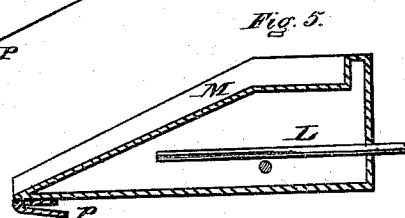
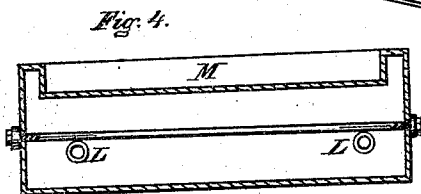
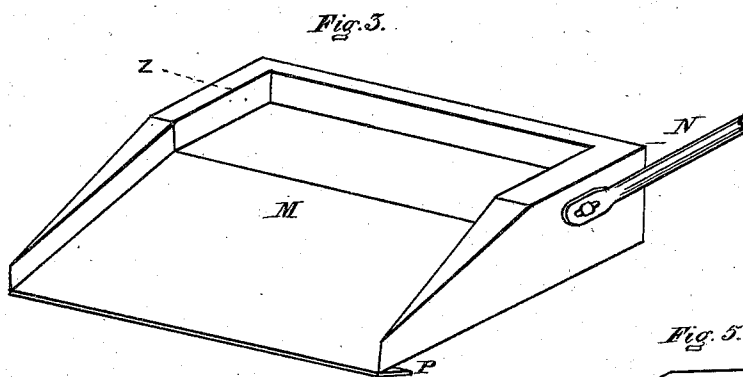
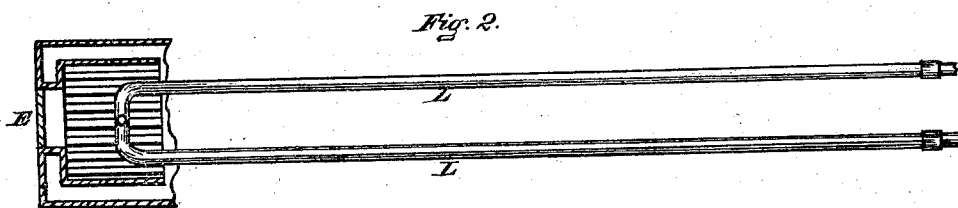
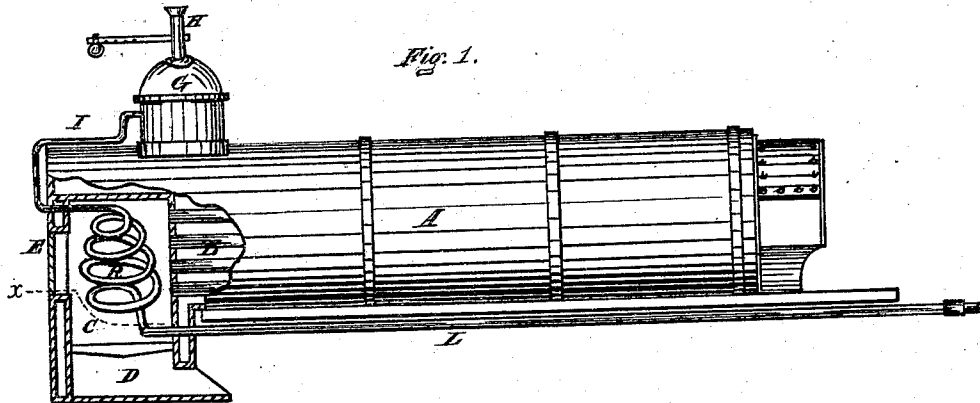


R. A. SHINN.
Machines for Clearing Streets of Snow.
 No. 143,470. Patented Oct. 7, 1873.



WITNESSES:

Lyman E. Smith.
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INVENTOR:

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UNITED STATES PATENT OFFICE.

RILEY A. SHINN, OF GEORGETOWN, DISTRICT OF COLUMBIA.

IMPROVEMENT IN MACHINES FOR CLEARING STREETS OF SNOW.

Specification forming part of Letters Patent No. **143,470**, dated October 7, 1873; application filed February 20, 1873.

To all whom it may concern:

Be it known that I, RILEY A. SHINN, of Georgetown, in the county of Washington and District of Columbia, have invented an Improved Means of Clearing Streets of Snow, of which the following is a specification:

This invention consists of a novel means of connecting, by links and tubes, a snow-shovel with a portable steam-boiler, so that steam heat may be applied to said shovel while passing over the ground; and, furthermore, in the combination, with such shovel, of a guard adapted to facilitate its passage over irregular surfaces, as hereinafter described.

In the accompanying sheet of drawings is shown a means of carrying this invention into operation, and in which—

Figure 1 represents a partially sectional elevation of a steam-boiler of the locomotive type, with a tubular attachment for superheating the steam thereby produced. Fig. 2 is a horizontal section taken on the line *x* on Fig. 1. Fig. 3 is a perspective view of the steam-shovel for application thereto. Fig. 4 is a transverse section taken on the line *z z* on Fig. 3, and Fig. 5 is a longitudinal section through the center of Fig. 3.

Similar letters occurring on the several figures indicate like parts.

I will now describe my invention by referring to the drawing, in which—

A represents the cylinder of an ordinary horizontal boiler, and B a series of flue-tubes; C, the fire box or chamber; D, the ash-pit; E, the furnace-door, and G the steam-dome, provided with a safety-valve, H, all of which are in common use, and need no particular description here. From the steam-dome G I lead a pipe, I, into the fire box or chamber C, entering at or near the top of said chamber, and circulating therethrough in the form of a coil, R, or by lateral zigzag pipes, terminating in the pipes L, which may be one, two, or more, extending forwardly parallel with and beneath the boiler A, or in any other suitable and convenient position, the forward ends of these pipes L being connected with and discharging into a hollow shovel, M, which, while the boiler, furnace, and superheating devices are

moved on wheels or a truck, the shovel M being connected therewith by side arms N in such manner that it may be capable of rising or falling to conform to the variable surface of the road, which the length of the steam-pipes L is sufficient to admit of, is forced under the snow. The front lower edge of said shovel being provided with a guard, P, of V form in its cross-section, enables it to ride any irregularities on the surface of the roadway, and at the same time to traverse it in sufficiently close contact to effect the purpose sought.

The operation will be as follows: Steam having been generated in the boiler A to the desired pressure, it is allowed to pass through the superheater K, thence by the pipes L into the hollow shovel M, which thereby becomes heated to a high temperature. When the desired temperature is obtained, the apparatus is to be put in motion, either by a propelling power in rear, by draft in front, or it may be provided with engines to effect its own locomotion.

In operating this apparatus for clearing streets it should first be caused to pass next or close to the curb-stones of the sidewalks, up one side of the street and down the other, thus clearing a passage for the melted snow to pass off through the sewerage provided for such purpose; and by continuing a similar route each time, up and down the street, plowing the width of the shovel farther toward the center of said street, the snow may be all converted to water, and in which condition it will rapidly find the vent provided for it.

What is here claimed, and desired to be secured by Letters Patent, is—

1. A snow-shovel attached to a portable boiler by means of the connecting-links N and tubes L, as shown and described, for operation in the manner set forth.

2. The guard P, in combination with the shovel M, substantially as and for the purpose specified.

RILEY A. SHINN.

Witnesses:

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