

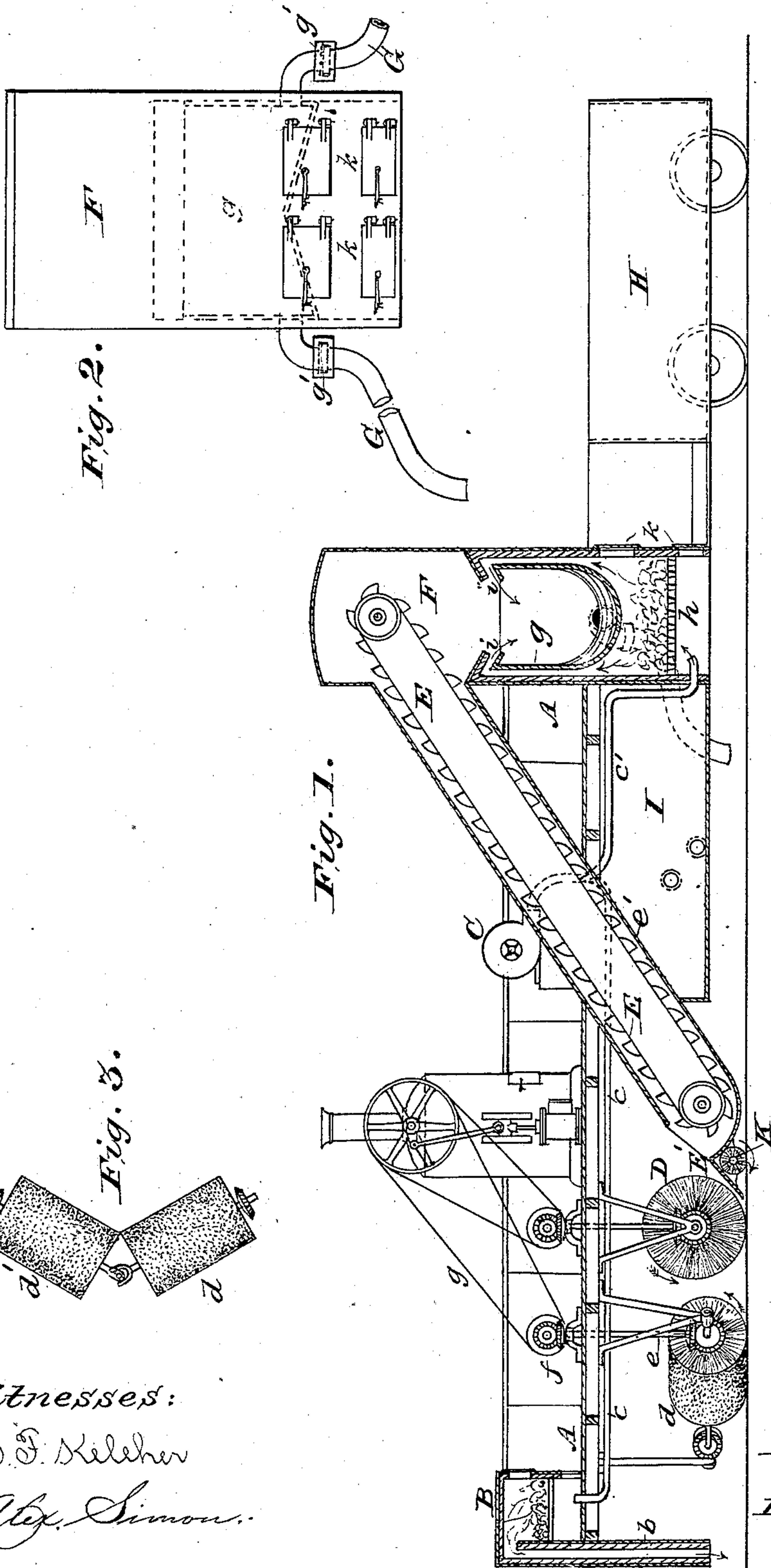
(No Model.)

L. SCHULZE.

SNOW CLEARER FOR TRACKS, &c.

No. 294,084.

Patented Feb. 26, 1884.



Witnesses:

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UNITED STATES PATENT OFFICE.

LOUIS SCHULZE, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO WILLIAM BRISCOE, OF SAME PLACE.

SNOW-CLEARER FOR TRACKS, &c.

SPECIFICATION forming part of Letters Patent No. 294,084, dated February 26, 1884.

Application filed March 20, 1883. (No model.)

To all whom it may concern:

Be it known that I, LOUIS SCHULZE, a citizen of the United States, residing at Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Snow-Clearers for Tracks, &c.; 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.

My invention relates to improvements in snow and track clearers; and the object is to construct a snow and track clearer by which the snow and ice on streets can be very thoroughly and effectually removed from the streets and tracks, and without noise, by which the animals are frightened, and at the same time to convey the water away from the track or center of the streets, where it would freeze.

The invention consists in the construction and arrangement of parts of the machine, as will be more fully described hereinafter and more specifically pointed out in the claims, reference being had to the accompanying drawings and the letters of reference marked thereon.

Like letters indicate like parts in the different figures of the drawings, in which—

Figure 1 represents a side elevation of my machine or apparatus, partly in section. Fig. 2 is a rear view of the snow and ice melter. Fig. 3 is a detail view of the inclined sweepers.

In the drawings, A represents a suitable frame-work or platform supported on wheels made to fit the tracks. At the forward end of this platform is placed a transverse furnace or heater, B, closed on all sides excepting at the upper corner, where it connects with a flat and narrow pipe, *b*, preferably lined with fire-clay, and made of sheet-iron, and through it the flames and products of combustion are forced by a blower, C, and a pipe, *c*. The ice and snow are melted by this furnace and pipe. Close to this is arranged a pair of revolving sweepers, *d d'*, supported in suitable bearings, and operated by a bevel-wheel on one or both sweepers, and meshing with bevel-wheels on an upright shaft, *e*. This shaft is operated by bevel-wheels *f* and a pulley driven by a belt, *g*, from an engine-shaft. This engine is pref-

erably a vertical one, so as to take up less room. A larger revolving sweeper or brush, D, also supported in suitable bearings, is arranged close behind the inclined sweepers *d d'*. The object of inclining these sweepers is to convey the snow toward the center of the track, and they are preferably connected by a universal joint or coupling. The sweeper D is driven in a similar manner by gearing and pulley from the engine.

In close proximity to sweeper D is arranged an endless carrier or elevator, E, in a casing, *e'*, having a catcher, E', at its lower end, and operated by sprocket-wheels and suitable gearing. Under the forward end of the casing is placed a small brush, K, by which any snow may be brushed toward the larger sweeper and clear the track. The snow and ice are conveyed by the elevator to the upper end of the melter F, in which is arranged a trough or receiver, *g*, made of strong iron. This trough is provided with a bottom inclining both ways from the center, so that the water can run toward the sides. It is placed over a suitable fire on the grate *h*, and a space is left on each side, so that the flames and heat can pass upward and can be blown downward by a blast of air from the blower C and pipe *c'*. At the upper end of said trough is arranged a downward projecting flange, *i*, which directs the flames, &c., into the trough and melts the snow, &c., as it drops into said trough. Suitable furnace and ash-pit doors are provided, as shown at *k*, Fig. 2. On each side of the trough, and communicating therewith, are arranged the pipes G, provided with a swivel, ball, or union joint, *g'*, so that they can be moved in any direction desired. By these pipes the melted snow or water can be conveyed to the gutters or into a tank placed on the truck H, from which it can be conveyed into the sewer-traps at the corners of the streets. On the truck H the wood or coal for firing the boiler and melter can be carried. Under the elevator, and extending to the melter, is placed a tank, I, for supplying the engine-boiler with water, and said tank may be made large enough to receive the melted snow. The snow-water may be conducted from tank I into the portable tank or truck H

on the machine, or into sewer-traps at the corners of the streets. The lower end of the casing *e'* is bent upward to form a catch-receptacle for the snow thrown on it by the brush D.

5 The pipes G, as well as the blow-pipes, may be provided with suitable valves.

The operation is as follows: The fires being started and the engine set in motion, the products of combustion and heat are forced through the flat pipe *b*, and the ice, &c., are melted in case the snow is frozen on top. The two inclined brushes *d* and *d'* then sweep the snow toward the center of the track, when it is taken up by the large brush D, which sweeps it on the catcher E' or receptacle at the lower end of the elevator-casing *e'*. The elevator E then conveys the snow upward and empties it into the melter *g*, where the snow is melted by the fire from above as well as from below. The water is then conveyed through the swivel-pipes G either into the tank I or toward the gutters of the street. Any sediment or sand is also conveyed through the said pipes, which are therefore made extra large.

25 Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of the inclined sweepers *d* *d'*, the large sweeper D, the small sweeper K, and the elevator E, and melter F, all arranged substantially as shown and described.

2. The combination of the furnace F, having receiver *g* and grate *h*, with the blast-pipe *e'* and blower C, all substantially as and for the purpose herein set forth.

3. In a snow-clearer, the receiver *g* in the

furnace F, arranged to have heat applied from above as well as from below, in combination with the swiveled pipes G, arranged for the purpose described.

4. In a snow-clearer, the combination of a furnace, F, and melter *g*, having heat applied from above and below, with a tank, I, conveying the water from the melter to any distances, substantially as and for the purpose specified.

5. In combination with a furnace, B, having flat pipe *b*, the revolving brushes and elevator, arranged as shown, the furnace F, and melter *g*, arranged to have heat applied above and below, substantially as specified.

6. The snow-clearer herein described, consisting of a frame, A, a furnace, B, having flat pipe *b*, the blower C, the inclined brushes *d* *d'*, brushes D and K, elevator E, furnace F, provided with melter *g*, the tank I, and truck H, with suitable engine and driving machinery, substantially as specified.

7. The method herein described of clearing snow from streets, &c., consisting in first loosening the snow by a hot-blast, then sweeping it toward the center, then sweeping it on a catcher, E', then elevating it and dumping it into a furnace with melter, and finally conveying the water into a tank or into the gutters, substantially as specified.

In testimony whereof I hereby affix my signature in presence of two witnesses.

LOUIS SCHULZE.

Witnesses:

LLOYD F. KELEHER,
ALEX. SIMON.