(No Model.)

C. F. SPRINGFELS.

SNOW OR ICE MELTING APPARATUS.

No. 520,941. Patented June 5, 1894.

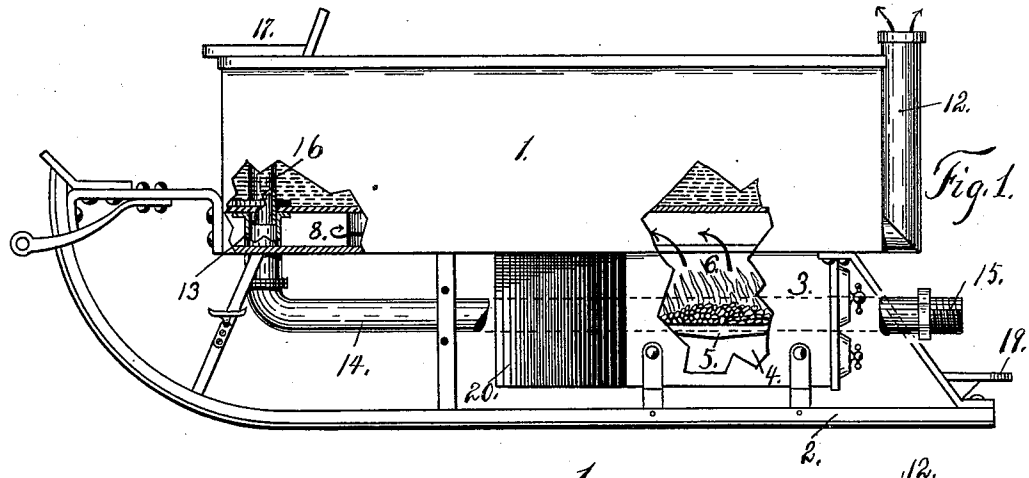

Fig. 1.

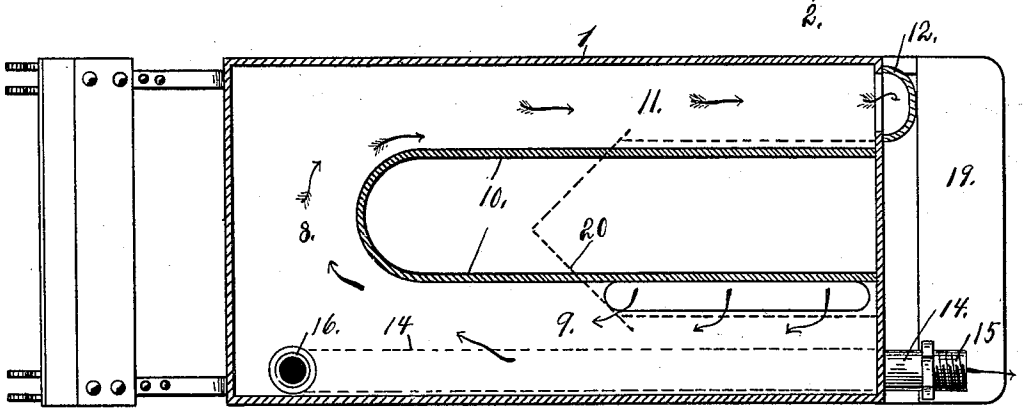

Fig. 2.

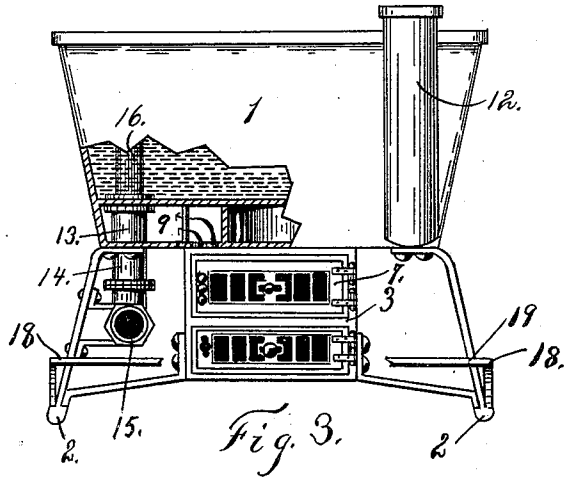

Fig. 3.

Witnesses:

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SNOW OR ICE MELTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 520,941, dated June 5, 1894.

Application filed February 10, 1894. Serial No. 499,730. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. SPRINGFELS, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Snow or Ice Melting Apparatus; 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 figures of reference marked thereon, which form a part of this specification.

My invention relates to portable apparatus for melting snow and ice, its object being to convert the accumulations of snow and ice in the streets of cities into water, which is discharged into the sewers, thereby saving the expense of hauling the same long distances as is now the case.

To that end my invention consists of a portable box or receptacle, a furnace located underneath the box or receptacle, a draft-passage occupying a hollow space, which covers the bottom of the box or receptacle, such draft-passage extending around a partition wall in the hollow space and opening at one side of the rear end into the fire-box of the furnace and at the other side of the rear end into the smoke-pipe, and an outlet passage leading from the box or receptacle to a pipe or hose underneath the same for conveying the melted snow and ice or water to the sewer.

My invention consists of other details of construction which will be more fully hereinafter described.

I will now proceed to minutely describe the manner in which I have carried out my invention and then claim what I believe to be novel.

In the drawings, Figure 1 is a side sectional elevation of my improved apparatus taken in the line *x*—*x* of Fig. 3. Fig. 2 is a rear elevation of the same with portions broken away, and Fig. 3 is a horizontal section taken in the line *y*—*y* of Fig. 1.

Referring to the drawings, 1 is the box or receptacle into which the snow or ice to be melted is thrown and it is preferably mounted upon the runners 2. 2. as shown.

3 is a furnace located underneath the box 1 and preferably at its rear end. It has the ash-pit 4, grate-bars 5 and fire-box 6 to which access is obtained through the door 7.

8 is a hollow space covering the bottom of the box or receptacle which is formed into a draft passage leading from one side of the rear end of the box 1 as at 9 which opens into the fire-box, to the front and around the partition 10 and back along the other side of the partition 10 as at 11, to the rear of the box 1 where it opens into the smoke pipe 12. An outlet-passage 13 is located at the forward end of the box 1 which passes down through the hollow space 8 and leads into a pipe or hose 14 secured at one side to the runner-frame its read end 15 being adapted to be secured to a hose not shown leading to the nearest opening into the sewer.

16 is an adjustable section of pipe fitting snugly within the outlet orifice 13 and adapted to be raised or lowered within the same to limit the drainage of the water in the box or entirely removed to permit any sediment which may have collected to pass out through the orifice 13.

17 is the seat for the driver and 18. 18. are side steps and 19 a rear step upon which the attendants stand and are carried as the apparatus is moved from place to place.

In operation a hot fire is made and maintained in the furnace 3 and the products of combustion pass up into the portion 9 of the draft passage and pass forward and around the partition 10 into and along the portion 11 to the smoke-pipe 12 where they pass out into the open air. In this manner the bottom of the box or receptacle 1 which forms the upper wall of the draft passage is heated to a very high temperature which has the effect of rapidly melting the snow and ice thrown into the box. A portion of the water resulting therefrom passes out through the adjustable section 16 and through the outlet-passage 13 into the pipe 14 from whence it is conducted into the sewer.

The object of the adjustable section of pipe 16 is to retain a portion of the water in the box up to the level of the top of the section 16, which level may be varied as desired by

raising or lowering the section 16 in its socket. The remaining water is kept at a high temperature by the furnace and greatly facilitates the melting of the snow and ice thrown therein and as, by this means, a supply of hot water is always maintained in the box, the apparatus when its location is changed is ready for instant use when its next destination is reached.

The accumulations of sediment in the box or receptacle 1 may be removed when desired by removing the adjustable section of pipe 16 thus permitting the sediment to be washed out by the escaping water.

It will be readily seen that with my improved apparatus the large accumulations of snow and ice upon the streets of a city can be quickly disposed of and at a greatly reduced expense as the long and costly haul now necessary under the present system is entirely eliminated.

I have added, to the front of the furnace a plow or protector 20 which is formed of two sheets of iron arranged at a vertical angle to each other and designed to prevent any contact of the snow or ice with the front wall of the furnace.

I claim—

A portable snow melting apparatus consisting of a box or receptacle, a furnace located underneath the box or receptacle a draft-passage occupying a hollow space which covers the bottom of the box or receptacle such draft passage extending around a partition wall in the hollow space and opening at one side of the rear end of the receptacle into the fire-box of the furnace and at the other side of the rear end into the smoke-pipe and an outlet passage provided with a vertically adjustable and removable section of pipe all combined and operating substantially as and for the purpose stated.

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

CHARLES F. SPRINGFELS.

Witnesses:
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F. P. KERSTEN.