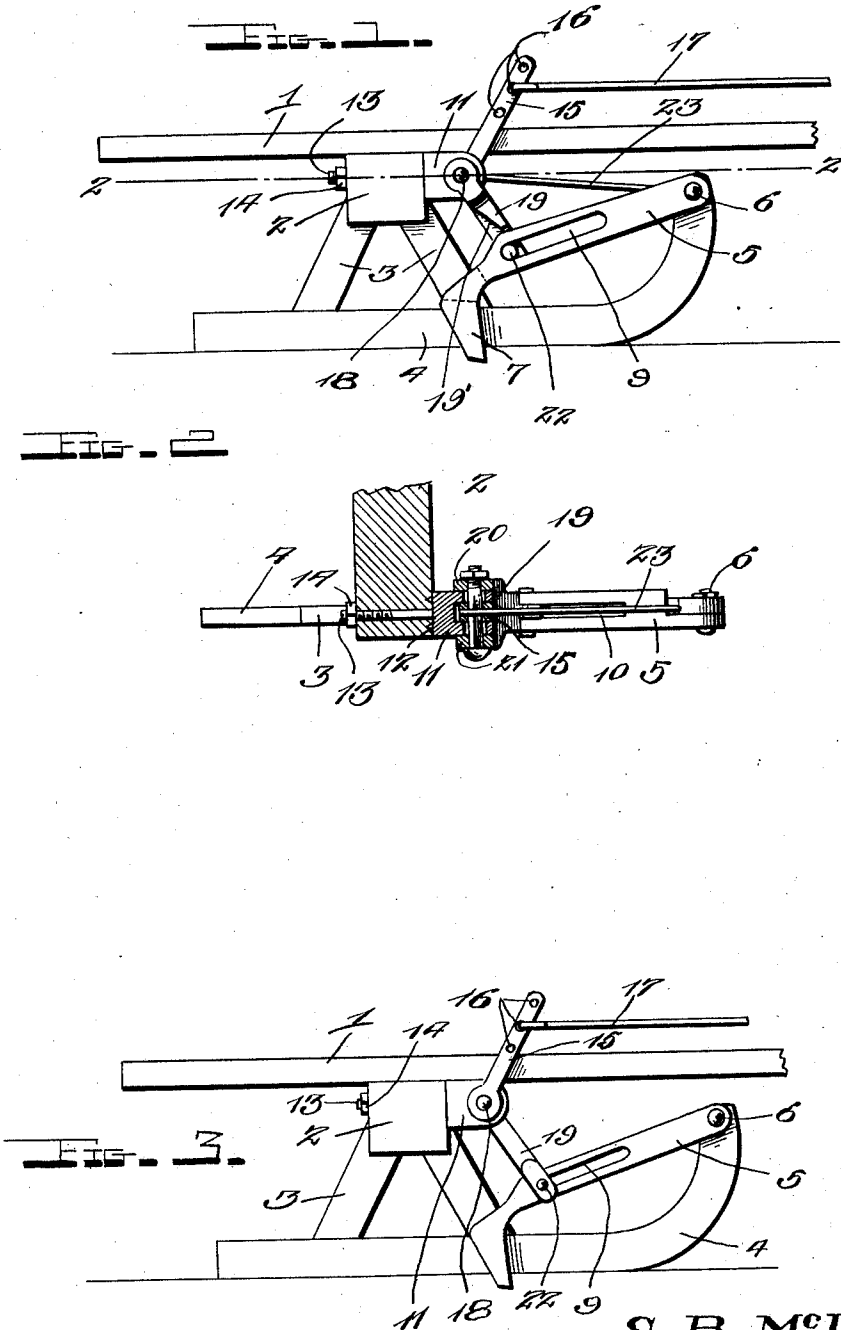


S. B. McINTIRE.
BOB SLED BRAKE.
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1,043,022.

Patented Oct. 29, 1912.



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BOB-SLED BRAKE.

1,043,022.

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To all whom it may concern:

Be it known that I, SAMUEL B. McINTIRE, a citizen of the United States, residing at Houston, in the county of Houston and State of Minnesota, have invented certain new and useful Improvements in Bob-Sled Brakes, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to brakes for bob sleds and has for its object the provision of a braking mechanism so applied as to overcome any tendency of the runner to rock.

The invention as hereinafter particularly claimed will now be described in detail in connection with the accompanying illustrative drawings, wherein—

Figure 1 is a side elevation of the rear portion of a bob sled with the brake in position; Fig. 2 is a horizontal section on the line 2—2 of Fig. 1; and Fig. 3 is a detail side elevation of a modification.

Having reference to the drawings the numeral 1 designates a wagon bed transferred to a bob sled upon the bolsters 2 of which by means of the knees 3 the runner 4 is mounted. Thus far the parts are of the usual construction and require no further detailed description.

My improved sled brake comprises an iron shoe 5 pivoted at 6 to the forward end of the runner and bifurcated in its rear portion, the two prongs 7 of which lie upon opposite sides of the runner 4 and project a suitable distance below the tread of the runner. The brake shoe 5 is preferably provided with a longitudinal horizontal slot 9 and with a longitudinal vertical slot 10 arranged in intersecting planes substantially in the medial portion of the shoe. A journal block 11 is mounted upon the forward face of the bolster 2 and upon the contacting face of said block are mounted projections in the form of pins 12 which are forced into the face of the bolster to prevent relative rotary movement of the parts. A stem 13 projects rearwardly from the journal block through the bolster 2 and the nut 14 threaded thereon serves to clamp the journal block firmly against the bolster. The upper face of the bolster and the journal block preferably occupy the same horizontal plane corresponding to the lower face of the wagon bed 1. As will be observed the journal block 11 is slotted to receive the lower end of the operating lever 15 the upper end

of which is provided with spaced holes 16 for adjustable engagement with the brake rod 17 leading from the usual hand lever adjacent to the driver. A pin 18 transfixes the forks of the slotted journal block and the lower end of the lever 15, said pin journaled loosely in the block and firmly fixed in the lever arm so as to rotate therewith. For this purpose the connecting pin 18 may be angular in cross section. A lower arm 19 has its upper end bifurcated the two branches 20 and 21 embracing the journal block on opposite sides and transfixed by and rigidly hinged to the pin 18, as shown, so that the upper arm 15 and the lower arm 19 constitute in effect an integral bell crank lever fulcrumed upon the pin 18, and they may in fact be made as one piece. The lower end of the lever arm 19 is provided with a reduced portion which enters the vertical slot 10 of the shoe 5 and is connected therewith by the pin 22. This lever arm 19 is further provided on each face thereof with a diagonal cut-away portion 19' and the shoulders formed thereby are adapted to rest upon the upper face of the shoe 5 thereby providing a stop which will relieve the rod 17 of any strain should the shoe strike an obstacle when in a raised position. A tie rod 23 is advantageously employed, being connected to the runner by a pin 6 and to the journal block by the pin 18.

The operation of the device is as follows: Normally the arm 15 is thrown to the rear and thereby the ends 7 and 8 of the shoe 5 elevated to a position above the runner tread, and in fact if the brake is left free they will remain in this position offering little if any obstruction to the road surface if the latter is in good condition. When it is desired to apply the brake, the rod 17 is drawn to the right causing the arm 19 of the lever, by its pin and slot connection, with the brake shoe, to force the same downwardly to cause the ends 7 and 8 to engage in the surface of the roadway and exert a braking effect. It will be observed that at this time, there is a rearward pull by the brake shoe upon the forward end of the runner and a backward and upward thrust against the journal block and the wagon bed thus overcoming any tendency of the runner to rock. If the brake is applied when allowing the team to rest in going up a hill the tendency of the sled to set back is resisted by the brake points 7 and 8 and

an upward thrust is exerted upon the forward end of the runner and as before, upon the journal block.

Instead of providing the vertical slot 10 in the shoe, within which to mount the lower end of the lever arm 19, the slot may be omitted and the lever arm may be bifurcated so as to extend downward on both sides of the shoe and horizontal slot. This form of construction is shown in Fig. 4. Likewise as shown in this same figure the upper end of the arm 19 instead of being bifurcated may be unitary and connected to the pin 18 within the slot of the journal block.

Various other modifications of the form and arrangement of the parts may be resorted to without materially sacrificing the advantages of the invention and without departing from the scope of the same as set forth in the appended claims.

Having thus described the invention, what is claimed is:

1. A sled brake, comprising a brake shoe cast of one integral piece of metal and pivoted at one end to the runner, the opposite end thereof being bifurcated to embrace the runner and projecting below the tread thereof, said shoe having longitudinal horizontal and vertical extending slots formed therein, a bell crank lever fulcrumed on the sled bolster, one end thereof operating within the said vertically extending slot, a pin extending laterally therefrom and operating in said horizontal slot and a lever connecting the opposite end of said bell crank substantially as described.

2. A sled brake comprising a brake shoe pivotally connected at one end to the runner,

the opposite end thereof being bifurcated and embracing the medial portion of the runner, a journal block mounted upon the bolster, said journal block having a slot formed therein, a lever having its lower end mounted within said slot, a second lever slidably connected at one end to the said brake shoe and its opposite end being bifurcated to embrace the said journal block, a pin extending through said journal block and being loosely mounted therein, the said levers being rigidly connected to said pin and a rod connected to the upper end of the first mentioned lever for operating the shoe, substantially as described.

3. A sled brake, comprising a brake shoe pivoted at one end to the runner, the opposite end thereof being bifurcated to embrace the runner and projecting below the tread thereof, a bearing block mounted upon the bolster, a lever pivotally mounted within said bearing block, a second lever connected at one end to the first mentioned lever, the opposite end of said lever being reduced and adapted to extend within a vertical extending slot formed in said shoe, means for slidably connecting said second mentioned lever with said shoe, the sides of the second mentioned lever being provided with diagonal cut-away portions forming a stop for the shoe when in a raised position, substantially as described.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

SAMUEL B. McINTIRE.

Witnesses:

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I. G. IVERSON.