(No Model.)

F. CHAPIN & W. J. EDWARDS.

BOB SLED.

No. 418,164. Patented Dec. 31, 1889.

Fig. 1.

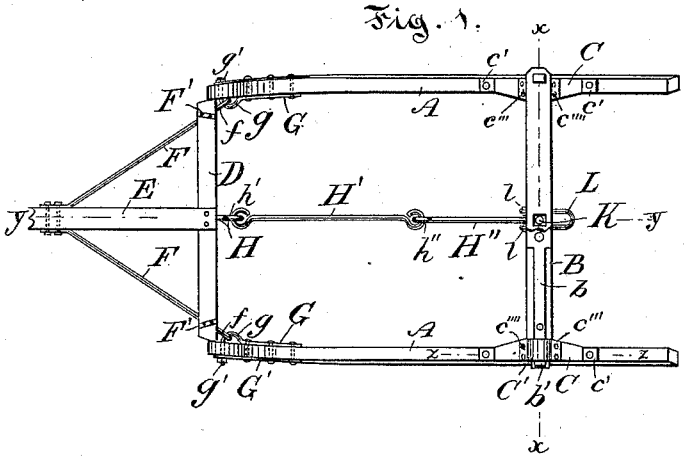


Fig. 2.

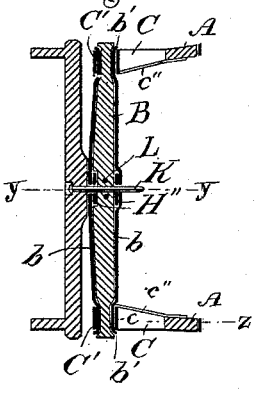


Fig. 3.

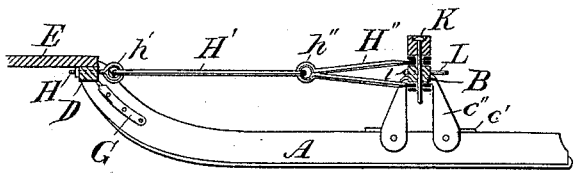


Fig. 5.

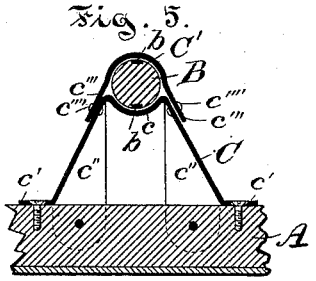
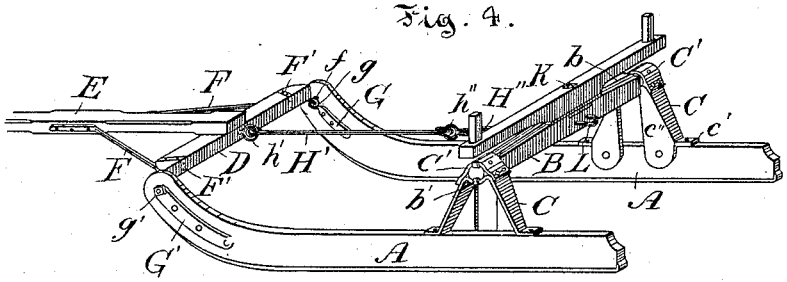


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

FESTUS CHAPIN AND WILLIAM JAMES EDWARDS, OF PORTAGE LA PRAIRIE, MANITOBA, CANADA.

BOB-SLED.

SPECIFICATION forming part of Letters Patent No. 418,164, dated December 31, 1889.

Application filed July 31, 1889. Serial No. 319,347. (No model.) Patented in Canada August 1, 1888, No. 29,602.

To all whom it may concern:

Be it known that we, FESTUS CHAPIN and WILLIAM JAMES EDWARDS, both of Portage La Prairie, in the Province of Manitoba, Canada, have jointly invented certain new and useful Improvements in Bob-Sleds, (for which we have obtained a patent in Canada, No. 29,602, bearing date the 1st day of August, 1888;) and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part hereof.

Our invention, which will be hereinafter fully set forth and claimed, relates to bob-sleds having a bench or axle that will adjust itself to the inclination of the position and load.

Figure 1 is a top view of our improved bob-sled. Fig. 2 is a cross-section of the same on line *x x*, Fig. 1, showing the bench in longitudinal section. Fig. 3 is a longitudinal section of the same on line *y y*, Figs. 1 and 2. Fig. 4 is a perspective view of the same; and Fig. 5 is a detail of the knee in cross-section on line *z z*, Figs. 1 and 2.

A A are ordinary runners.

B is the axle, supported and held in the knees in such manner that it may have a rocking or oscillating motion in the same, being provided for that purpose with a cylindrical journal at each end. The knees consist each of two pieces C and C′, and are preferably constructed of wrought-iron.

C is the lower part of the knee, consisting of a strip of plate of a width equal to the length of the journal-bearing or wider at the ends. The central portion *c* of the same is concaved or curved to the semicircle, or part thereof of the journal of the axle B, and the two end parts are bent downward in an outwardly-slanting direction, and a flat foot *c′*, formed at each end, adapted to sit flat and be secured upon the upper surface of the runners, as the runners are narrower than the upper part *c* or journal-bearings, and the plates C are therefore wider at their lower ends than the runners. The inner edges or portions of the knee-plates are bent or turned at a right angle and in an oblique line to form upwardly-tapering flanges *c″*, the ends of which extend down and lap over the side of the runners to which they are secured.

C′ is a semicircular cap, with laps *c‴* extending partly down and over the slanting legs C, to which they are secured by bolts or rivets *c⁗*. In the journal-bearings formed by the concave portions *c* and the caps C′ the journaled ends of the axle B are held lengthwise by the skeins *b b*, sunk in and firmly secured to said axle and having their projecting ends *b′* turned up close to the edge of the bearing, so as to prevent the axle from slipping out of its bearings. The axle B, with the skeins *b* and knees C C′, thus form a bench capable of holding the runners firmly connected laterally, while the former may oscillate in its bearings.

D is the roller to which the end of the tongue E is secured.

F F are tongue-braces secured laterally to tongue and roller and extending past the latter, each projecting end being formed into an eye *f*, engaging a loop *g* on the inner runner-strap G. Each inner runner-strap G has its forward end *g* looped to adapt it to engage the eye *f*, and is then turned outward and inserted into and projected through the runner and outside runner-strap G′ at an approximately right angle therewith, and secured at the outside by a nut *g′* over the outer strap G′.

F′ F′ are clamps turned over and partly around and sunk in the roller D, their ends passing through the flat part of the braces F, and are secured thereto at the under side by nuts. The roller is thus secured pivotally, and is free to oscillate with the tongue, to which it is rigidly attached.

H′ is a draft-rod having its ends turned horizontally to form eyes connecting the roller D and axle B by means of an eyebolt H and a forked rod H″. The eyebolt H passes through the center of the roller D directly under the tongue E, its eye *h′* being rearward, engaging the rod H′ and being secured at the front of the roller by a nut, which may be tightened or slackened at will to tighten or slacken the draft-rod H′. The forked rod H″ connects by its eye *h″* to the draft-rod, the forked ends passing over and under and clipping the

axle B, and being provided with eyes near the end, through which passes the king-bolt. K is the king-bolt, passing through the bolster, the axle B, and both prongs of the forked rod H''. J is the bolster, pivoted by the king-bolt upon the axle B.

The hind bob is connected to the axle B by means of a reach having a clevis, which engages a staple L. The latter passes through the axle B from the rear, straddling the king-bolt, and is secured at the front of the axle by nuts *l*.

It will be observed that by the use of the draft-rod H' the draft is transmitted in a direct line from the roller D to the bench B C and to the rear bob, thus taking off the strain from the knees, and that the axle B may oscillate notwithstanding the draft-rod, which is free to play at the joints *h' h''*.

We claim as our invention—

1. In a bob-sled, the combination of the runners A, an oscillating axle B, journaled in the knees and held therein by skeins *b*, the knees C, secured upon the runners and formed with the lower part of a journal-bearing for the axle, a cap C', forming the upper part of the axle-bearing, said journal-bearing carrying the axle B free to oscillate therein, the roller D, secured to the tongue and pivotally connected to the runners and carrying an eyebolt H', the tongue E, secured to the roller, braces F, connecting the roller D and tongue E laterally, and the roller D by clamps *f'*, and connecting pivotally the roller D by eyes *f* to loops *g* on the runner-straps, the runner-straps G, having loops *g*, engaging the eyes of the braces, the eyebolt H, secured in the roller D and engaging the draft-rod, the draft-rod H', engaging the eyebolt H and the forked rod H'' and connecting the two, the forked rod H'', connected to the draft-rod clipping the axle and engaging the king-bolt, and the king-bolt K, substantially as set forth.

2. In a bob-sled, the combination of the runners A, the inner runner-straps G, each having a loop *g* and the end thereof turned and passed through the runner and secured at the other side thereof, the roller D, secured to the tongue and pivotally connected to the runners, the tongue E, secured to the roller, and the braces F, secured to the tongue and roller and pivotally engaging the loops *g* of the runner-straps, substantially as set forth.

3. In a bob-sled, the combination of the roller D, having an eyebolt H, secured centrally in the roller D, draft-rod H', engaging the eye of the eyebolt and the eye of a forked rod, the forked rod H'', having eye *h''*, and engaging the draft-rod and the forked ends clipping the axle, and the king-bolt K, passing through the axle and the prongs of the forked rod, substantially as set forth.

4. In a bob-sled, the combination of the runners A, the knees C, each having a concaved top *c*, and outwardly-sloping legs and feet *c'*, and inner tapering flanges *c''*, caps C', secured to the tops of said knees by laps *c'''* and forming with the concave tops *c* circular journal-bearings for the axle, and the axle B, having skeins *b*, holding the same in the bearings, substantially as set forth.

In testimony whereof we have signed in the presence of the undersigned witnesses.

FESTUS CHAPIN.
WILLIAM JAMES EDWARDS.

Witnesses.
W. MAWHINNEY,
C. H. WESTBROOK.