

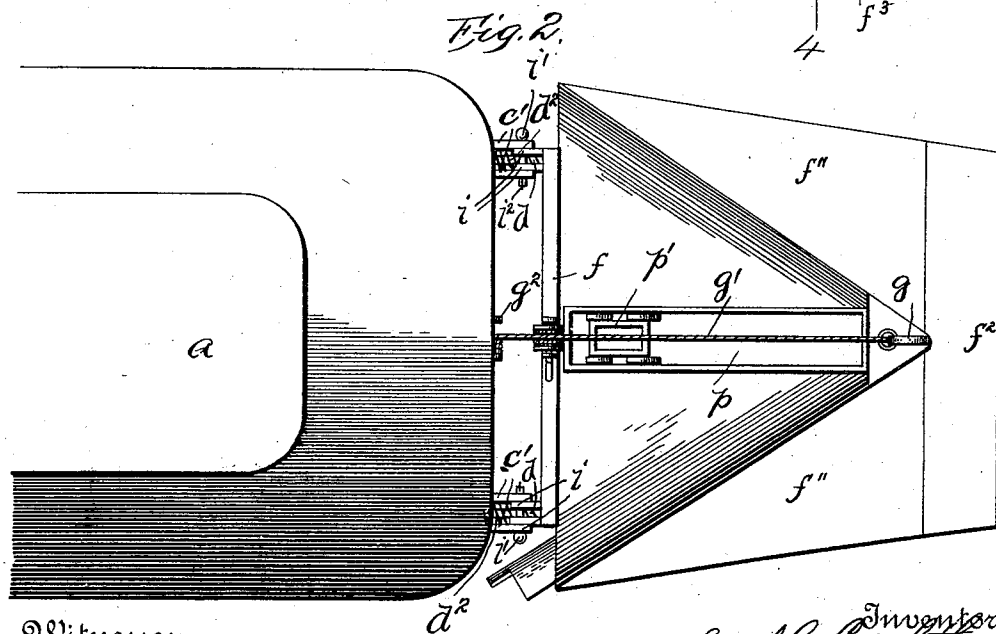
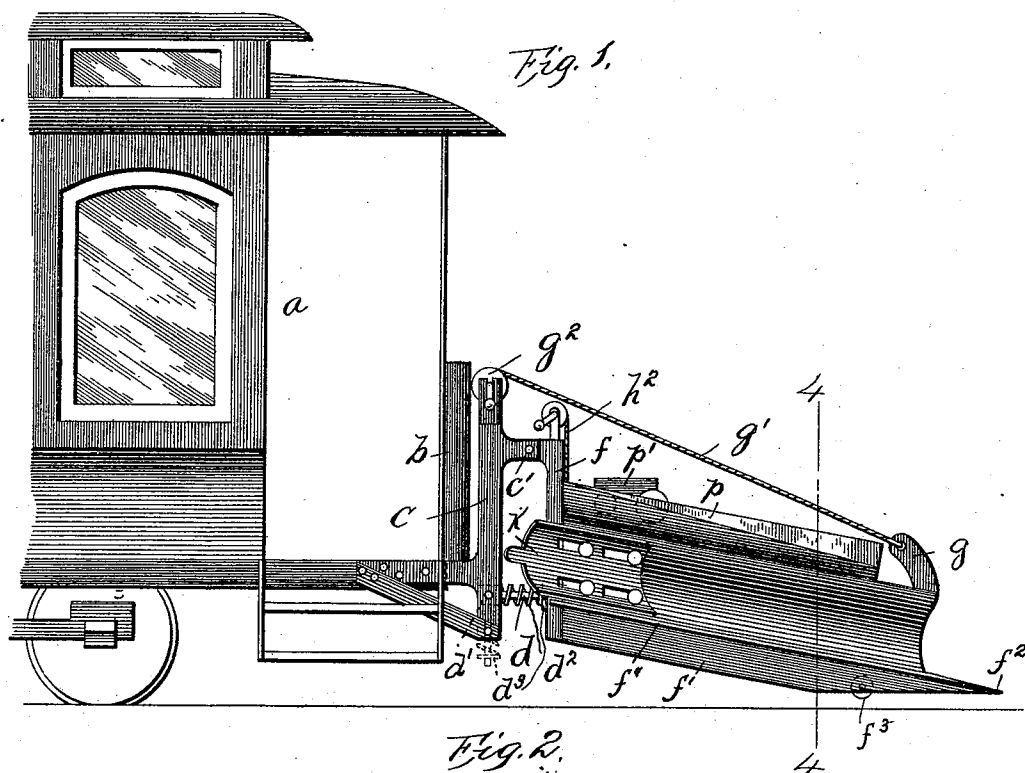
(No Model.)

2 Sheets—Sheet 1.

J. LEIGHTHAM.
SNOW PLOW.

No. 544,623.

Patented Aug. 13, 1895.



Witnesses
E. C. Duffy
C. M. Worle

Inventor
Joseph Leigham
per *E. C. Duffy*
Attorney

UNITED STATES PATENT OFFICE.

JOSEPH LEIGHTHAM, OF READING, PENNSYLVANIA, ASSIGNOR OF ONE-HALF
TO WILLIAM H. SLICHTER, OF SAME PLACE.

SNOW-PLOW.

SPECIFICATION forming part of Letters Patent No. 544,623, dated August 13, 1895.

Application filed March 14, 1895. Serial No. 541,735. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH LEIGHTHAM, of Reading, in the county of Berks and State of Pennsylvania, have invented certain new and useful Improvements in Snow-Plows; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

This invention relates to certain improvements in snow-plows.

The object of the invention is to provide an improved snow-plow exceedingly simple, durable, and effective in construction and composed of a minimum number of parts, and constructed and arranged for detachably coupling to street motor-cars in place of fenders employed on such cars.

The invention consists in certain novel features of construction and in combinations and arrangements of parts, more fully and particularly described hereinafter and pointed out in the claims.

Referring to the accompanying drawings, Figure 1 is a side elevation of the front portion of the car formed to receive and showing the improved snow-plow coupled thereto. Fig. 2 is a top plan view of the front part of the car and the snow-plow. Fig. 3 is a bottom plan of the plow. Fig. 4 is a section on the line 4 4, Fig. 1.

In the drawings, *a* is the car, having the usual dash *b*.

c are strong metal supports secured to the front portion of the platform-supporting beams and depending below the plane of the platform and extending upwardly a suitable distance in front of the dash. These supporting-plates are four in number and arranged parallel and in pairs at opposite sides of the dash. The plates of each pair are secured a suitable distance apart, and all the plates are strongly secured and braced by cross-rods and braces. The upper ends of the plates have the forward extensions *c'* transversely perforated and forming members of the hinges between the snow-plow and said supports. Two

vertically-swinging pins *d* are arranged in the lower ends of the pairs of supports. Each pin has a head *d'* pivoted between the lower portions of its particular pair of supports, and each pin extends outwardly therefrom a suitable distance and has the expansive coiled spring *d²* secured thereon with plate *d³* at its outer end and slidable on the pin, so as to bear against the rear end of the plow with the pin extending loosely through an opening therein. When the plow is removed the pins drop down between their supports, as shown by dotted lines.

e e are removable beveled guide-plates secured to the outer sides of the lower ends of the outer supports and projecting forwardly to guide and steady the plow.

The snow-plow is formed to be removably joined to the car by the means mentioned in connection with devices hereinafter set forth. These same devices carried by the car usually removably receive a fender, for which the snow-plow is substituted when desired.

The plow consists of the rear upright frame *f* and the forwardly and downwardly inclined bottom frame *f'*, at its front end having the protected cutting edge or blade *f²*. At the under side of its front portion the frame *f'* has the long roller *f³* extending the width of the frame, with end journals mounted in bearings from the side bars of said frame. The upper work of the plow is built upon said frames and comprises the central vertical front point or edge located at the rear edge of said front blade *f²*, and from which the upper work flares and tapers outwardly and rearwardly and is transversely concaved at its sides to carry the snow laterally and throw it from the track from the lower projecting side edges *f'''* of the upper work of the plow, which also can extend rearwardly and laterally at *f⁵* beside the rear upright frame *f*.

The top of the plow is covered, and at its front has the upright post *g*, connected by cable *g'* to the reel *g²*, mounted on the top of the dash. By means of this reel and connection the front end of the plow can be raised clear of the track at any time desired, as when crossing tracks, &c., or to avoid obstacles. The top of the plow has the forwardly-extending inclined way or track *p*, in which the

weight p' is arranged to travel longitudinally of the plow. This weight can be mounted on rollers, if so desired, and is controlled by the connection h^2 , attached thereto and extending rearwardly to suitable fastening means on the upper end of the rear upright frame of the plow. Thus the point or front edge of the plow can be forced down its full distance by permitting said weight to travel to the front end of the way, or if the plow is weighted down by snow to too great a degree the weight can be drawn up to the upper rear end of the way and the connections secured, and thereby act as a counterweight and tend to relieve the excessive downward pressure on the front of the plow, and also to enable the same to be easily raised when desired.

The rear upright frame of the plow has the two pairs of rearwardly-extending perforated ears i from its upper end fitting between and registering with the perforated projections of the supports from the car, and from the opposite hinged members, which are pivotally united by bolts i' , having the swinging stops i^2 in their ends to permit ready insertion or removal of the bolt, but which will drop down and prevent accidental withdrawal of the bolt. It will thus be seen that the plow swings from these hinges or pivotal points at the upper rear part thereof. These springs yieldingly uphold the front end of the plow.

k are sliding wings at the rear ends of the plow, which move longitudinally thereof and can be drawn out in extension of the plow to throw the snow a greater distance from the track. It will be readily observed that when the front end of the plow engages the snow it is at once depressed until the bottom roller rests on the road-surface and the rear springs are compressed. As soon as the front end of the plow is relieved from the snow the springs return to their normal slightly-elevated position.

The plow can be readily removed from or attached to the car by moving or inserting the pivot-bolts and disengaging or inserting the lower guide-pins and removing or inserting the top reel.

This plow is comparatively light in construction and yet is exceedingly durable and effective in action.

It is evident that various changes might be

made in the forms, arrangements, and constructions of the parts described without departing from the spirit and scope of my invention. Hence I do not wish to limit myself to the exact construction herein set forth, but consider myself entitled to all such changes as fall within the spirit and scope of my invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The pivotally mounted snow plow having a top longitudinal way, and the movable weight therein, substantially as described.

2. The snow plow having the front cutting edge and projecting sides, and flaring top provided with the inclined way, the movable weight therein provided with controlling means, and the front post, and raising connections thereto, substantially as described.

3. A car having a snow plow pivotally joined at the upper portion of its rear end to a car, and springs interposed between the car and the lower portion of the rear end, substantially as described.

4. A car having the front supports provided with the top perforated ears, and the swinging guide pins and springs around the same at the lower portions of the supports, and the snow plow having the upright rear frame having the rear perforated ears at its upper portion, the removable pivot bolts passing through the ears, substantially as described.

5. A snow plow having the rear upright frame and the bottom frame extending downwardly and forwardly therefrom with the front edge, the bottom rotary shaft extending completely across the bottom of the plow near the front thereof as described, and the upper wedge shaped portion having the concaved sides and a sliding wing k , in a concave side, said plow pivotally joined to a car front, and yieldingly held in its normal position by springs, substantially as described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JOS. LEIGHTHAM.

Witnesses:

WILLIAM W. LATZ,
DAVID F. WALTER.