(No Model.)

W. ANDREWS.

SLED BRAKE.

No. 349,132. Patented Sept. 14, 1886.

Fig. 1.

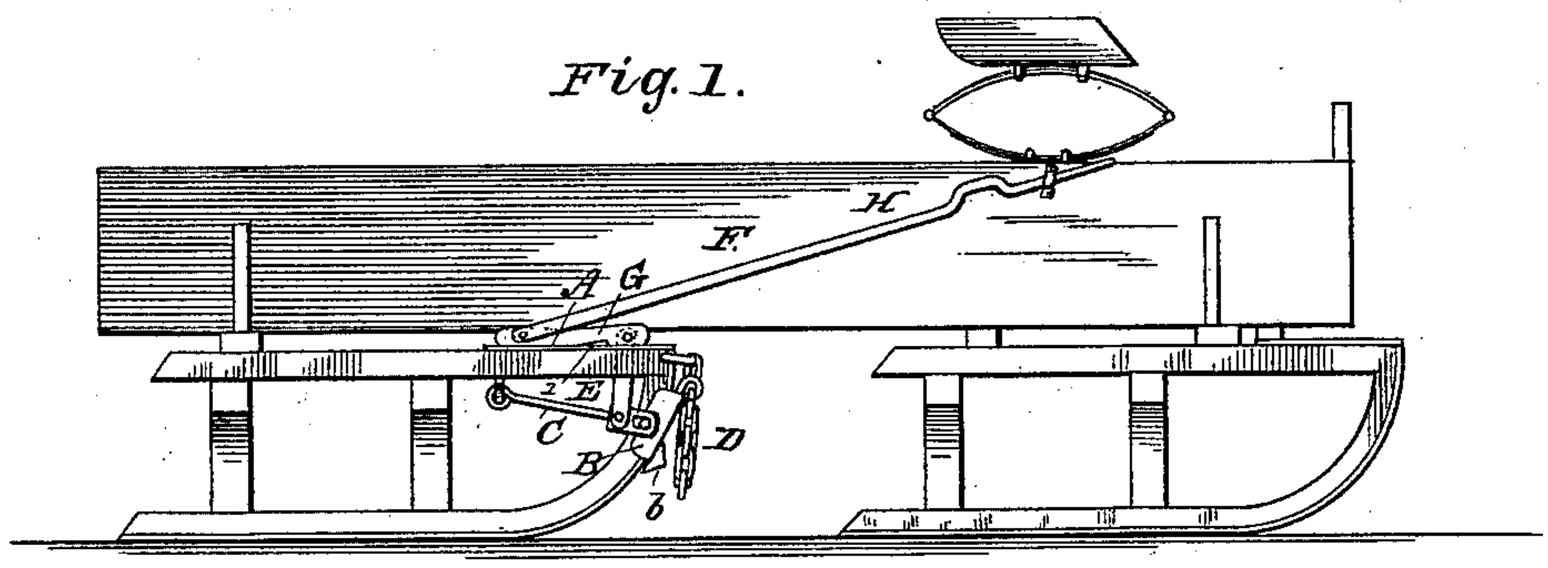


Fig. 2.

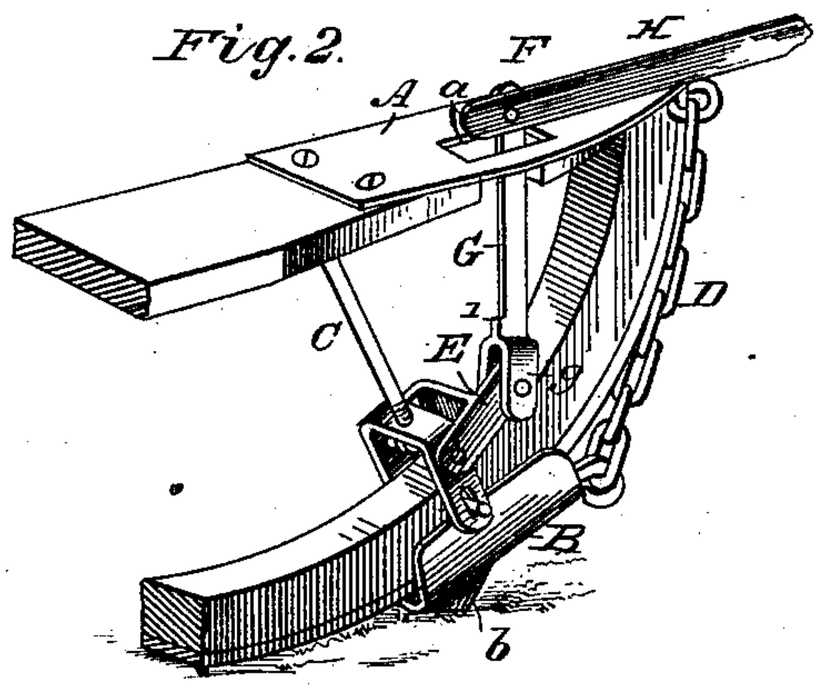


Fig. 3.

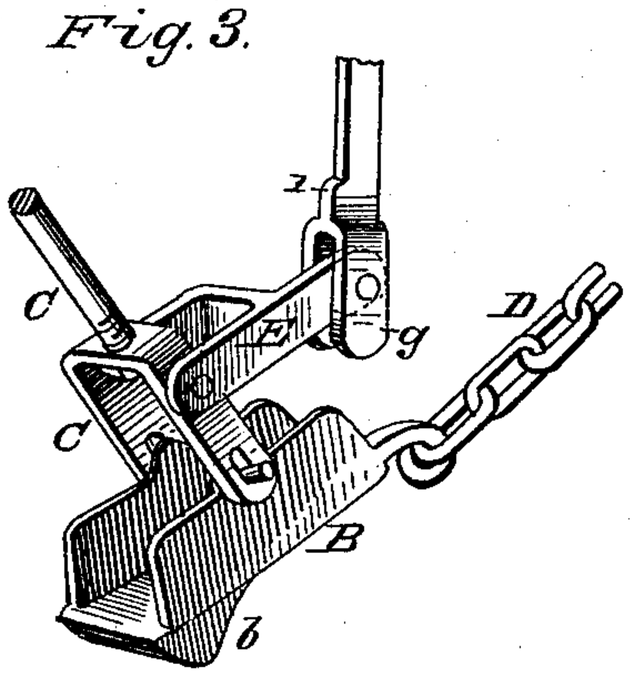
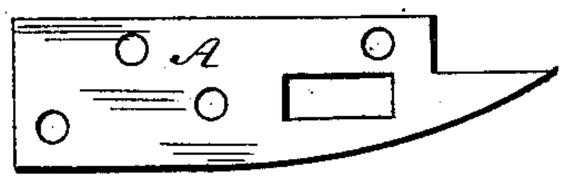


Fig. 4.



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WILLIAM ANDREWS, OF BUFFALO GROVE, IOWA.

SLED-BRAKE.

SPECIFICATION forming part of Letters Patent No. 349,132, dated September 14, 1886.

Application filed May 14, 1886. Serial No. 202,214. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM ANDREWS, of Buffalo Grove, in the county of Buchanan and State of Iowa, have invented a new and useful Improvement in Sled-Brakes, of which the following is a specification.

My invention is an improvement in sled-brakes, and has for an object to provide a brake that may be quickly and easily applied and will be strong and serviceable in use.

The invention has for further objects other improvements, hereinafter described; and it consists in certain features of construction and novel combinations of parts, as will be described.

In the drawings, Figure 1 is a side view of a sled provided with my improvement, the shoe being elevated. Fig. 2 is a similar view of a part of a sled-truck, the brake being applied. Fig. 3 is a detail view of the brake-shoe, the swinging arm, and the link; and Fig. 4 is a detail view of the guide.

On the sled above the runner I secure the guide A, which in the present instance is a plate of metal having a guide-slot, *a*, formed through it. A brake-shoe, B, is lapped against the under side of the runner and is movable therealong. By preference this shoe is formed in box shape, as shown, fitting against the under edge and the sides of the runner; but manifestly its shape may be varied without departing from the broad features of the invention. By lapping the shoe against the runner it is guided when being adjusted into and out of braked position, and when the brake is applied it is strongly supported. I preferably connect this shoe with the sled by a swinging arm, C, pivoted at one end to the sled and at its other end to the shoe. The pivotal opening in the arm C receiving the studs of the shoe may be enlarged to relieve the arm of the strain of the brake when applied.

In practice I form the wearing part of the shoe of steel and the remaining portion of malleable or cast iron or other suitable material.

To firmly brace the shoe when the brake is applied, I connect such shoe with a forward part of the sled or its runner by a strong chain, D. It will be noticed that the shoe is formed with a projecting portion, *b*, which offers a great resistance to the snow or ice surface, and so increases the braking action. The link E is pivotally connected at one end with the shoe, preferably through the intervention of the swinging arm C, as shown. The opposite end of such link is movable through the guide-slot *a* and projects through said slot when the shoe is elevated. The handle or operating rod F is in the present instance formed of a number of rods, G H, pivoted together at one end, and the rod G is pivoted near its opposite end to the link E, providing a projection, *g*, beyond said pivot. On the opposite side of the pivot from the extension *g*, I form a shoulder, 1, on the under side or edge of the part G. It will be understood that the part G might be used independently of the section H; but the latter is preferred, for the reason it enables the brake to be manipulated from a point in advance of the guide A.

The operation is simple. When the brake is elevated, as shown in Fig. 1, it will be held at such point by the handle resting on the guide A, with its forward extension, *g*, projected over and beyond the guide-slot passage or opening *a*. Such position of the handle-rod may be regarded as its normal arrangement. To prevent the handle being jarred or jolted out of such position the shoulder 1 is arranged to engage the rear edge of opening *a*, and so lock the handle and the brake devices out of braked position. By elevating the rear end of the section G the shoulder 1 will escape the wall of the guide-opening *a*, and the section may then be drawn rearwardly and its forward end forced down through the opening, the brake being adjusted to braked position. While it is preferred to form the link E a rigid bar or rod, as shown, as thereby the brake may be adjusted forcibly into as well as out of braked position, it is manifest that a chain or other flexible connection might be employed and the shoe drop by gravity into braked position. By preference the arm C, where it joins the shoe, and the link E, where it joins said arm, are bifurcated, as shown.

By forming the different parts where they join with a series of perforations for the pivot-bolts the device, constructed as described, may be adapted for use on sleds or sleighs of different sizes.

A special advantage arises from arranging the shoe when braked on the curve of the runner, in that by reason of such arrange-

ment the brake may be readily released when so desired.

Manifestly the brake may be provided on either or both of the runners of a sled.

For the purpose of adjusting the brake to sleds of different sizes, the arm C may be formed in sections, threaded together, as shown.

In operation, when the brake is applied and the bottom of an incline is reached, the shoe, being at the juncture of the curved and straight portions of the runner, will bear a part of the weight. On stopping the team at the foot of a hill the sled will settle backward to a natural position, releasing the shoe, which may then be readily raised and secured out of braked position. If the shoe be not freed as above, it will be on slightly backing the sled. The shoe may be elevated by raising the rod H in rear of the eye or guide *h*, such eye or guide serving as a pivot and support for the rod.

Having thus described my invention, what I claim as new is—

1. In a sled-brake, the combination, with a runner and a brake-shoe movable along the same, of a rod connected with said shoe, whereby to operate the same, and a guide for said rod, the said rod being adapted, when normally arranged, to secure the shoe out of braked position, said parts being independent of the draft devices, whereby the brake may be applied at will, substantially as set forth.

2. The combination, with the runner and the shoe lapped against and movable along the same, of the arm C, pivoted at its upper end to the sled, and having its opposite end bifurcated, forming arms embracing the runner and shoe, said arms being formed with elongated openings or slots, and pins extended from the shoe into said slots, substantially as set forth.

3. The combination, with the sled-runner and a brake-shoe lapped against and movable along the under side of same, of the supports for said shoe, having a portion lapped over the upper side of the runner and movable therealong, substantially as set forth.

4. In combination with a sled having a guide provided with an opening and a brake-shoe, a link connected with the shoe and movable through the guide-opening, and a handle pivoted to such link and movable therewith into or through the guide-opening and provided with a projection beyond such pivotal connection, substantially as set forth.

5. A sled having a guide, a shoe, and a link connected with such shoe and movable through the guide, combined with a handle pivoted to such link, and having a projection beyond said pivot, and provided with a locking-shoulder, 1, substantially as set forth.

6. In a sled having a movable shoe and a guide-opening, a link connected with the shoe and movable through the opening, and a handle having a section, G, connected with the link and adapted, when normally arranged, to secure the shoe out of braked position, and a second section, H, pivoted to the first handle-section, substantially as set forth.

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