

A. BLACKSTONE.
Sled-Brakes.

No. 151,348.

Patented May 26, 1874.

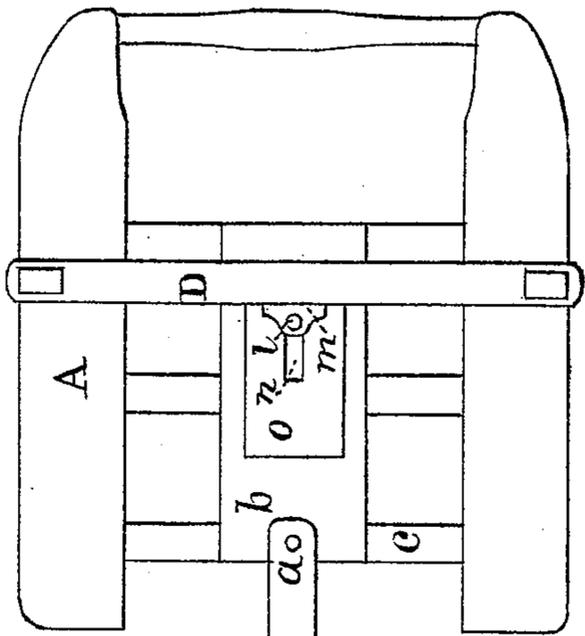


Fig. 1.

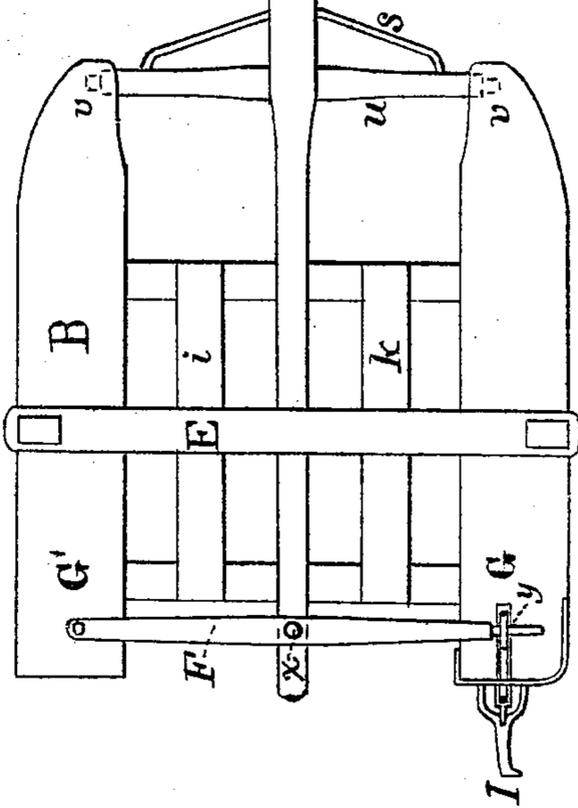


Fig. 2.

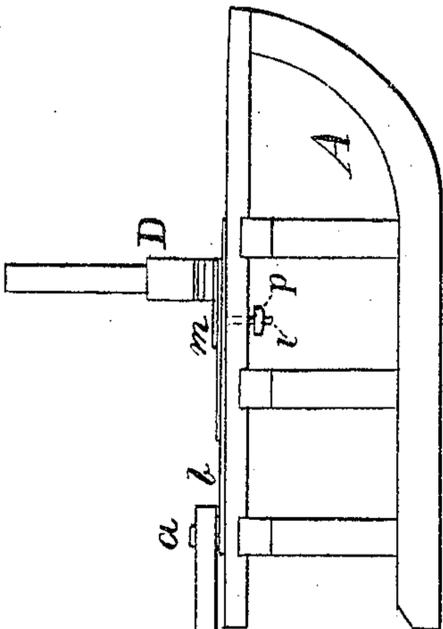
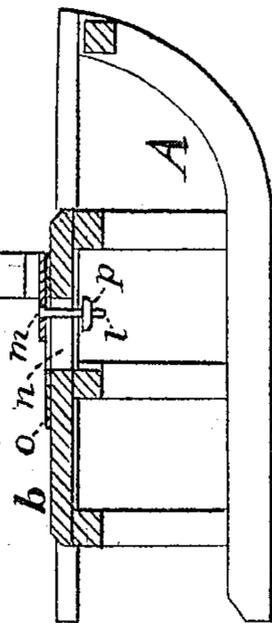


Fig. 3.



Witnesses

Asst. Commr.
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UNITED STATES PATENT OFFICE.

AUGUSTUS BLACKSTONE, OF WHITE OAK SPRINGS, WISCONSIN.

IMPROVEMENT IN SLED-BRAKES.

Specification forming part of Letters Patent No. 151,348, dated May 26, 1874; application filed March 25, 1874.

To all whom it may concern:

Be it known that I, AUGUSTUS BLACKSTONE, of White Oak Springs, in the county of La Fayette and State of Wisconsin, have invented certain new and useful Improvements in Automatic Brakes for Sleighs; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification, and in which—

Figure 1 is a top view of a bob-sleigh having my improved automatic brake. Fig. 2 is a side elevation of the same, and Fig. 3 is a longitudinal vertical section of the front bob of a sleigh furnished with my improvement.

Similar letters of reference indicate corresponding parts.

The object of my invention is to furnish a self-acting or automatic brake, actuated by the forward motion of the load and of the rear bob after the fore bob has come to a stoppage, and which is less complicated in its construction and more certain in its operation than any other of that class of brakes now in use. It consists in the construction and combination of the various parts, as hereinafter set forth.

In the drawing, A represents the front and B the rear bob of a sleigh furnished with my improved brake. C is the connecting-bar, which is secured to the rear part of front bob by the king-bolt *a* passing through the board *b* and transverse beam *c* of the former, as shown. D is the fore and E the rear bolster, the latter of which is attached rigidly to the beams *i k* of the rear bob, and is furnished with a slot in the middle for the passage of the connecting-bar C, whereas the fore bolster D is kept in its place on the front bob by means of a central pin, *l*, projecting downward from the plate *m*, and through the slot *n* in the board *b*. To prevent wear of this board by the forward or backward motion of the bolster D and plate *m*, I prefer to sheathe its top with a metal plate, *o*, as shown in the top view, Fig. 1. The pin *l* is prevented from slipping up and out of the slot *n* by the nut and washer *p*. (Shown in Figs. 2 and 3.) The forward motion of the rear bob, when the horses

(and fore bob) come to a stop, is controlled by a rod, *r*, attached longitudinally to the under part of the bar C, so as to form a slide and stop for the projecting V-shaped bar *s*, the angle of which forms an eye or loop, *t*, turned upward at right angles with the said bar, so as to slide on the rod *r*. The bent bar *s* is secured at its two ends in the beam *u*, which is pivoted at both ends in the runner of the rear bob at *v*, as shown in the drawing. The connecting-bar C is, at its extreme rear end, pivoted to the lever F at *x*, which said lever is pivoted to the top of the rave G', Fig. 1. The corresponding rave G is slotted at its rear end, so as to admit of, and form a guide for, the angular lever H, the long arm of which projects up through the slot in G, and is pivoted to lever F at *y*, as shown. The end of the shorter arm of lever H is pivoted at *z* to the rear part of the runner, and the angle or knee *d* is pivoted to a link or connecting-rod, *e*, which connects it with the bent lever I. This latter lever is forked at its forward end, in front of the pivoting-point *f*, so as to clamp loosely the runner, to which it is pivoted at *g*. The rear part of this bent lever I, back of the pivoting-point *f*, forms the brake-dog, and is provided with hooks or claws at its end, in the usual manner.

From the foregoing description the operation of my improved self-acting brake, herein described, may be readily understood. Every time the horses, and with them the fore bob of sleigh, are brought to a stop, the forward motion of the rear bob, impelled by the load, will cause the connecting-rod C to act upon the horizontal lever F, pressing it backward, and consequently the point *d* of the angular vertical lever H downward. This motion is communicated to the bent lever-brake I by the connecting-link *e*, so that the dog of the brake will be forced into the ground, thus retarding or stopping the forward motion of the rear bob and sleigh. On the other hand, when the sleigh is started the forward motion of the fore bob will, of itself, release the brake by pulling the horizontal lever F forward and raising the point *d* and connecting-link *e*.

It will be observed that, by a modification in the construction of the sleigh and brake, as herein described, two brakes may be applied,

one attached to each of the runners of the rear bob, without departing from the spirit of my invention. The arrangement of the levers F and H, connecting-link *e*, and bent lever-brake I may be duplicated, or the horizontal lever F may be constructed to slide in slots or bearings on the raves G and G', so as to operate two levers, one on each side.

By making the forward bolster D adjustable in its relation to the fore bob A, by means of the slot *n* and pin *l*, this bolster is enabled to slide forward to the extent of the length of the slot *n*, when impelled by the load, the friction of the under part of bolster being lessened by the plates *m* and *o*, and by this arrangement I get the full benefit of the weight of the load in operating the rear bob, and, with it, the brake.

I am aware of the patent of C. M. Lufkins of December 7, 1869, No. 97,661, and do not claim anything therein shown and described; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of the sliding bolster D, front bob A, pole C, rod *r*, bar *s*, rear bob B, and lever F, substantially as and for the purpose set forth.

2. The bent lever-brake I, connecting-link *e*, angular lever H, horizontal lever F, pole C, rod *r*, and bar *s*, in combination with a front bob, A, provided with a sliding bolster, D, slotted board *b*, plate *m*, pin *l*, and nut *p*, substantially as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 26th day of February, 1874.

AUGUSTUS BLACKSTONE.

Witnesses:

F. J. LAW,
M. R. STANLEY.