(No Model.) 2 Sheets—Sheet 1.

P. A. MILLER & J. P. LUYSTER.

SNOW HOISTING AND MELTING DEVICE.

No. 368,412. Patented Aug. 16, 1887.

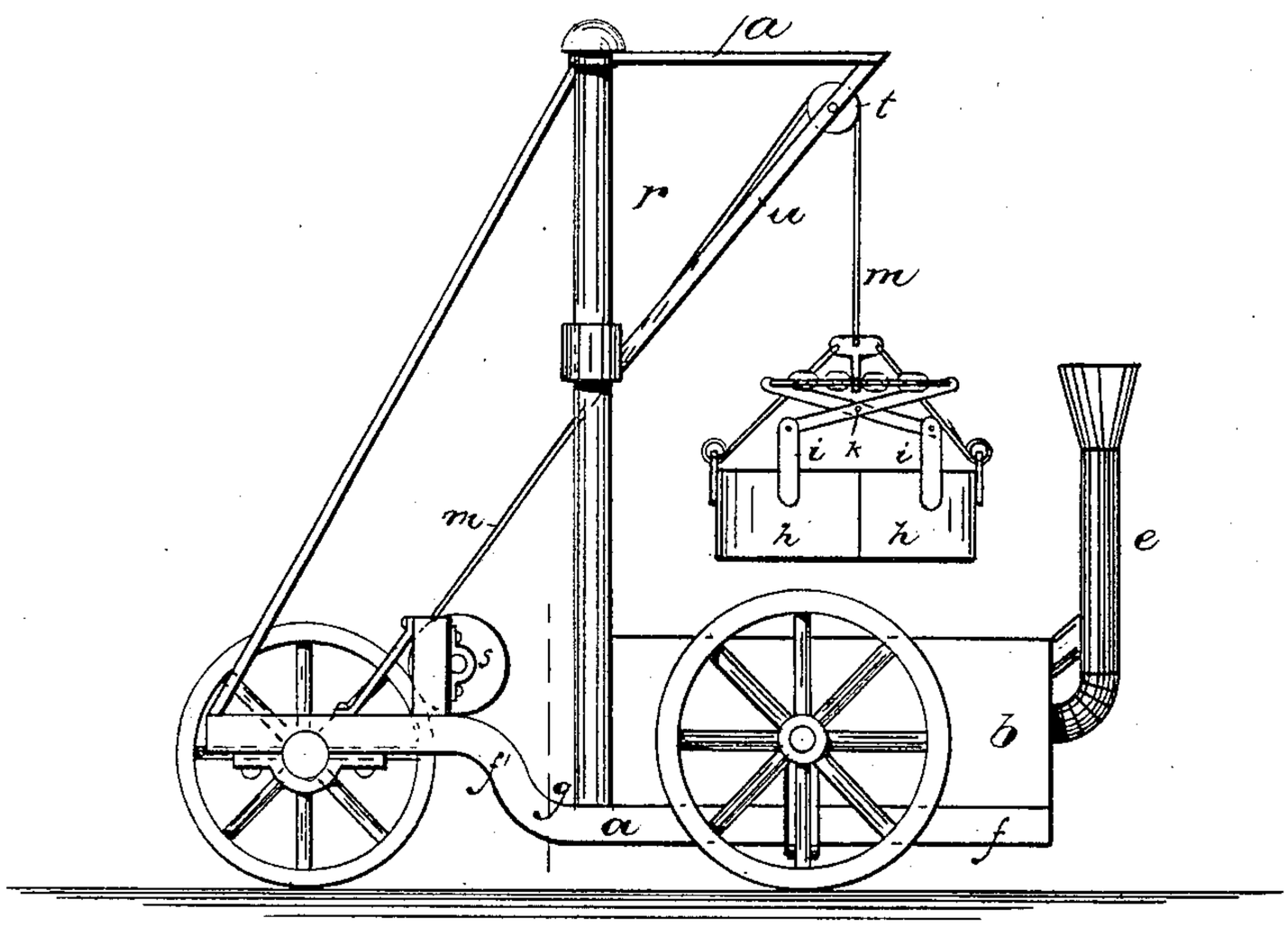

Fig. 1.

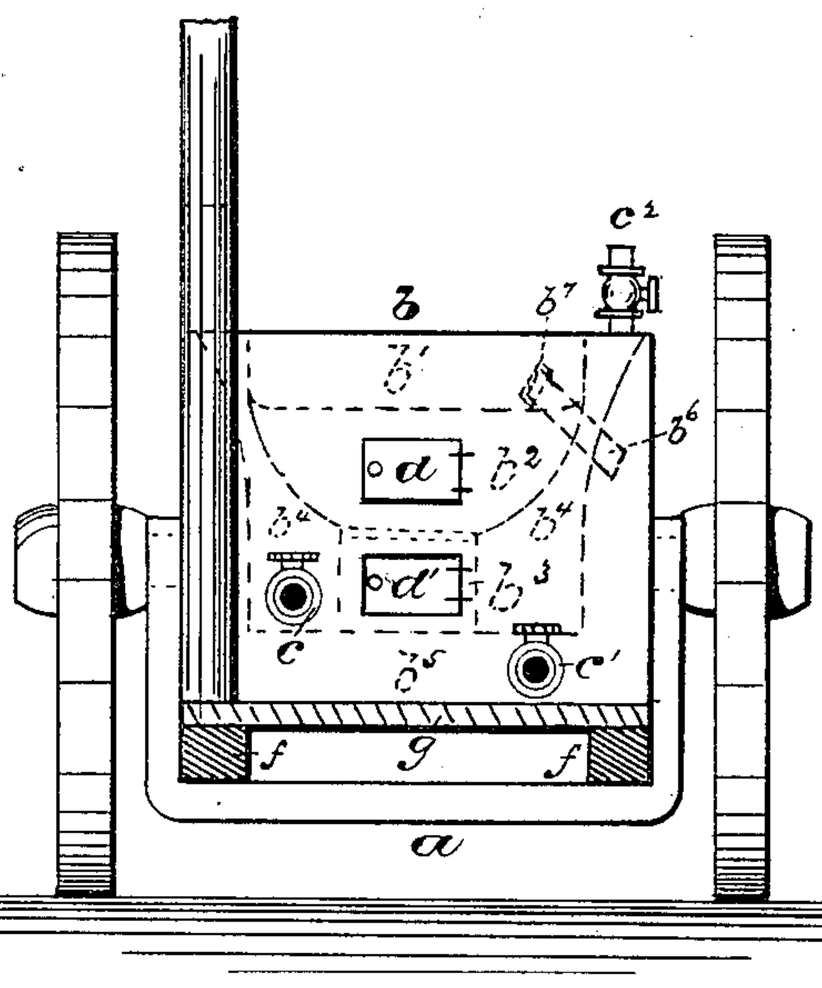

Fig. 2.

WITNESSES:

C. R. Bennett.
H. E. Reeve.

INVENTOR:

Peter A. Miller,
John P. Luyster,
BY Drake & Co. ATTY'S.

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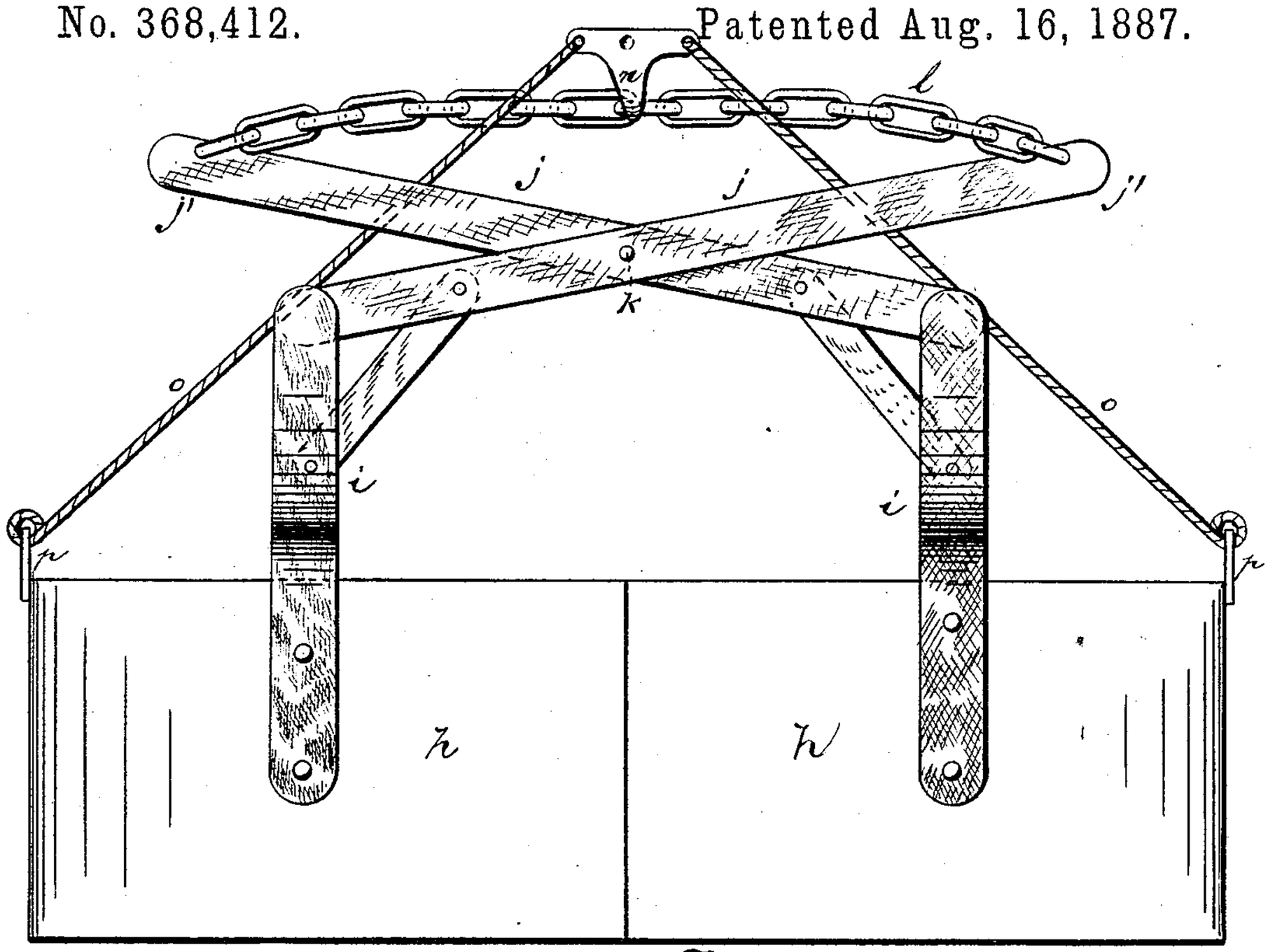

Fig. 3.

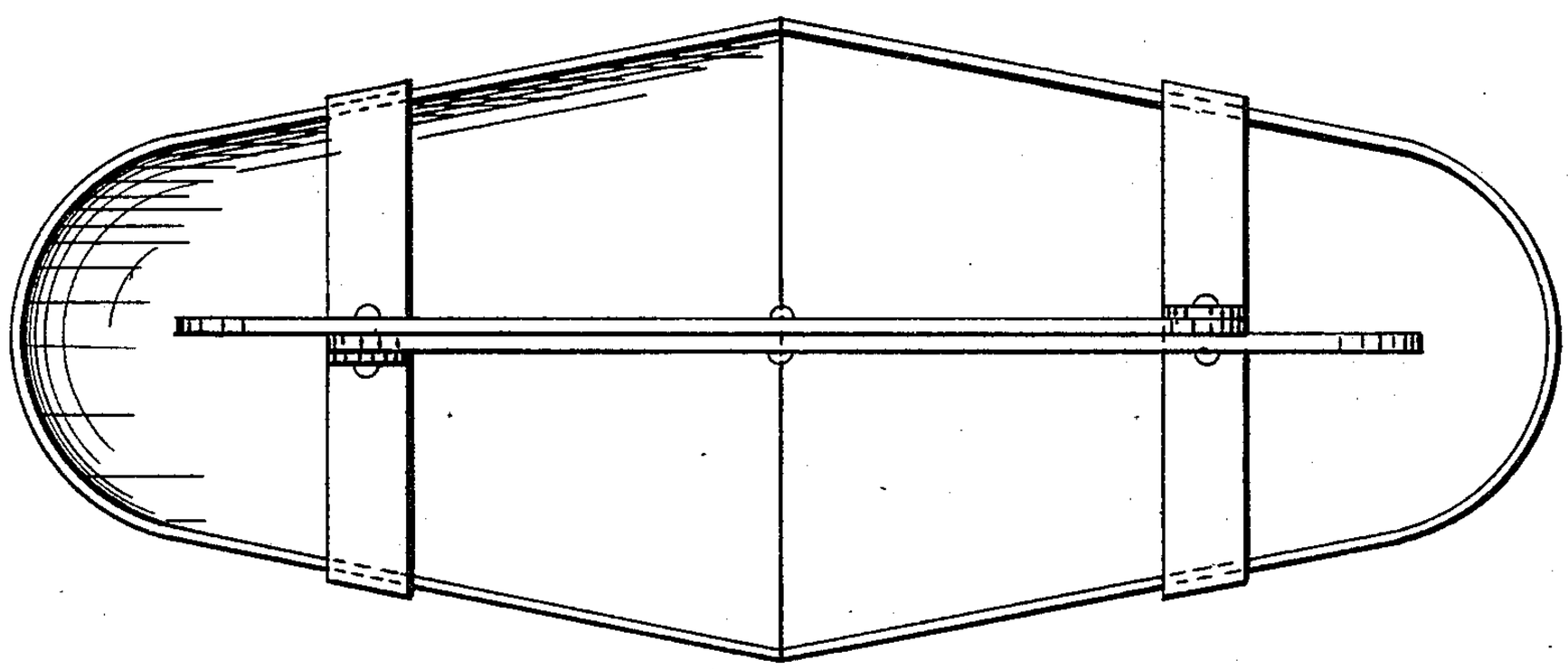

Fig. 4.

WITNESSES:

C. R. Bennett
H. E. Reeve

INVENTOR:

Peter A. Miller,
John P. Luyster,
BY Drake & Co. ATTY'S.

UNITED STATES PATENT OFFICE.

PETER A. MILLER AND JOHN P. LUYSTER, OF NEW YORK, N. Y.

SNOW HOISTING AND MELTING DEVICE.

SPECIFICATION forming part of Letters Patent No. 368,412, dated August 16, 1887.

Application filed May 28, 1887. Serial No. 239,633. (No model.)

To all whom it may concern:

Be it known that we, PETER A. MILLER and JOHN P. LUYSTER, citizens of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Snow Hoisting and Melting Devices; and we 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 letters of reference marked thereon, which form a part of this specification.

The object of this invention is to facilitate the operation of cleaning streets, and especially narrow streets, of a city of snow and ice in the winter-time, and particularly after the same has been obstructed by the rail or tramway car companies throwing said snow from tracks to the sides thereof, and to reduce the cost involved in such operation of cleaning or clearing.

The invention consists in the improved snow elevating and melting apparatus, and in the arrangement and combination of parts thereof, substantially as will be hereinafter set forth, and finally be embodied in the clauses of the claim.

In said drawings, Figure 1, Sheet 1, is a side elevation of the improved apparatus. Fig. 2, Sheet 1, is an end view of the same. Fig. 3, Sheet 2, is a front view of an improved scoop or shovel especially adapted to be employed in connection with said apparatus, and Fig. 4 is a plan of the same.

Referring to said drawings, *a* indicates a suitable truck or carriage, provided with wheels at the forward and rear ends thereof, upon which is arranged a melting furnace or apparatus, *b*, which is lowered as far as is convenient in the carriage to bring the melting-pan *b'* at the top thereof as near to the ground as is convenient, and thus save unnecessary hoisting. Below said pan, in said furnace, is a fire-chamber, b^2, and an ash pit or chamber, b^3, and around said chambers are hot and cold water chambers b^4 and b^5, adapted to receive water, the object of which is to retain the heat of the fire more perfectly and to prevent the fire from burning out the sheet metal, from which said melting apparatus is preferably constructed. At one end of the melting-furnace are provided doors *d d'*, which open out into the fire-chamber and ash-pits, respectively, and at the opposite end is a pipe or chimney, *e*, through which the smoke and other gaseous productions of combustion may escape to the open air. To enable the said furnace to be lowered to a point as near the ground as possible, the axle is centrally depressed or bent downward, as shown in Fig. 2. The longitudinal shafts *f f*, which, with the axles, form a frame-work to sustain the furnace and other appliances, are, forward of the furnace, bent upward, as at *f'*, and provide suitable bearings for the forward axle. Said shafts support a platform, *g*, upon which the workman can stand when feeding the furnace with fuel, and, when convenient, operate the derrick hereinafter described.

The water-chambers of the furnace are provided with suitable cocks, *c c'*, or valves, through which the water may enter or escape to or from said chambers. Steam-exits c^2 may also be provided. The melting-pan *b'* is disposed upon a slight incline when in its operative position, adapted to allow the water or melted snow to pass to one end thereof and pass out through a suitable egress-pipe to the street or to the cold-water chamber b^5 through a pipe, b^6, suitably protected by wire-gauze, b^7, or other perforated diaphragm.

Upon the truck or carriage, preferably at a point forward of the furnace, and at one side thereof, is arranged a derrick, of any suitable construction, by means of which certain shoveling and scooping appliances, hereinafter described, may be operated to raise the snow from the ground and lower it into the pan. Any suitable shoveling or scooping apparatus may be employed in connection with the derrick; but we prefer the construction indicated in Figs. 2 and 3, in which *h h* are sheet-metal shovels or scoops closed on three sides, and at their inner sides or ends are open to receive the snow, the open ends of the two shovels abutting, as shown. To the sides of the shovel are rigidly secured bails *i i*, to the upper central portions of which are secured levers *j j*, which are pivoted together, as at *k*, and at their upwardly-extending ends *j'* are connected by a suitable chain, rope, or other connective, *l*. Upon the hoist

rope or chain *m* is secured a suitable hook, *n*, to engage said chain *l*, and also adapted to receive ropes or chains *o o*, which are at their opposite ends secured upon the outer extremities of the shovels, as at *p p*. When draft is brought upon the hoist-rope *m*, the hook being in engagement with the connecting-chain *l*, and also with the outer ends of the shovels through the ropes *e*, the said shovels are elevated in their closed relation, as shown in Fig. 3. When the hook is disengaged from the chain by any suitable trip-rope or other device, or by the hand, the draft is brought upon the ropes or chains *o o* alone, so that the shovels are caused to turn pivotally and to drop their open ends downward and allow the snow to fall therefrom. The derrick *r*, by means of which the shovels are raised, is of any ordinary construction, the same, however, being preferably provided with a suitable drum, *s*, and pulley *t*, whereby the hoist-rope *m* may be taken up when elevating the shovel, and pivotally-arranged arm *a*, whereby the shovel may be carried laterally from the heap of snow to the melting-pan.

Instead of exhausting the steam from the hot-water chamber into the open air through valve or opening c^2, we may, and prefer to, exhaust it into the chamber or smoke-stack *e*, and thus increase the draft therein and secure greater heat from the furnace.

Having thus described the invention, what we claim as new is—

1. In combination with a carriage, a derrick provided with lifting shovels or buckets and a melting-furnace, substantially as described.

2. The combination, with a carriage, a furnace provided with a melting-pan, fire-chamber, and water-chambers, of a hoisting-derrick and shovels, adapted to operate substantially as set forth.

3. In combination with a melting-pan, the derrick, and hoist-rope, shovels *h h*, bails *i*, provided with levers *j*, pivoted, as at *k*, a connective, *l*, and hook *n*, all arranged and adapted to operate substantially as and for the purposes set forth.

In testimony that we claim the foregoing we have hereunto set our hands this 21st day of May, 1887.

PETER A. MILLER.
JOHN P. LUYSTER.

Witnesses:
CHARLES H. PELL,
SAMUEL EMBERSON.