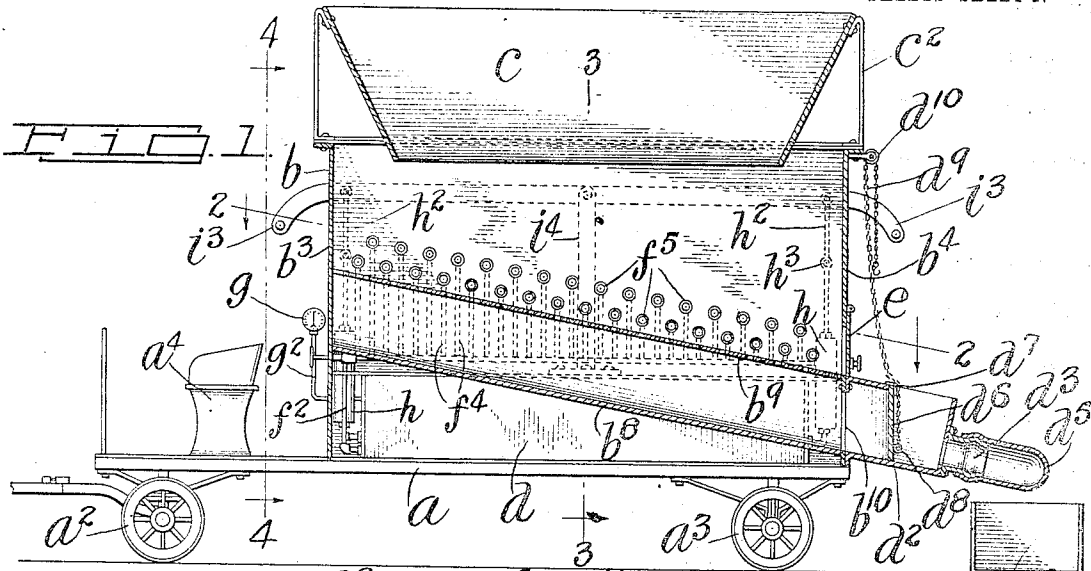
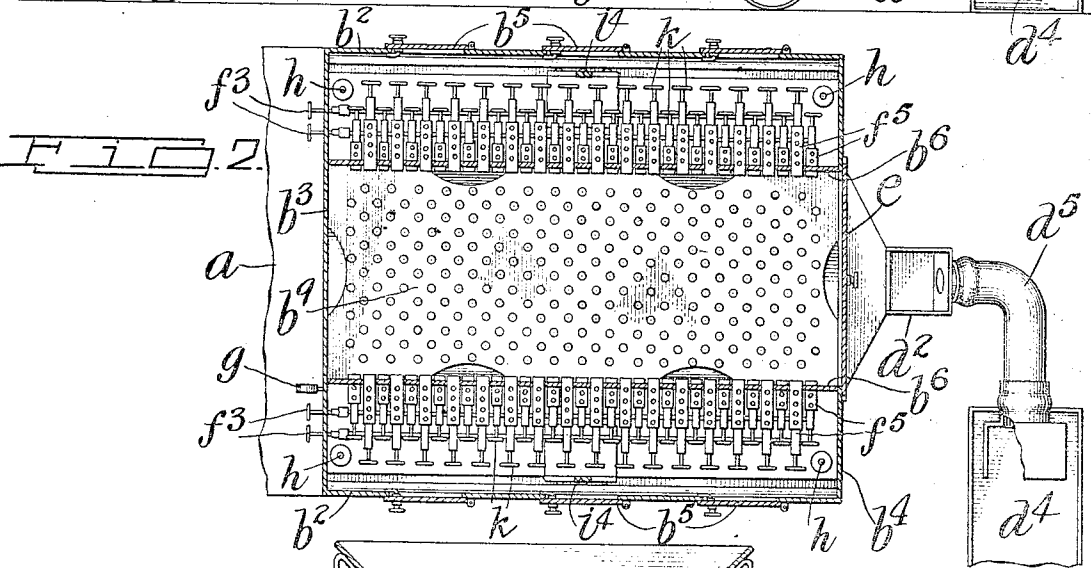
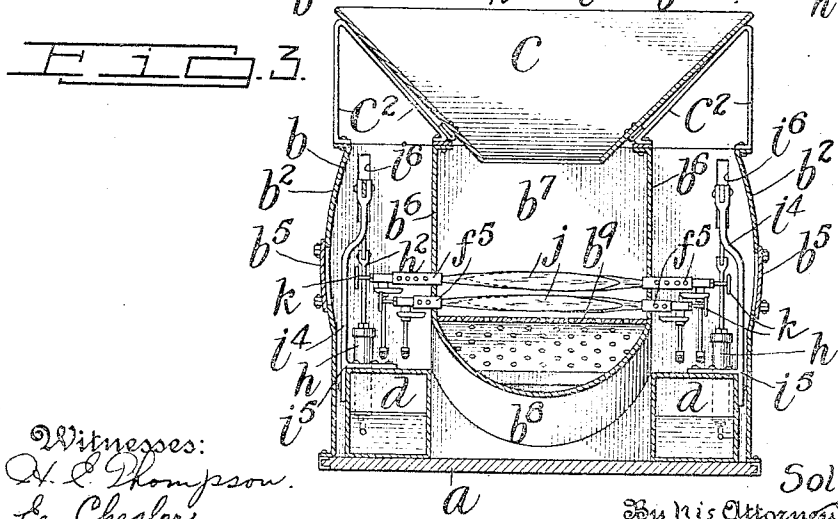


S. DENEMARK.
SNOW MELTING APPARATUS.
APPLICATION FILED JULY 27, 1914.

1,117,985.

Patented Nov. 24, 1914.

2 SHEETS—SHEET 1.



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E. Chesler.

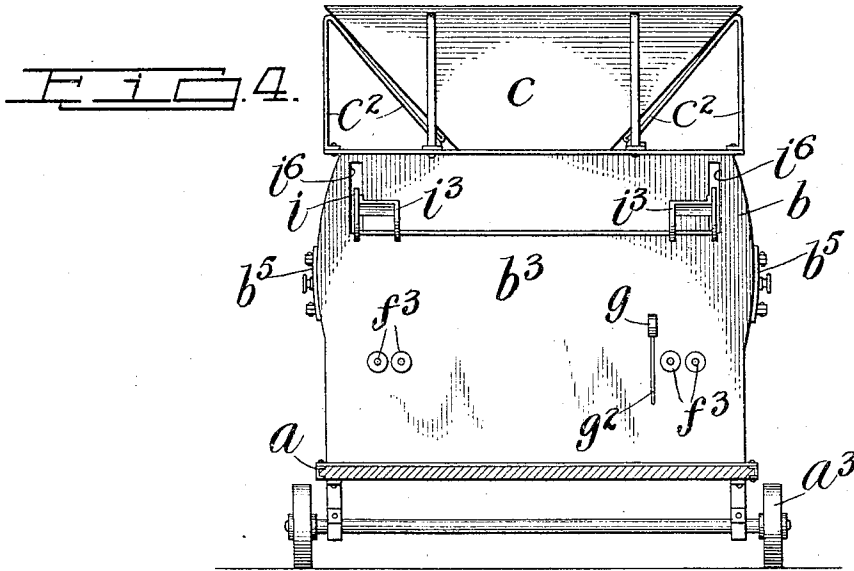
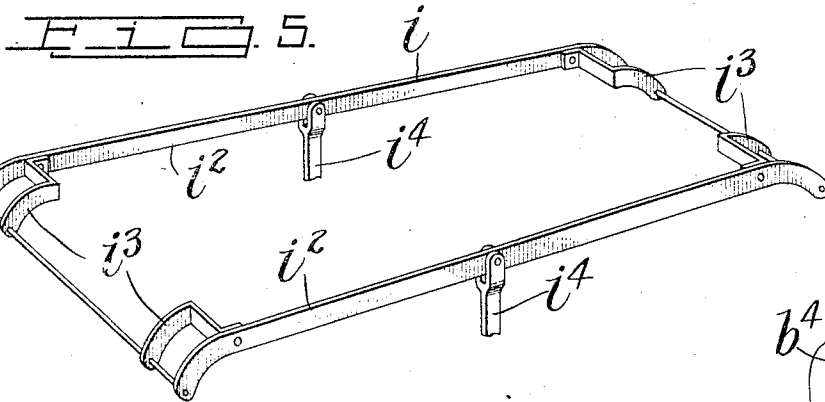
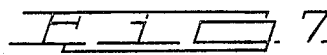
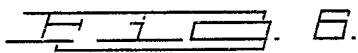
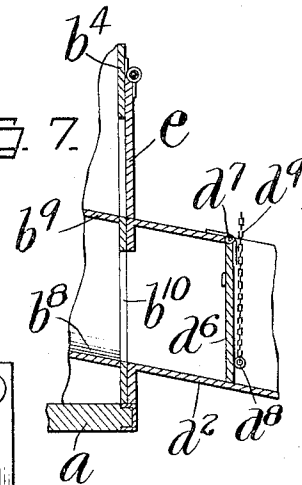
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SNOW MELTING APPARATUS.
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

SOLOMON DENEMARK, OF BROOKLYN, NEW YORK.

SNOW-MELTING APPARATUS.

1,117,985.

Specification of Letters Patent.

Patented Nov. 24, 1914.

Application filed July 27, 1914. Serial No. 853,317.

To all whom it may concern:

Be it known that I, SOLOMON DENEMARK, a citizen of the United States, and residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Snow-Melting Apparatus, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to snow melting apparatus, and the object thereof is to provide an apparatus of this class mounted on or made in the form of a truck and which can be easily moved about from place to place and which is simple in construction and effective in operation and which may be used wherever apparatus of this class is desired.

The invention is fully disclosed in the following specification of which the accompanying drawings form a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which:—

Figure 1 is a sectional side view of my improved snow melting apparatus;—Fig. 2 a section on the line 2—2 of Fig. 1;—Fig. 3 a vertical transverse section on the line 3—3 of Fig. 1;—Fig. 4 a vertical section on the line 4—4 of Fig. 1; Fig. 5 a perspective view of a pump operating lever which I employ;—Fig. 6 a plan view of one of the gasoline tanks which I employ and showing burner supply pipes connected therewith, and;—Fig. 7 a view similar to Fig. 1, but showing only a detail of construction and showing the same on an enlarged scale.

In the drawing forming part of this specification, I have shown a truck frame *a* having front wheels *a*² and rear wheels *a*³ and a front seat *a*⁴, and in carrying my invention into effect, I mount on the truck frame a body *b* which may be composed of any suitable material, and which is oblong and approximately rectangular in form, and which comprises side walls *b*², a front end wall *b*³ and a rear end wall *b*⁴, and the side walls *b*² are provided with doors *b*⁵, and mounted over the body *b* is a hopper *c*.

Placed longitudinally in the bottom of the body *b* and in the opposite sides thereof are gasoline tanks *d*, and in the body *b* and above the tank *d* and flush with the inner walls of said tank are vertical partitions *b*⁶

forming a central longitudinal snow chamber *b*⁷, the bottom of which consists of a backwardly and downwardly inclined trough *b*⁸ having a perforated cover *b*⁹, and the hopper *c* is provided with supports *c*² connected with the side walls *b*² of the body and with the partition walls *b*⁶.

At the rear end of the trough *b*⁸ the end wall *b*⁴ of the body is provided with an opening *b*¹⁰ and the trough *b*⁸ is provided with a backwardly directed extension *d*² having a discharge spout *d*³ adapted to discharge snow water into a trough *d*⁴ by which it may be conveyed to a sewer or drain and the discharge spout *d*³ may be provided with a flexible hose *d*⁵ for conveying the snow water to the trough *d*⁴.

Placed in the extension *d*² of the trough *b*⁸ is a valve door *d*⁶ hinged at *d*⁷, and with which is connected at *d*⁸ a chain or other flexible device *d*⁹ which passes over a pulley *d*¹⁰ at the top of the body, and by means of which the door *d*⁶ may be raised or opened when desired, and above the trough *b*⁸, the rear end of the body is also provided with a door *e* which may also be raised for the purpose of discharging stones or other foreign substances that may be shoveled into the body with the snow, and which will collect on the perforated cover *b*⁹ of the trough *b*⁸. At each side of the body and above the gasoline tanks *d* are placed two lead pipes *f*, said pipes being in the same horizontal plane and each pair of said pipes is connected with the bottom of the corresponding tank *d* at the front of the body by vertically arranged pipes *f*², and the lead pipes *f* and vertically arranged pipes *f*² are provided at the front end of the pipes *f* with needle valves *f*³.

The stand pipes *f*⁴ connected with the inner lead pipes *f* of each pair are shorter than the stand pipes *f*⁴ connected with the outer lead pipes *f* of each pair, and the heights of all of said stand pipes decreases from the front of the body *b* backwardly as clearly shown in Fig. 1 and terminate parallel with the position of the perforated cover *b*⁹ of the body *b* and the torches *f*⁵ have a staggered arrangement as clearly shown in Figs. 1 and 2.

The tanks *d* are provided at the front ends thereof with pressure gages *g* which are connected therewith by pipes *g*², and said tanks are also provided at their front and rear ends with vertically arranged air

pumps h within which are placed pistons, not shown, but operated by rods h^2 composed of separate parts connected at h^3 , and connected with the rods h^2 is a rectangular frame lever i shown detached in Fig. 5. The lever i consists of a frame, rectangular and oblong in form and said frame is mounted in the top of the body b , and the side members i^2 thereof pass out through the front and rear ends of the body and are provided with yoke-shaped handles i^3 by which it may be manipulated and said frame lever is supported in central, vertical standards i^4 secured to the tops of the tanks d as shown at i^5 in Fig. 3, and the front and rear ends of the body are provided with vertical slots i^6 through which the side members of the frame lever i pass, and by means of this construction the pumps h may be operated so as to force air into tanks d and increase the pressure therein whenever desired.

In the use of this apparatus the torches f^5 are ignited and the snow is shoveled into the hopper c and falls into the chamber b^7 and is melted by the flames j from the torches, said flames being projected transversely of the bottom of the chamber b^7 , and the water from the melted snow flows through the perforated cover b^9 of the trough b^8 and through said trough and passes back through the rear end of the body and is discharged through the parts d^2 and d^3 as will be readily understood, and if in this operation any stones or other foreign substances should be thrown into the body with the snow they may be removed through the door e .

The entire apparatus is simple in construction and effective in operation and while I have shown and described the preferred form thereof, my invention is not limited to the details of construction herein shown and described and changes in and modifications of the said construction may be made, within the scope of the appended claims, without departing from my invention or sacrificing its advantages. The torches f^5 are provided with needle valves k and said torches may be of any preferred construction, and while I have referred only to gasoline as a fuel, any suitable liquid or gaseous fuel may be employed.

Having fully described my invention what I claim as new and desire to secure by Letters Patent, is:—

1. In a snow melting apparatus, a truck body in the bottom side portions of which are placed fuel tanks, said body being provided centrally thereof with a supplemental longitudinal chamber the bottom of which is trough-shaped in form and extends downwardly and backwardly and is provided with a perforated cover, the said body being also provided between the side walls thereof and the walls of the inner supplemental

chamber with torches which project into the supplemental chamber and which are supplied with fuel from said tanks.

2. In a snow melting apparatus, an oblong body provided in the bottom thereof with fuel tanks, said body being also provided centrally and longitudinally thereof with a supplemental chamber having side walls, and said chamber being provided with a downwardly and backwardly directed trough-shaped bottom having a perforated cover, said body being also provided between the side walls thereof and the side walls of the supplemental chamber with fuel-burning torches which extend into the said chamber over the perforated cover of the trough shaped bottom and which are supplied with fuel from said tank, and a hopper mounted on the top of the body and adapted to discharge into the supplemental chamber.

3. In a snow melting apparatus, an oblong body provided in the bottom thereof with fuel tanks, said body being also provided centrally and longitudinally thereof with a supplemental chamber having side walls, and said chamber being provided with a downwardly and backwardly directed trough-shaped bottom having a perforated cover, said body being also provided between the side walls thereof and the side walls of the supplemental chamber with fuel-burning torches which extend into the said chamber over the perforated cover of the trough-shaped bottom which are supplied with fuel from said tank, and a hopper mounted on the top of the body and adapted to discharge into the supplemental chamber, said tanks being also provided with air pumps and means for operating the same.

4. A snow melting apparatus comprising an oblong body portion, in the bottom side portions of which are placed fuel tanks, said body portion being also provided centrally and longitudinally thereof and between said tanks with a supplemental chamber having side walls and having a downwardly inclined trough-shaped bottom provided with a perforated cover, the sides of the body being provided between the walls thereof and the walls of the supplemental chamber with fuel-burning torches which project in the said chamber and which are supplied with fuel from said tanks.

5. A snow melting apparatus comprising an oblong body portion, in the bottom side portions of which are placed fuel tanks, said body portion being also provided centrally and longitudinally thereof and between said tanks with a supplemental chamber having side walls and having a downwardly inclined trough-shaped bottom provided with a perforated cover, the sides of the body being provided between the walls thereof and the walls of the supplemental chamber with

fuel-burning torches which project in the said chamber and which are supplied with fuel from said tanks, and said tanks being provided with pressure gages and with air pumps and means for operating such pumps.

5 6. In a snow melting apparatus a body having a central longitudinal chamber open at the top and provided with a downwardly inclined bottom having a perforated cover
10 and burner torches arranged at the opposite sides of said chamber and projecting thereinto.

7. In a snow melting apparatus, a body provided with a central longitudinal chamber open at the top and having a downwardly inclined bottom provided with a perforated cover, and liquid fuel burning torches arranged at the opposite sides of said chamber and projecting thereinto, and
15 means for supplying said torches with fuel.

20 8. In a snow melting apparatus, a body provided with a central longitudinal chamber

open at the top and provided with a perforated cover, and liquid fuel burning torches arranged at the opposite sides of said chamber and passing through side walls thereof into said chamber. 25

9. In a snow melting apparatus, a body provided with a central longitudinal chamber open at the top and having a bottom which is downwardly inclined from one end thereof to the other and over which is placed a perforated cover, and hydrocarbon burning torches arranged outside the side walls of said chamber and projecting horizontally
30 thereinto. 35

In testimony that I claim the foregoing as my invention I have signed my name in presence of the subscribing witnesses this 25th day of July 1914.

SOLOMON DENEMARK.

Witnesses:

ESTHER CHESLER,
C. MULREANY.