(No Model.)

T. ORMEROD & A. B. CROSKEY.

SNOW PLOW.

No. 337,075. Patented Mar. 2, 1886.

Fig. 1

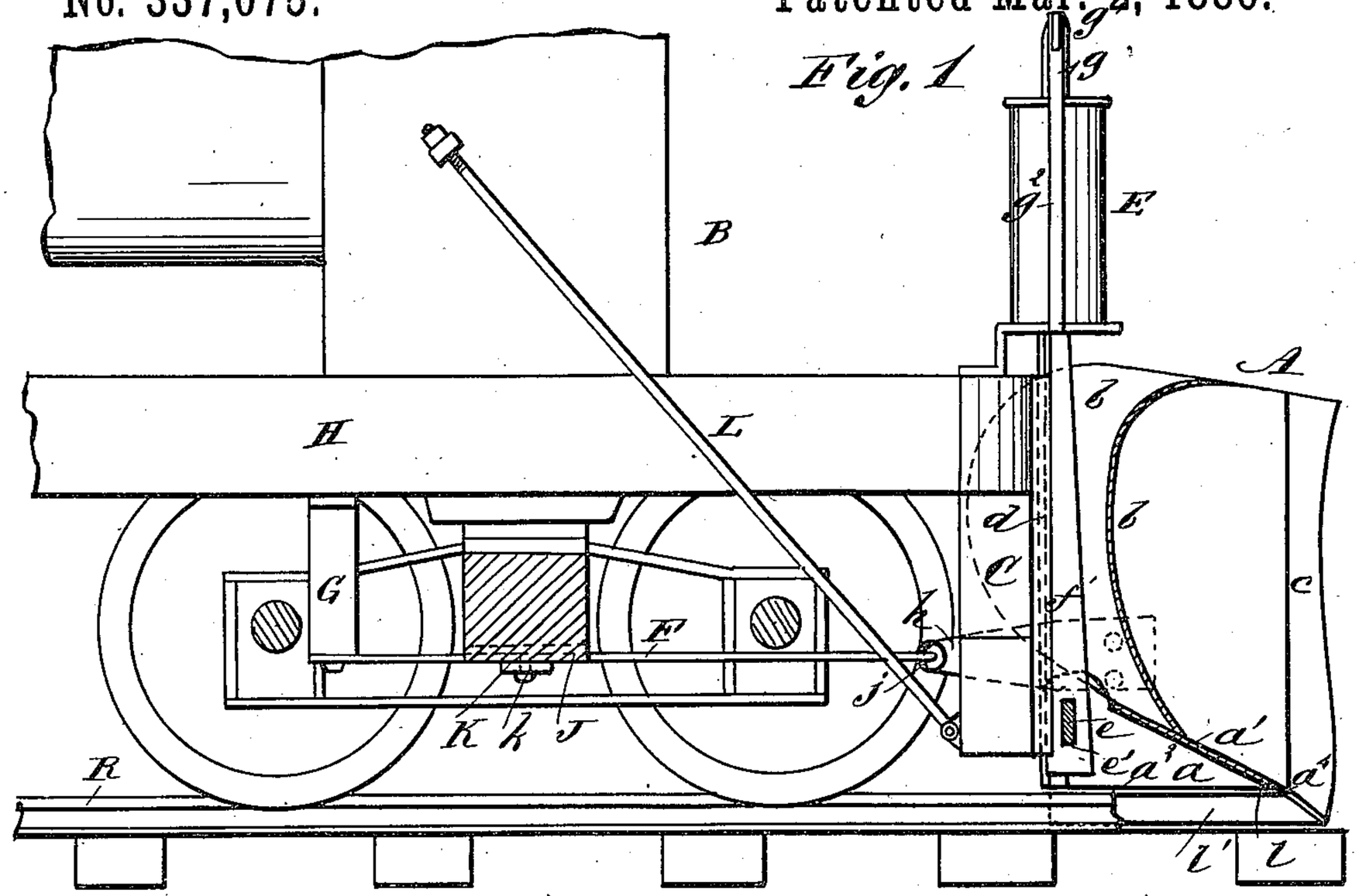


Fig. 2

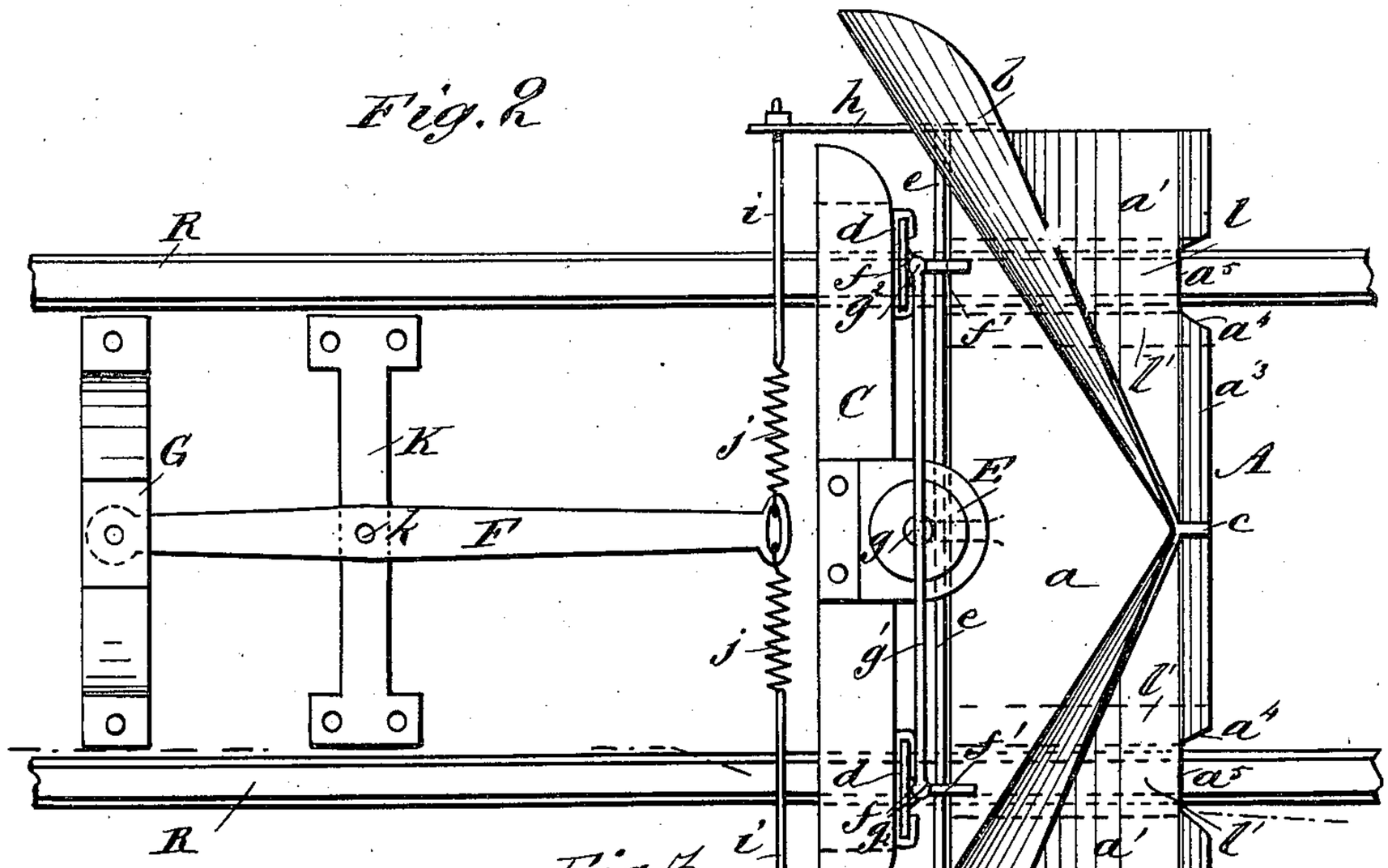
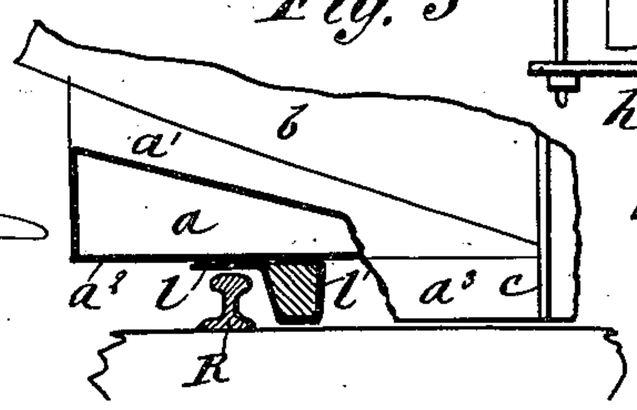


Fig. 3



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THOMAS ORMEROD AND ALBERT B. CROSKEY, OF LEADVILLE, COLORADO.

SNOW-PLOW.

SPECIFICATION forming part of Letters Patent No. 337,075, dated March 2, 1886.

Application filed April 10, 1885. Serial No. 161,821. (No model.)

To all whom it may concern:

Be it known that we, THOMAS ORMEROD and ALBERT B. CROSKEY, both of Leadville, in the county of Lake and State of Colorado, have invented a new and Improved Snow-Plow, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional elevation of our new and improved snow-plow applied to a locomotive-engine on a railway-track. Fig. 2 is a plan view of the plow on the track and removed from the locomotive. Fig. 3 is a detailed sectional front view of a part of the plow-body.

The invention will first be described in connection with the drawings, and then pointed out in the claims.

Referring to the drawings, A represents the body of the plow attached in front of the locomotive B to the frame C, made fast to the locomotive by any suitable means. The body A of the plow is composed, mainly, of the base portion *a* and wings *b b*, that meet at the center of the plow and form the front flange, *c*. The body A is attached to the locomotive in such manner that it may have vertical and lateral movement independent of the locomotive, so that the plow will follow the track at curves, and may be lifted from the track, and will not interfere with the sway or lurch of the locomotive. To provide for vertical movement of the plow, we attach the body A to the frame C, in this instance, by means of the flanged keeper-plate *d d*, T-irons *f f*, held by the flanges of the keeper-plates *d*, and the heavy cross-bar *e*, that is attached to the body A, and passes through openings *e'*, made in the front flanges, *f'*, of the T-irons *f*, as shown in Fig. 1. The irons *f* are loose in the keeper-plates *d*, so that by raising or lowering the irons *f* the whole body A of the plow may be raised up from or lowered down to the rails R R of the track. This raising and lowering of the plow may be done by lever or steam power; but we prefer to employ compressed air, and for this purpose we attach the compressed-air engine or cylinder E to the frame C, and connect the piston *g* thereof to the upper ends of the irons *f* by the cross-rod *g'* and two vertical rods, g^2, so that when the piston is operated by admission of compressed air to and its exhaust from the cylinder the plow will be raised and lowered accordingly.

The independent lateral movement of the plow is accommodated by the cross-bar *e* being held loosely in the openings *e'* in the flanges *f'* of irons *f*, through which openings the cross-bar *e* passes, as above described.

Attached to the ends of the base portion *a* of the body A are the rearwardly-extending arms *h h*, to which are connected the rods *i i*, which have the coiled springs *j j* attached to them. These springs are connected to the forward end of the lever F, which is pivoted at its rear end to the bent iron G, bolted to the under surface of the frame H of the locomotive back of the bolster J of the locomotive-truck. The lever F is fulcrumed at or near the center of the truck or bolster J upon pin *k*, forming in this instance a part of the cross-plate K, bolted to the under surface of the bolster J, as shown in Fig. 1, so that in rounding curves the movement of the frame H of the locomotive will throw the plow into the center of the track.

It will be understood that the truck is supported in such manner as to enable it to oscillate or move laterally, also to adapt itself to curves independently of the boiler or main frame of engine, so that the motions of such parts will properly adjust the body A by the construction before described.

The object of the springs *j* is to prevent jar or too sudden movement of the plow.

The upper surface, *a'*, of the base portion *a* of the plow is extended to form the lip a^3, which is cut away at a^4 a^4 to span the rails R R, so that the plow may be lowered to remove the snow from the center and sides of the track somewhat below the upper surfaces of the rails. The snow and ice are removed from the upper surfaces of the rails themselves by the sharp edges a^5 a^5, which run in contact with the rails when the plow is lowered for work; and for guiding the plow-body A properly along the track we secure to the lower plate, a^2, of the base *a* the wearing-plates *l*, Fig. 3, and flanges *l'*, that run in contact with

the rails R, as will be understood from the full lines in Figs. 1 and 3 and dotted lines in Fig. 2.

The frame C is braced from the locomotive by side rods, L, as shown in Figs. 1 and 3.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The body A of the snow-plow, attached to the locomotive or car by a bar held in loose bearings, whereby the body A is adapted to have lateral movement to accommodate the sway or lurch of the locomotive, substantially as described.

2. The combination of the locomotive or car, the keeper-plates *d*, secured thereto, the plates *f*, held and movable vertically in said keepers, and the body A, supported on said plates *f*, substantially as set forth.

3. The body A, attached to the locomotive or car by vertically-movable bars *f* and horizontal cross-bar *e*, held in loose bearings, substantially as described.

4. The combination of the body A, suitably supported, whereby it may be adjusted vertically, the cylinder E, the piston-rod extended upwardly from said cylinder, and the cross-rod connected between its ends with said piston-rod, and having its opposite ends connected with the body A, substantially as set forth.

5. The body A of the plow, combined with the lever F, fulcrumed at or near the center of the truck of the locomotive or car, substantially as and for the purpose set forth.

6. The frame C, attached to the front of the locomotive, provided with plate *d*, in combination with the body A, attached to the irons *f*, held by the plates *d*, substantially as and for the purposes set forth.

7. The frame C, provided with plates *d*, in combination with the body A, attached to plates *f* by rod *e*, passed loosely through the irons *f*, substantially as described.

8. In a snow-plow, the body A, formed of sheet metal, and having the wings *b b*, and the base *a*, connected to said wings and extended to form the lip a^3, cut away at a^4 to span the rails, substantially as set forth.

9. The body A, cut away at a^4 and provided with the shoes *l*, substantially as and for the purposes set forth.

10. The body A, cut away at a^4 and provided with ribs *l'*, substantially as and for the purposes set forth.

11. The body A, provided with the arms *h*, in combination with the rods *i*, springs *j*, lever F, and plates G K, substantially as and for the purposes set forth.

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