

(No Model.)

G. J. HARDING.  
Snow Plow.

No. 238,501.

Patented March 8, 1881.

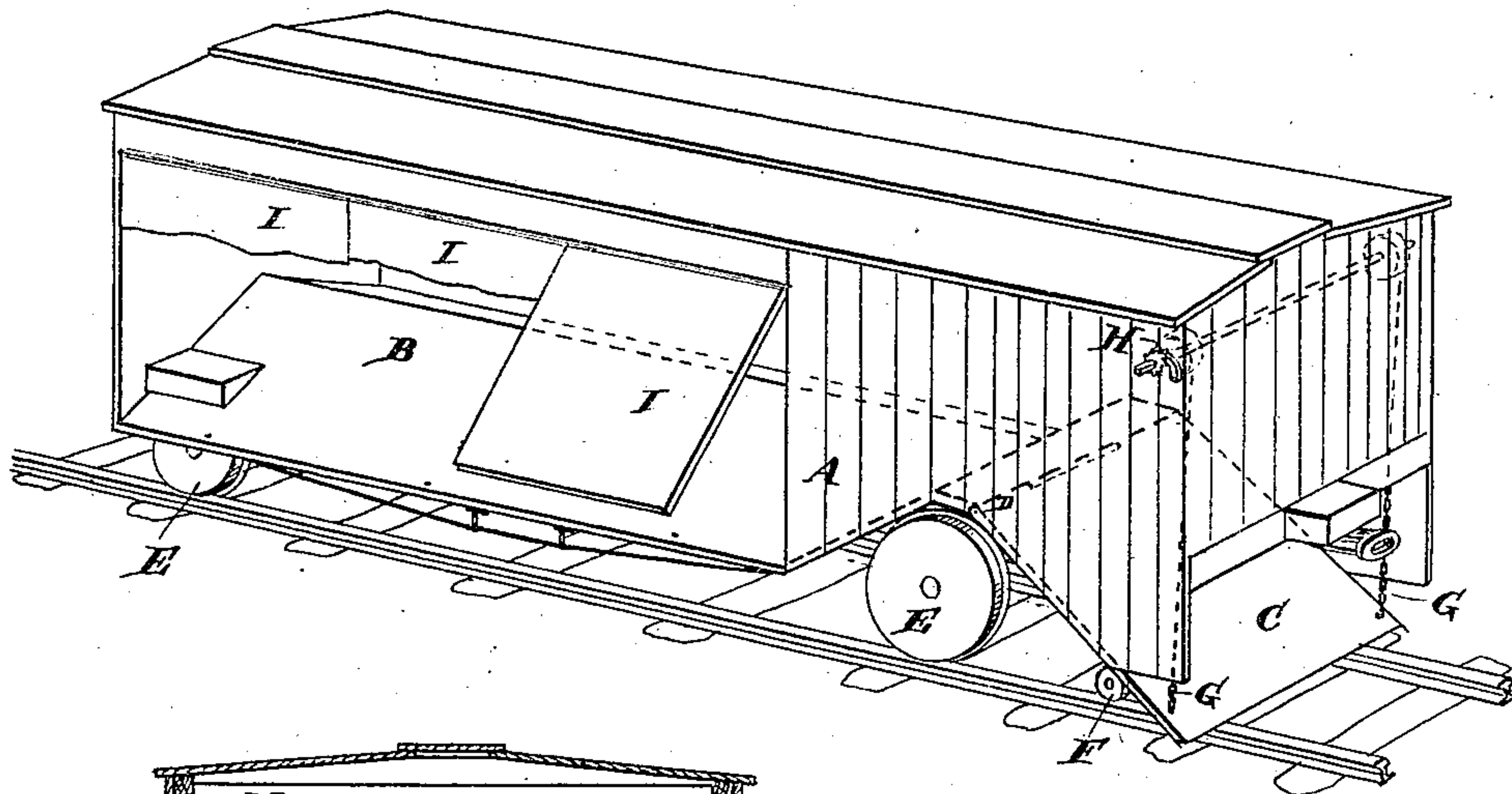


Fig. 1

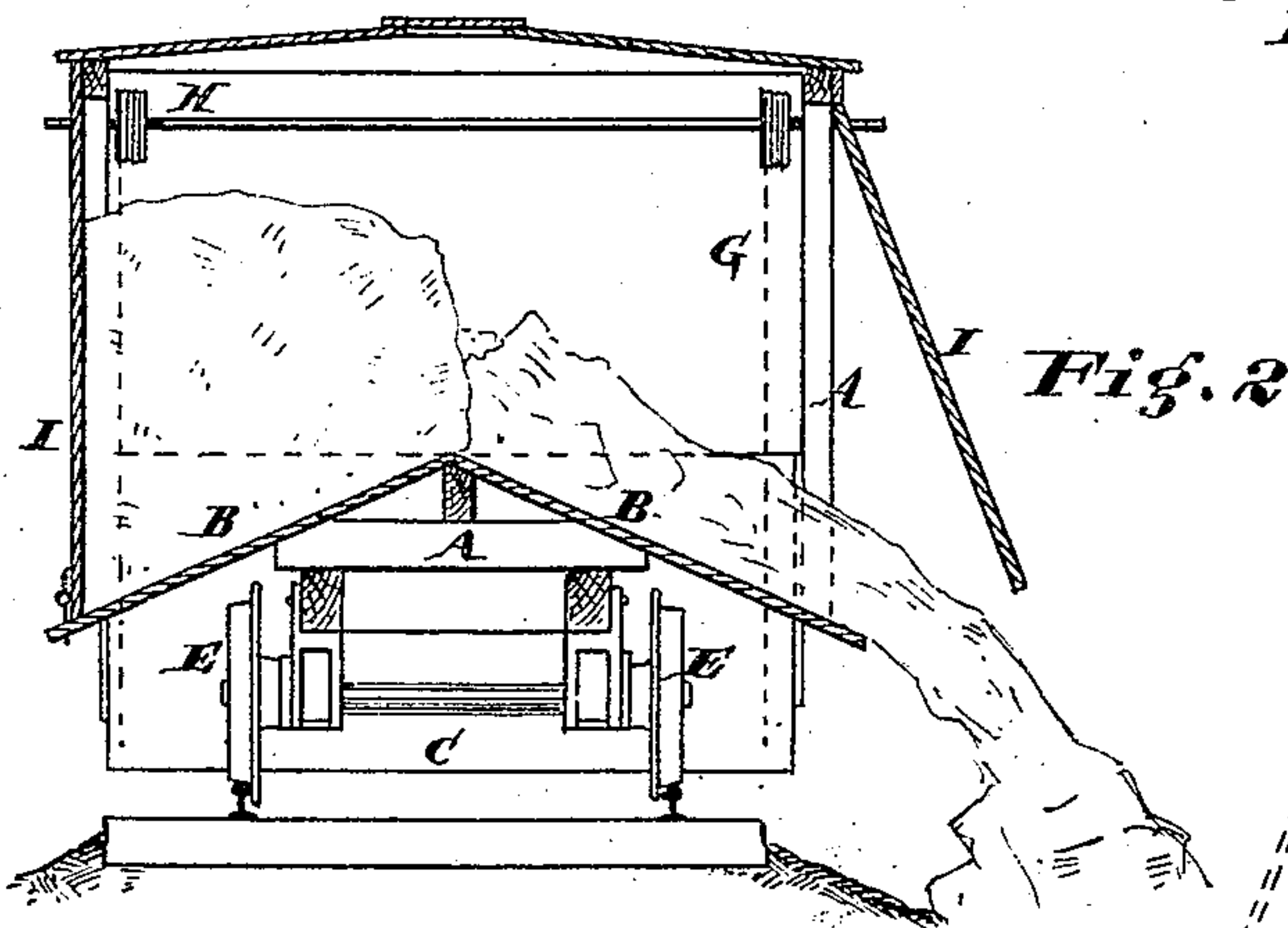


Fig. 2

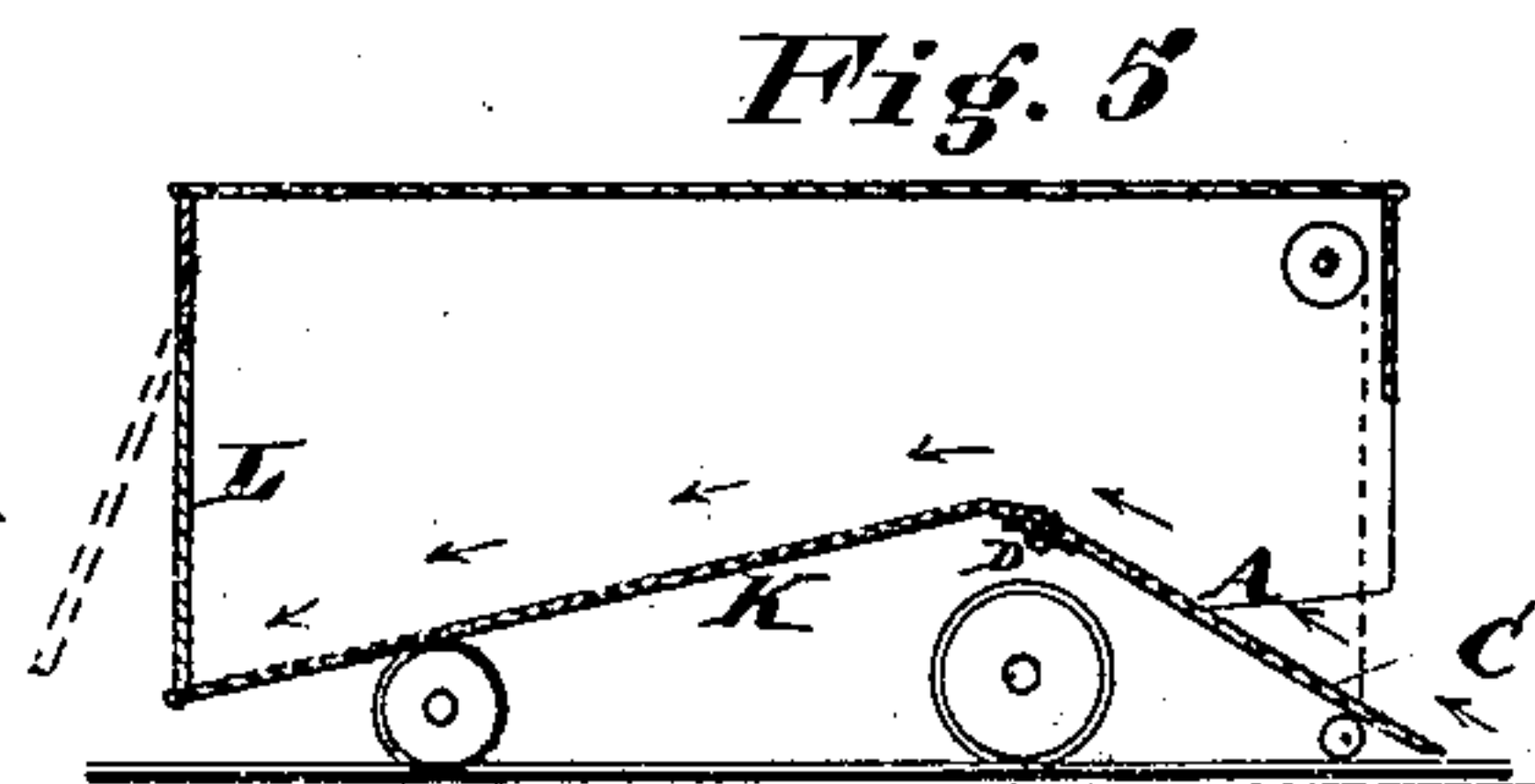


Fig. 3

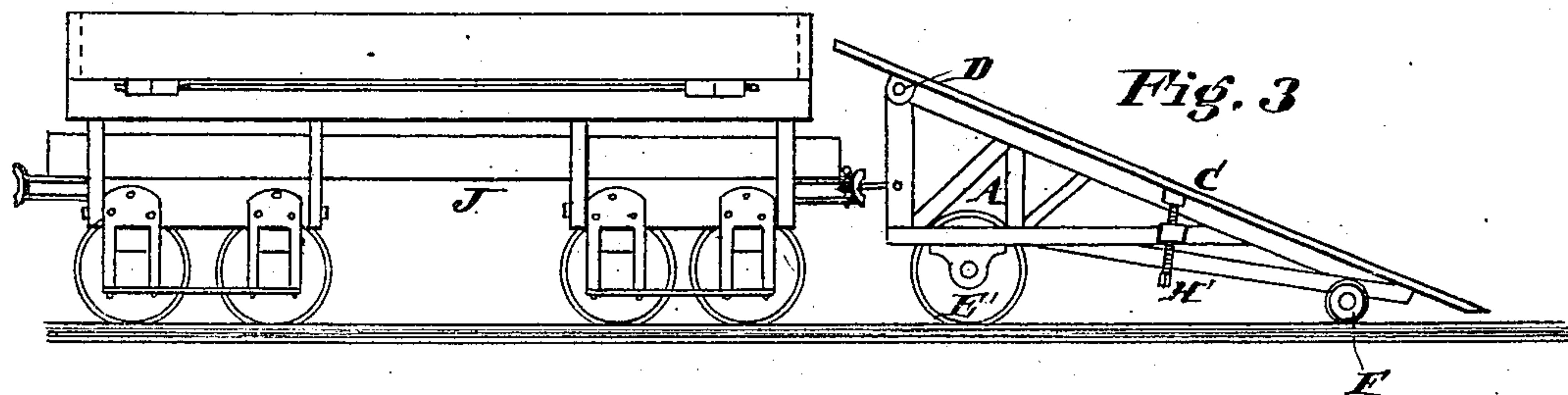


Fig. 4

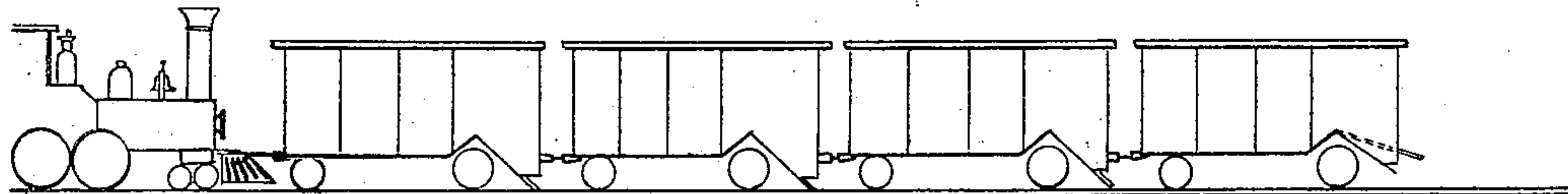


Fig. 5

Attest  
J. M. Davis  
J. M. Davis

Inventor  
George J. Harding  
By his atty.  
J. M. Davis



# UNITED STATES PATENT OFFICE.

GEORGE J. HARDING, OF PHILADELPHIA, PENNSYLVANIA.

## SNOW-PLOW.

SPECIFICATION forming part of Letters Patent No. 238,501, dated March 8, 1881.

Application filed December 4, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE J. HARDING, of the city of Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented an Improvement in Snow-Plows, of which the following is a specification.

My invention relates to snow-plows in general; and it consists in a suitably-constructed vehicle designed to be propelled before the locomotive, and provided with apparatus and mechanism to cause the snow upon the track to slide up and be deposited into the vehicle, all of which is more fully set forth in the following specification, shown in the accompanying drawings, and referred to in the appended claims.

Heretofore snow-plows have been constructed to clear the track by lifting the snow and discharging it from the sides of said plow; but these cannot clear the track in a narrow cut, inasmuch as there is no place in which to discharge the snow removed; hence it has been the practice to remove the snow by hand, shoveling it into a truck-car, and then hauling it away and discharging it in some open place.

Track-clearers have also been invented in which a car propelled in front of a locomotive carries a crane, and to which crane is pivoted a scoop capable of being raised or lowered, and, through the agency of the crane, of being swung around to the side of the car. This device, however, is especially adapted to clearing the track of heavy drifts, the removal of which cannot be accomplished by the snow-plows in use. In operating, the scoop is lowered, the locomotive propelled forward a few feet and then stopped. The scoop, full of snow, is then raised and swung around to the side, the discharging-door is tripped, and the load dumped away from the track. This invention, however, is not adapted to clear narrow cuts and yards, for want of space in which to swing the crane.

The object of my invention is to dispense with the use of a force of men to clear a track in a narrow cut or upon open ground, as in the case of engine-yards and railroad-entrances to cities, and substitute therefor a car especially adapted to the purpose, whereby the same snow is transferred from the ground to the car automatically during the forward movement of the same, and can then be removed to a proper distance and dumped.

In the drawings, Figure 1 is a perspective view of a car embodying in it my invention. Fig. 2 is a cross-section of same. Fig. 3 is a modified form of same, showing separate elevator attached to ordinary truck. Fig. 4 shows a series of cars of my construction made into a train for the purpose of clearing a long cut. Fig. 5 is a modified form of car which dumps from the rear.

A is the frame of the car; B, inclined or dumping bottoms, situated to the rear of the car; C, a hinged inclined elevator. The car-body is supported on wheels E E, and the elevator is hinged to the body or bottom at D, and is supported upon rollers F, which govern its position above the rails. The elevator C is secured to elevating-chains G, which pass over and are attached to wheels upon a shaft supported overhead, and supplied with a pawl and ratchet-wheel, which constitutes a suitable lifting device, H. The sides, near the rear of the car, are furnished with doors I, which are hinged at the top and open outward for the purpose of dumping the snow, as shown in Figs. 1 and 2.

If desired, the rear bottoms, B, may be made flat and inclined backward, as at K in Fig. 5, in which case the back or rear end of the car will be furnished with a door, L, opening outward.

To adapt my invention to the ordinary dumping-trucks J used on railroads, I make the elevator C independent and hinge it to a truck-frame, A', at D, and instead of raising or lowering it by the mechanism H, (shown in Fig. 1,) I would use a simple screw, H', or other equivalent device.

The operation is as follows: The doors I being closed and secured in place, and the elevator C being lowered to the proper degree, the car is pushed in front of a locomotive, the snow is scooped up by and is slid up the elevator and discharged into the rear of the car, where it is retained until the load is sufficient to require to be discharged. The car is then run off to a proper location and the doors I opened and the snow dumped. In the case shown in Fig. 5 the same action is performed, except that the dumping takes place from the rear of the car instead of at the sides. In the case of Fig. 3 the snow is slid up the elevator and discharged into an ordinary dumping-car,



which, when full, is dumped as in the other cases. If the cut should be long, a series of these cars can be coupled together, as shown in Fig. 4, and when the front car is filled the elevator is raised and the next car is filled, and so on, thereby necessitating only a single trip to entirely clear the track.

These plows are used in train, or a number joined together, when there is but a slight fall of snow on the ground—say enough to touch the locomotive fire-box. Therefore, if we consider the first car full and its elevator raised, the snow will pass up the next elevator, after passing under the front car, or, rather, after the front car has passed over it.

It is not necessary to house the car, as shown in Fig. 1, as an open or box truck will answer just as well. The elevator being made flexible or hinged, it may be raised or lowered by any suitable mechanism.

It is not necessary to my invention that the car or vehicle be run on a railroad-track, though it is particularly adapted to that purpose.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a snow-plow, a vehicle on wheels, in combination with an elevator-slide located before or forming part of the same, hinged at or near its upper extremity, and capable of vertical adjustment, and extending to or near the ground, and adapted, during the forward movement of said vehicle, to elevate or cause the snow to slide up the elevator and be deposited in said vehicle, and mechanism to adjust said elevator to or from the ground, substantially as and for the purpose specified.

2. In a snow-plow, a smooth elevating-surface, open at the top, and attached at or near the upper edge to a car or other vehicle, and having its lower edge on or near the ground and capable of vertical adjustment, and adapted to be propelled before said car or vehicle, to cause the snow to slide up the elevating-surface and be deposited in the vehicle, in combination with mechanism to adjust the front end of said elevator to or from the ground, substantially as and for the purpose specified.

3. In a snow-plow, an elevator, C, open at the top, hinged at D, in combination with a vehicle on wheels and running upon a track, said elevator being adapted to elevate the snow and deposit it in the vehicle, chains G, and elevating mechanism to raise or lower the forward end of the elevator in a vertical line, substantially as and for the purpose specified.

4. In a snow-plow, a vehicle provided with wheels and furnished with an inclined or dumping bottom, in combination with an elevator arranged in the forward end of the vehicle and adapted to be adjusted vertically to and from the rails, the upper end of which is substantially even with the bottom of the vehicle, and mechanism to adjust said elevator to or from the ground, substantially as and for the purpose specified.

In testimony of which invention I hereunto set my hand.

GEORGE J. HARDING.

Witnesses:

ROBT. A. CAVIN,  
THOS. J. HUNT.