feed-water supply apparatus adapted to draw water from said tank and force it into said boiler, and a by-pass pipe connecting said feed water supply apparatus with said spray tube.

2. In an apparatus of the class described, a tank to receive snow to be melted, a steam boiler, a feed water injector adapted to supply water to said boiler, a by-pass pipe connected to said injector, and a spray tube connected with said by-pass pipe adapted to spray water from said injector against snow placed in said tank.

3. In an apparatus of the class described, a tank to receive snow to be melted, a false perforated bottom in said tank, a steam boiler, a feed water injector adapted to force water into said boiler, a water supply pipe from the lower portion of said tank to said injector, a steam supply pipe from said boiler to said injector, and a branch pipe from the injector to said tank above said false bottom.

4. In an apparatus of the class described, a tank to receive snow to be melted, a false perforated bottom in said tank, jet pipes above said false bottom having upwardly directed jet openings, a steam boiler, a feed water injector, a feed water pipe from said injector to said steam boiler, a branch from said pipe to said jet tubes, a steam pipe from said boiler to said injector to supply steam thereto, whereby water is heated and forced into said boiler and said jet tubes, and a feed water supply pipe leading from the lower portion of said tank to said injector.

In testimony whereof I affix my signature.

JOHN G. PFADT.