(No Model.) 3 Sheets—Sheet 1.

I. H. RANDALL.

STREET CLEARING MACHINE.

No. 354,224. Patented Dec. 14, 1886.

Fig. 1.

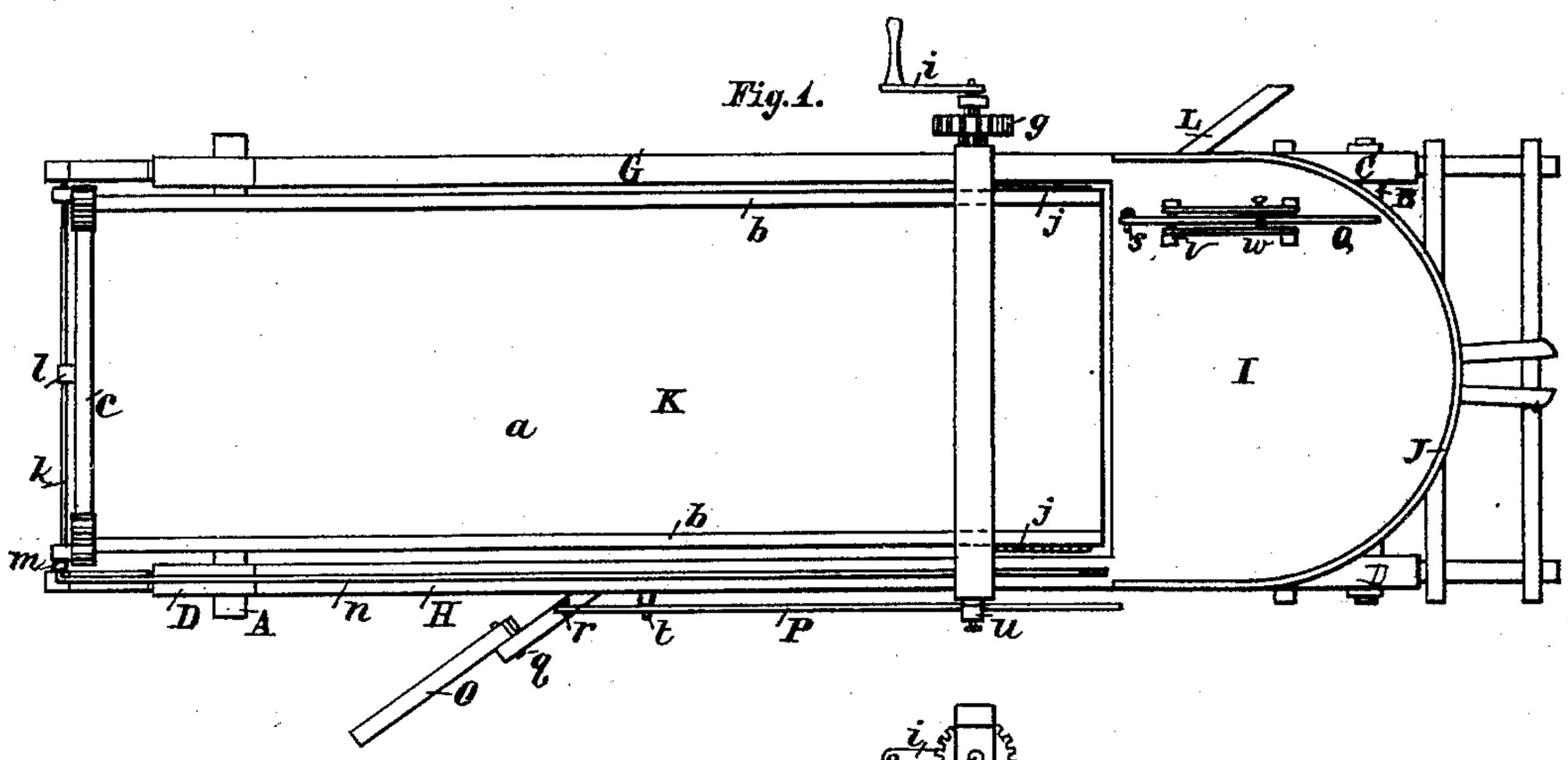


Fig. 2.

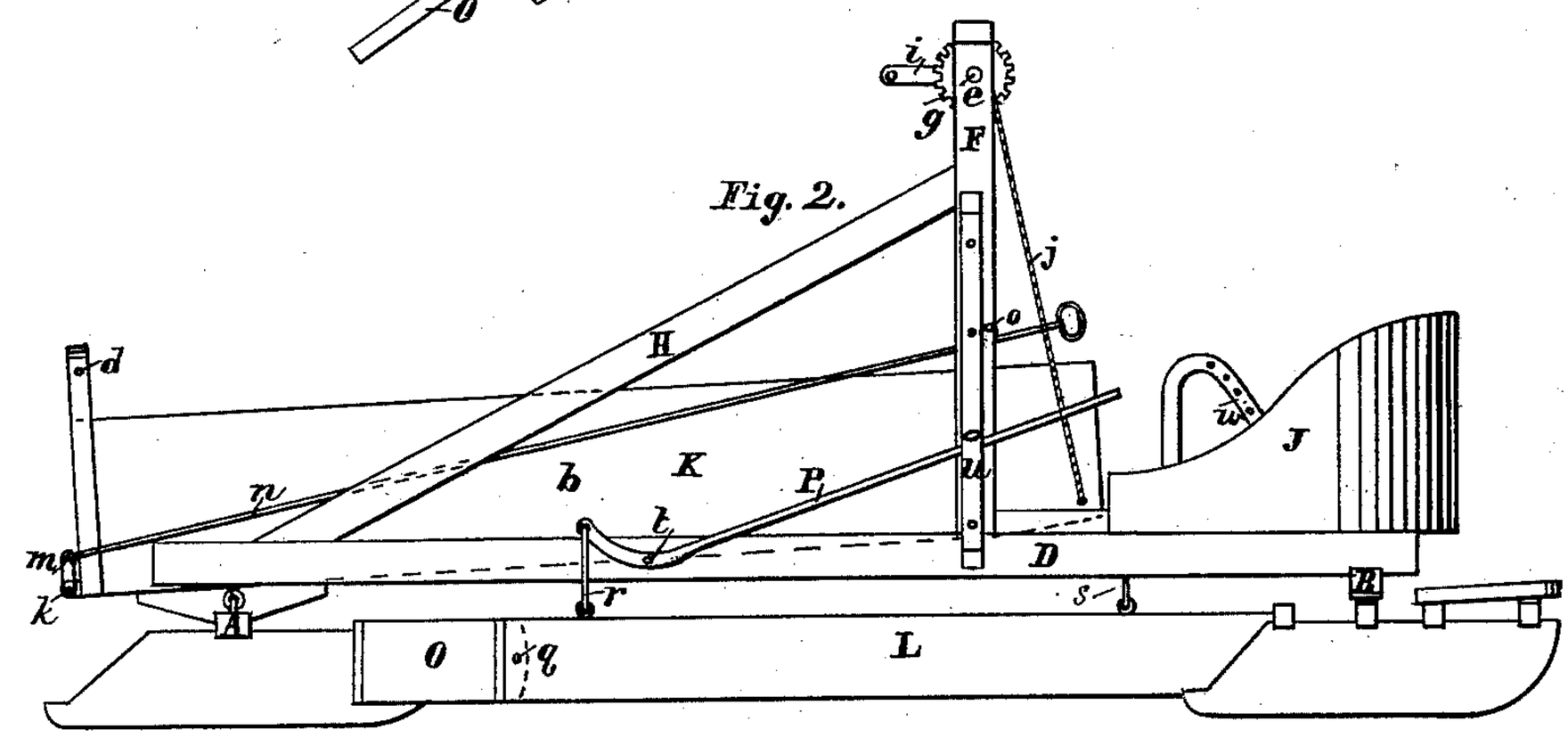
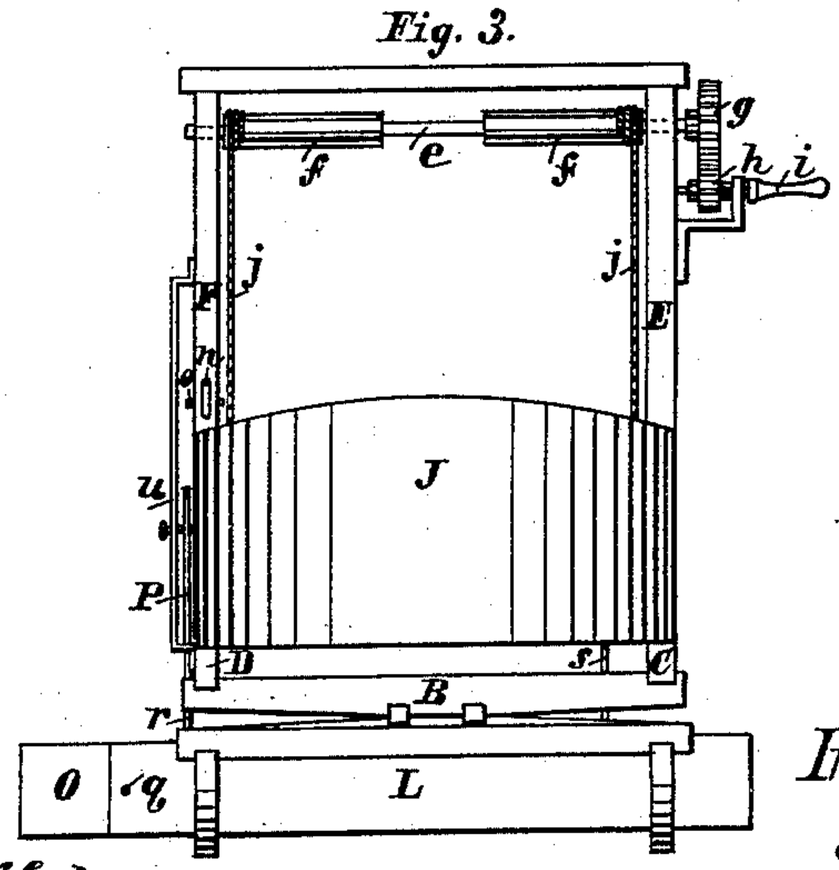


Fig. 3.



Attest;
Robert Brine,
John Hoyan.

Inventor;
Isaac H. Randall,
per Edw. Dunnier, Atty.

(No Model.) 3 Sheets—Sheet 2.

I. H. RANDALL.

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Fig. 4.

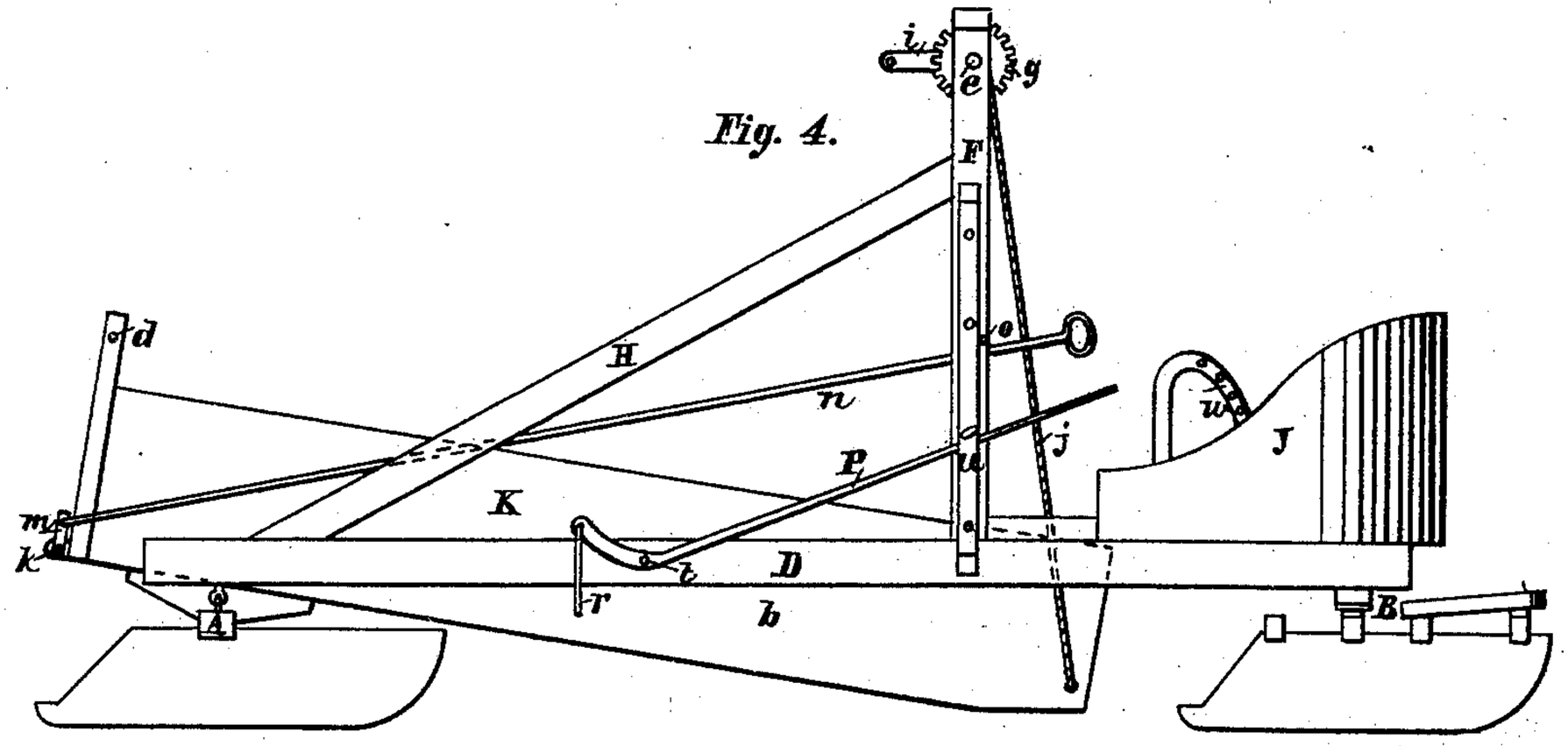
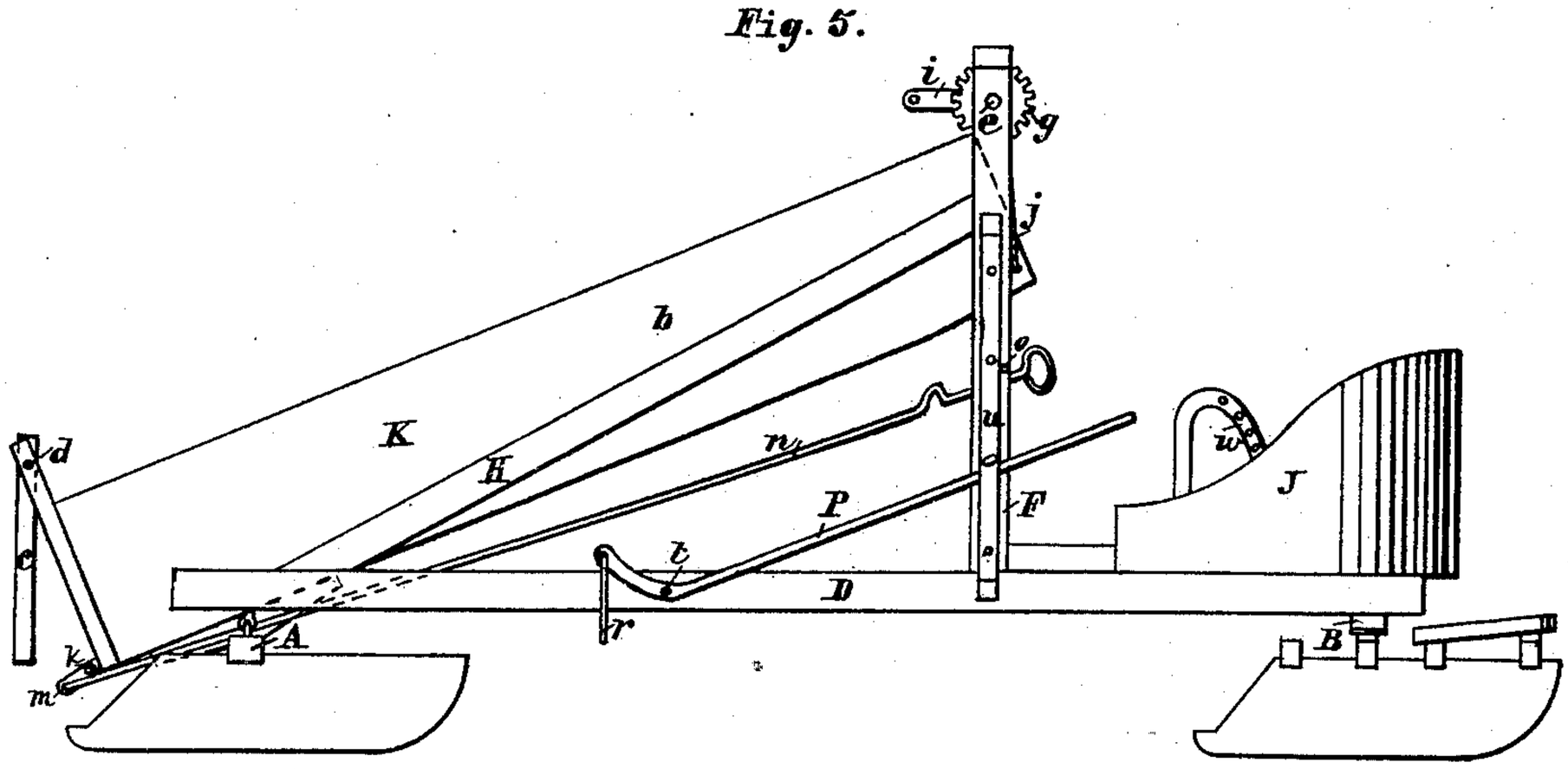


Fig. 5.



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(No Model.) 3 Sheets—Sheet 3.

I. H. RANDALL.

STREET CLEARING MACHINE.

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Fig. 6.

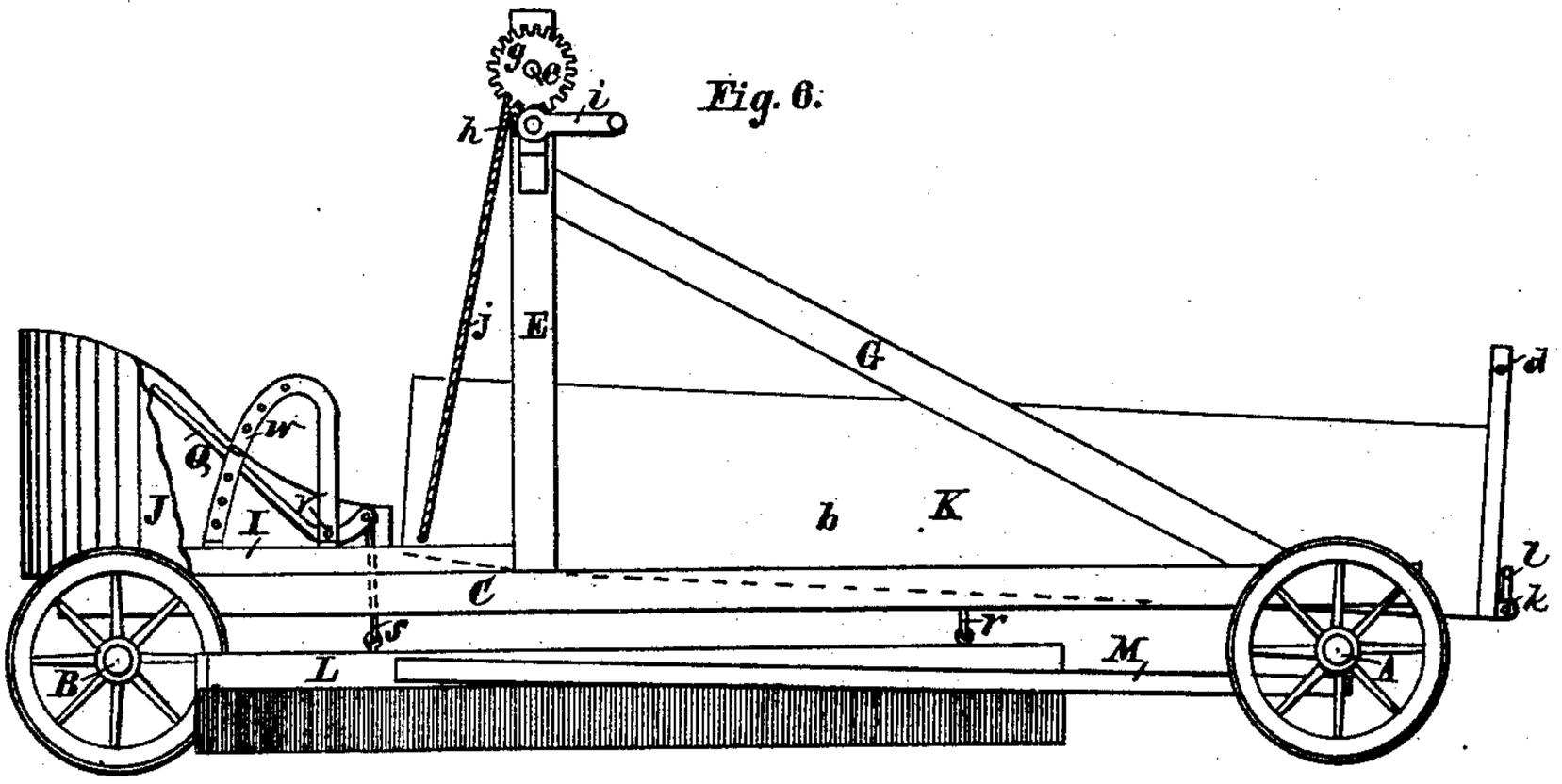
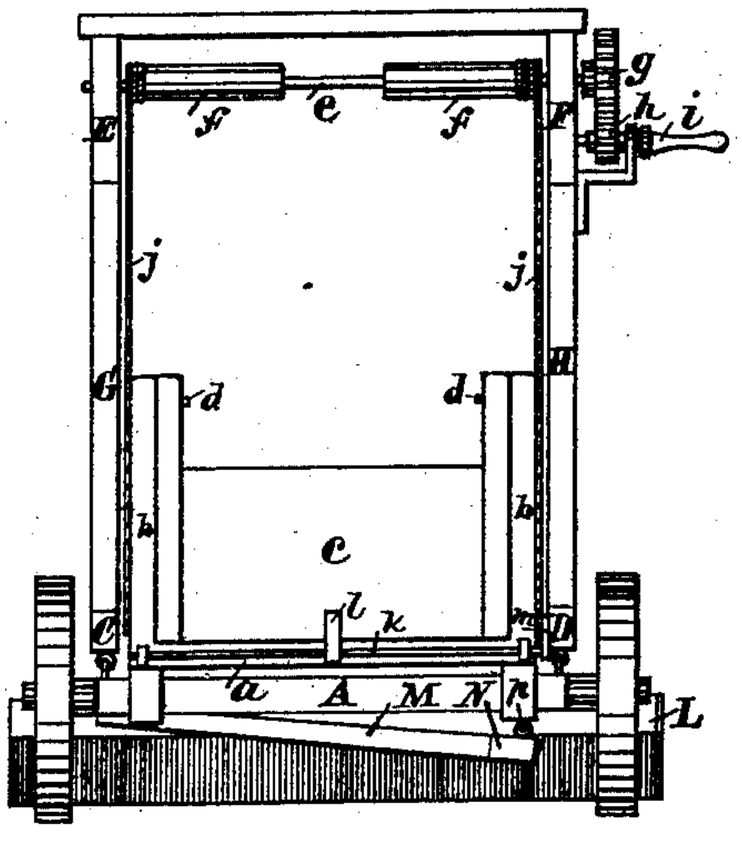


Fig. 7.



Attest;

Robert Brine,

John. Hogan.

Inventor;

Isaac H. Randall,

per Edw. Dunmer, Atty.

UNITED STATES PATENT OFFICE.

ISAAC H. RANDALL, OF BOSTON, MASSACHUSETTS.

STREET-CLEARING MACHINE.

SPECIFICATION forming part of Letters Patent No. 354,224, dated December 14, 1886.

Application filed February 19, 1886. Serial No. 192,601. (No model.)

To all whom it may concern:

Be it known that I, ISAAC H. RANDALL, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Street-Clearing Machine, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to a machine especially designed for removing snow from street-railway tracks, embodying devices for loading, dumping, plowing, leveling, and sweeping snow. The machine is also suitable for clearing other places than the railway-tracks, and to operate on other material than snow, as sand or gravel.

My invention consists in the devices and combinations hereinafter set forth, and specifically pointed out in the claims.

In the drawings, (three sheets,) Figure 1 is a plan, Fig. 2 a view of one side, and Fig. 3 a front end view, of a machine embodying my invention. Fig. 4 is a view of the same side of the machine after the sheer has been removed and the forward end of the box or body has been lowered into position for loading. Fig. 5 is a view of the same side of the machine, the sheer having been removed and the forward end of the box or body raised into position for dumping. Fig. 6 is a view of the other side, and Fig. 7 a view of the rear end, of the machine. Figs. 6 and 7 show the machine on wheels, while the other figures show the machine on runners, the devices embodied in the machine being of such construction that wheels or runners may be employed, as circumstances may require.

On the cross-pieces or axles A and B is located the frame-work, consisting mainly and substantially of longitudinal rails C and D, uprights E and F, and braces G and H. At the front end, on the rails C and D, is a platform, I, and a suitable dasher, J. On the cross-piece or axle A is pivoted the box or body K, having the bottom *a* and sides *b b* open at the forward end and provided with a tail-board, *c*, pivoted at *d*. Supported by the uprights E and F is a shaft, *e*, on which are fixed drums *f f*. I prefer to have also fixed on the shaft *e*, at one end, a gear, *g*, and to have a pinion, *h*, to engage therewith, the pinion being on a shaft in suitable bearings, and having a crank, *i*, thereon. A rope, *j*, or chain, extends from each drum to a side of the box or body near its forward end, where the end of the rope is fastened. Thus, by turning the crank the forward end of the box or body may be raised or lowered. The tail-board may be locked, when closed, by means of a shaft, *k*, bearing an arm, *l*, which may be swung up against the board, and an arm, *m*, to the outer end of which is connected a rod, *n*, extending forward, so as to be conveniently reached from the platform I. Near this end the rod *n* may be formed to engage with a pin or catch, *o*, thus holding the arm *l* against the tail-board.

Diagonally across the machine, under and extending beyond each side of the box or body, is a sheer, L, having suitable frame or braces, M and N, which may be suspended and held by links or chains *p*. This sheer may take the form of a scraper, as shown in Figs. 1, 2, and 3, when one end thereof may have an extension, O, pivoted at *q*, so as to be raised vertically when required; or it may be a brush, as illustrated in Figs. 6 and 7. The sheer is suspended near one end by a link, *r*, connecting the same with a lever, P, and near the other end by a link, *s*, connecting the same with a lever, Q. The lever P is pivoted at *t*, and may be held at any angle by a pin in a guide, *u*. The lever Q is pivoted at *v*, and may be held at any angle by a pin in a guide, *w*. Each of these levers may be located so as to be operated by a person on the platform I, as shown.

Removing snow from street-railway tracks is accompanied with much labor and expense, which it is the purpose of my invention to greatly decrease. When the snow is quite deep, the sheer may be removed, the box or body lowered at the forward end, as shown in Fig. 4, by means of the ropes winding off the drums, so that as the machine is drawn along the bottom of the box or body will be slid under the snow and the box or body be filled. The box or body then being raised to a level position, the load may be hauled to the dumping-ground, and dumped by raising the forward end, as shown in Fig. 5, by means of the ropes winding on the drums and by releasing the tail-board. Thus the machine becomes a self-loader

and unloader, so that shoveling by hand may be dispensed with. If the snow is only of sufficient depth to require a scraper or brush, either may be quickly put in place and the work of clearing go on by means of one and the same machine, by which, being on the ground, the work may be much more readily performed than if another machine were required.

Though removing snow from street-railway tracks is the work for which I find an immediate demand for my machine, yet it is suitable for removing snow from streets where there are no railway-tracks and from other places, and also for removing other substances, as sand or gravel.

I claim as my invention—

1. A machine provided with a box or body supported by four wheels or runners and pivoted at the rear cross-piece or axle, A, and means for lowering the forward end of said box or body between the front wheels or runners, whereby on the forward movement of the machine said box or body may be loaded, substantially as set forth.

2. In combination with a box or body supported by four wheels or runners and pivoted at the rear cross-piece or axle, a drum or drums, *f f*, shaft therefor, and a rope or chain or ropes or chains, *j*, for lowering the forward end of the box or body between the wheels or runners or raising the same, substantially as and for the purposes set forth.

3. In combination with cross-pieces or axles A and B, longitudinal rails C and D on said cross-pieces or axles, a box or body, K, pivoted on the rear cross-piece or axle, A, substantially as and for the purposes specified.

4. The combination of cross-pieces or axles A and B, frame C D E F, platform I, and box or body K, pivoted at the rear cross-piece or axle, A, substantially as and for the purposes set forth.

5. The combination of the cross-pieces or axles A and B, a body or box open at the forward end and pivoted on the rear cross-piece or axle, A, and provided with a pivoted tail-board, *c*, with means for locking the tail-board, as the rod *n* and the shaft *k*, provided with arms *l* and *m*, substantially as and for the purposes specified.

ISAAC H. RANDALL.

Witnesses:
EDW. DUMMER,
HENRY F. SHAW.