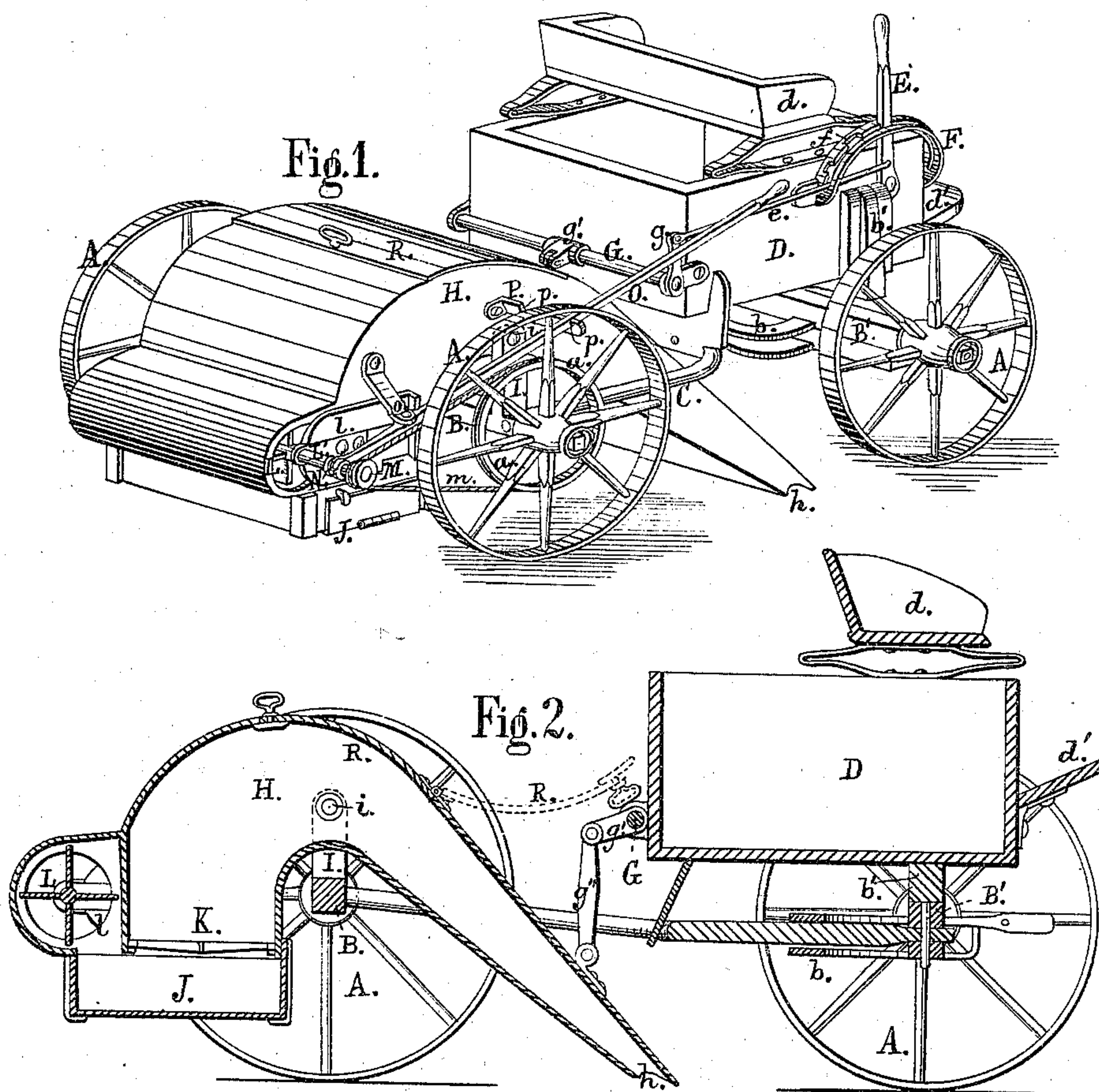


W. E. MUSGROVE.

Machines for Clearing Streets of Snow.

No. 143,176.

Patented September 23, 1873.



ATTEST:

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INVENTOR:

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# UNITED STATES PATENT OFFICE.

WILLIAM E. MUSGROVE, OF FAIR PLAY, COLORADO TERRITORY.

## IMPROVEMENT IN MACHINES FOR CLEARING STREETS OF SNOW.

Specification forming part of Letters Patent No. **143,176**, dated September 23, 1873; application filed February 17, 1873.

*To all whom it may concern:*

Be it known that I, WILLIAM E. MUSGROVE, of Fair Play, in the county of Park and Territory of Colorado, have invented a Machine for the Removal of Snow and Ice from Streets, Roads, &c., of which the following is a specification:

My invention consists of an apparatus supported on wheels, and having a case in which is placed a furnace supplied with an air-blast by a blower, the case ending at front near the ground in a long and narrow opening, through which the heated air and smoke are projected against the snow and ice covering the ground.

Figure 1 is a perspective view. Fig. 2 is a longitudinal section of my machine.

A are the wheels on rear and fore axles B and B', connected together by a forked reach, C. *b* is the fifth-wheel and tongue-hounds. *b'* is the fore bolster, supporting a box, D, on which is the seat *d* and foot-board *d'*. This box may contain fuel to feed the fire, and its rear end is supported on the reach C. E is a lever running in guides F, having notches *f* to hold the lever in any position in which it may be placed. The lever E is connected by a rod, *e*, to a crank, *g*, upon a rock-shaft, G, carrying also a crank, *g'*, whose outer end is connected by a rod, *g''*, to the fore end of the case H. The case H is supported on gudgeons *i* having bearings on standards I arising from the rear axle B. The front part of the case H consists of a chute that increases toward the mouth in transverse breadth, and becomes narrower in the opposite direction, ending forward and downward in a long and narrow mouth, *h*, whose proximity to the ground is regulated by the lever E. J is the ash-pan; K, the furnace. L is a rotary blower forcing air through the fire, the blast being regulated by sliding dampers *l*. The shaft L'

of the blower carries a loose pulley, M, connected by a belt, *m*, with a pulley, *a*, upon the rear wheel, so that the pulley M turns with said wheel, but with a much greater rate of speed. N is a sliding clutch, by which the loose pulley M is clutched to the shaft L', so as to cause the said blower-shaft to turn with the pulley M when desired. The clutch is operated by a forked lever, O, fulcrumed at *o*, and resting on a bracket, P, having notches *p*, in which the lever rests to hold the clutch either in or out. R is a door, which is folded back, as shown by dotted lines in Fig. 2, to allow the supply of fuel to the fire.

The inside of the case H, or at least the parts thereof subjected to the greatest heat, would be preferably lined with fire-clay or some analogous substance for the protection of the metal and to prevent escape of heat.

I claim as my invention—

1. The machine for the removal of snow, ice, &c., having the adjustable wide-mouthed case H, furnace K, and blower L, constructed to operate in the manner and for the purposes herein set forth.

2. The combination of the case H supported on gudgeons *i*, the lever E, and connecting mechanism *e g g' g''*, for the adjustment of the mouth *h* in relation to the surface of the ground.

3. The combination of the case H, blower L L', pulley and clutch M N, and lever O, as and for the purpose set forth.

4. The combination of the furnace K, case H, blower L L', pulley M, clutch N, and pulley *a* attached to the wheel, all substantially as and for the purpose set forth.

WILLIAM E. MUSGROVE.

Witnesses:

SAML. KNIGHT,  
ROBERT BURNS.