H. HILL.

SNOW REMOVING MACHINE.

APPLICATION FILED JUNE 3, 1914.

1,131,378. Patented Mar. 9, 1915.

Fig. 1.

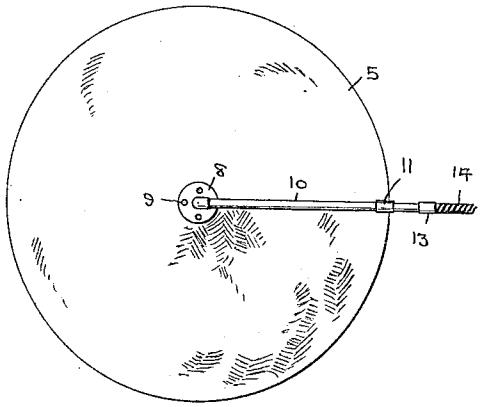


Fig. 2.

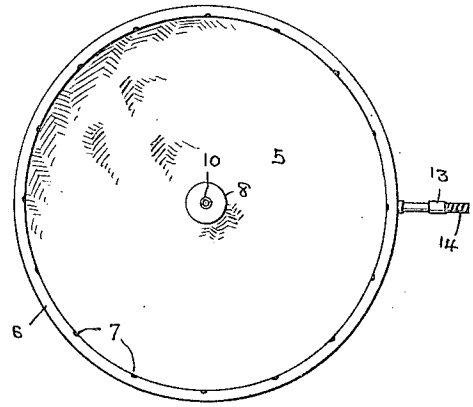


Fig. 3.

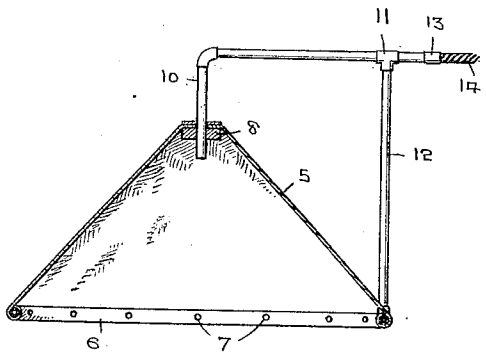
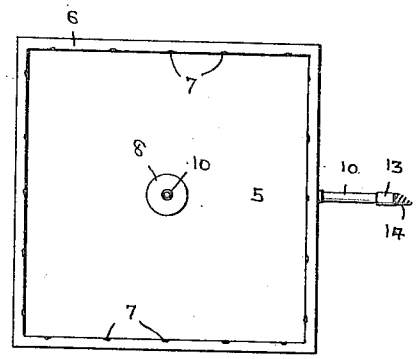


Fig. 4.



WITNESSES

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SNOW-REMOVING MACHINE.

1,131,378. Specification of Letters Patent. Patented Mar. 9, 1915.

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To all whom it may concern:

Be it known that I, HORACE HILL, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Snow-Removing 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.

This invention relates to devices for removing accumulations of snow from roads, pavements, streets, railways, etc., and is more specifically concerned with snow removers of the type that employ steam or hot air as the removal agency.

As a principal object, this invention contemplates the provision of a device which shall be extremely light and easy to handle while at the same time durable and efficient in operation.

An object of equal importance is to provide a snow remover whose parts take up practically no space at all when packed away and not used yet which requires no assembling when it is desired to put the same in operation.

A further object is to provide a device of this character which shall readily and easily be attachable to any source of steam or hot air and which will perform its functions with equal facility no matter to what source it may be connected.

A still further object is to provide a snow remover of the type described which is constructed with such regard to proportion, number and arrangement of parts as to be cheaply manufactured, and which will readily remove any quantity of snow from a pavement or street with a minimum expenditure of time and labor and without requiring any manipulation by the operator.

The above and additional objects are accomplished by such means as are illustrated in the accompanying drawings, described in the following specification and then more particularly pointed out in the claims which are appended hereto and form a part of this application.

With reference to the drawings, wherein I have illustrated the preferred embodiment of my invention as it is reduced to practice, and throughout the several views of which like characters of reference designate similar parts, Figure 1 is a top plan view of one of the many forms which may be assumed in the practical working out of my invention, Fig. 2 is a bottom plan view of the matter shown in Fig. 1, Fig. 3 is a vertical section taken through the center of my invention, and, Fig. 4 is a bottom plan view of another shape in which my invention is adapted for use.

Proceeding now to the description of the drawings it will be seen that the main or hood portion of my device 5 is essentially frusto-conical in form and supports along its lower open end the pipe 6 which is circular in shape and serves to hold the hood 5 in the spread out position indicated in Fig. 3 which figure shows the device in use. This hood 5 may be made from cloth, asbestos or any suitable material preferably one however, which will be flexible and render the device capable of being folded to assume comparatively a small compass when it is desired to store the device away. This pipe 6 is provided with a plurality of spaced apertures 7 which are positioned upon the inner circumference thereof, to allow the escape of jets of steam or hot air which it is the function of this pipe to eject upon the snow or ice which it is desired to remove. A suitable apertured block 8 is inserted and held in the upper portion of the hood 5 and securely held by any suitable fastening means 9. Through the aperture of this block 8 is inserted and branded or welded thereto the steam conducting pipe 10 which is afterward bent at right-angles parallel to the plane of the pipe 6. By means of the joint 11 a second steam conducting pipe 12 is connected to the pipe 10 at one of its extremities and at the other to the circular pipe 6 which latter it is designed to supply with the steam or hot air. The bent end of the pipe 10 extends a short distance beyond the joint 11 and is threaded to receive the sleeve 13 which is formed upon the extremity of the flexible steam or hot air conductor 14.

The operation of the construction just previously described will be readily apparent. The far end of the flexible connection 14 is connected to any suitable source of steam or hot air supply such as a boiler which is not shown but which may be either the stationary type commonly used as heating plants in houses or a portable boiler which is adapted to be moved from street to street during a continuation of the snow removing process. The flexible tube 14 will

be of course of that proper length necessary to allow for a wide radius of movement around the boiler. The course of steam through the pipe 14 is divided upon reaching the joint 11 a portion of it passing through the tube 12 and around the pipe 6 and thence outwardly through the apertures 7 to take action upon the snow, while the remainder is conducted through the pipe 10 and discharged in the upper portion of the hood 5 by which it is downwardly and outwardly directed. It will be seen by these means that I have provided a device capable of dispensing live steam or hot air over the snow in such manner as to quickly melt the same, no labor being necessary on the part of the operator. It will be seen that the hood 5 not only directs the steam or hot air against the surface of the snow to be removed but also prevents the escape or wasting of such steam or hot air which would be a natural result were it not for the structure of my device as shown. It will be further understood that the pipes 10 and 12 here illustrated as of the nonyielding variety may if desired be replaced by flexible tubing similar to the pipe 14.

The modification shown in Fig. 4 differs only from the preferred form described in the foregoing in the shape of the hood 5 all the other elements performing the same function. It is obvious in this connection that various forms or shapes of the hood 5 and the pipe 6 with a corresponding variety of sizes may be adopted by me for use in my invention without departing from the scope thereof, as defined in the appended claims.

What I claim is:

1. A device of the character described including a hood, an apertured pipe supported by said hood and supporting it in extended position and means for conducting steam or hot air into said apertured pipe whereby it is dispensed upon the surface of the snow to be removed.

2. A device of the character described including a hood, an apertured block secured in the upper portion of said hood, a pipe leading through said apertured block, a second pipe supported by the lower portion of said hood and shaped to conform thereto and means for conducting steam or hot air to each of said pipes whereby it is dispensed upon the surface of the snow to be removed.

3. A device of the character described including a flexible hood, an annular pipe secured along the lower edge of said hood and serving to hold said hood extended, an apertured block secured in the upper portion of said hood and a steam or hot air pipe leading from a suitable source of supply into said hood through said apertured block and into said annular pipe.

4. In a device of the character described, a flexible supply pipe connected to a suitable source of steam or hot air supply, branch pipes connecting to said supply pipe flexible means for the prevention of the wasteful escape of the fluid and an apertured dispensing pipe connected to one of said branch pipes, and supported by said flexible hood continuously around the lower edge of the same.

5. In a device of the character described, a flexible supply pipe connected to a suitable source of steam or hot air supply, branch pipes connecting to said supply pipe flexible means for the prevention of the wasteful escape of the fluid and an apertured dispensing pipe connected to one of said branch pipes and also connected to said flexible means to hold the latter in its extended position when the device is being used.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HORACE HILL.

Witnesses:
RAYMOND A. HENRY,
DAVID Y. MOORE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."