

(No Model.)

P. MOE.
LOGGING SLED.

No. 469,332.

Patented Feb. 23, 1892.

Fig. 1.

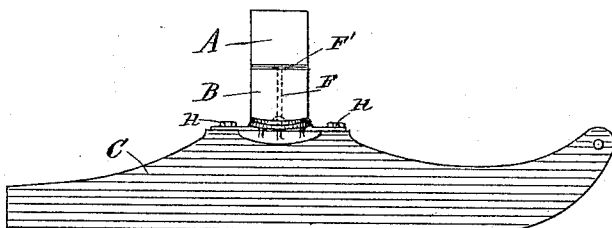


Fig. 2.

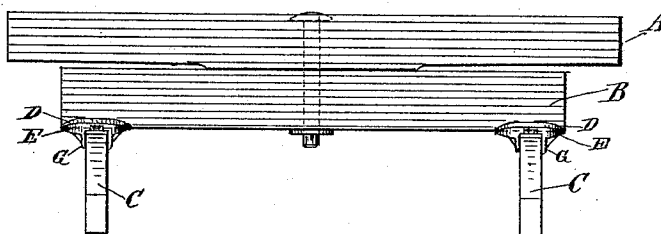


Fig. 4.

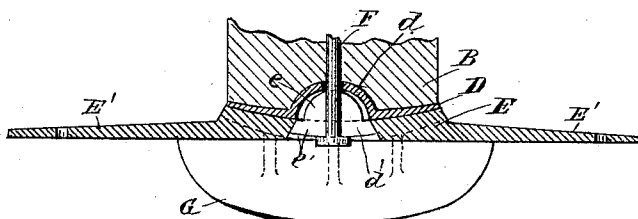


Fig. 5.

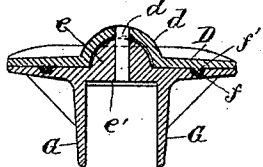
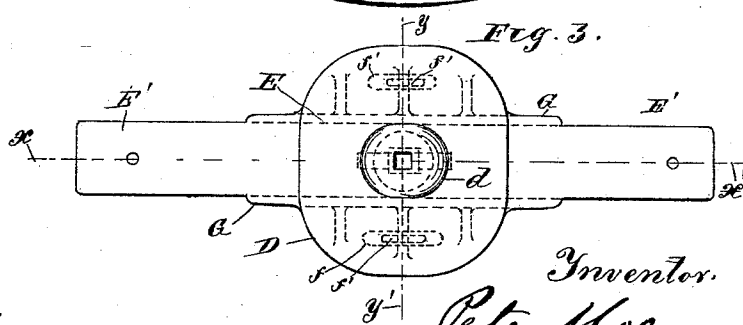


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

PETER MOE, OF MINNEAPOLIS, MINNESOTA.

LOGGING-SLED.

SPECIFICATION forming part of Letters Patent No. 469,332, dated February 23, 1892.

Application filed May 23, 1891. Serial No. 394,404. (No model.)

To all whom it may concern:

Be it known that I, PETER MOE, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Logging-Sleds; 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 appertains to make and use the same.

My invention relates to logging-sleds, and has for its object to provide an improved means for securing the runners to the cross-beams of the sled. To this end I secure each of the runners independently by separate couplers. These couplers are so constructed as to permit the runners an endwise rocking movement and a slight lateral pivotal movement in adapting themselves to the unevenness of the road-bed.

The invention is illustrated in the accompanying drawings, in which like letters refer to like parts throughout.

Figures 1 and 2 are respectively a side and rear elevation showing the couplers in working position. Fig. 3 is a plan of the coupler removed; and Figs. 4 and 5 are sectional elevations, respectively, on the line X X' and Y Y' of Fig. 3.

A, B, and C are respectively the bolster, the cross-beams, and the runners of a logging-sled.

D E are the two parts of the coupler, of which D is the upper bearing-plate secured to the under side of the cross-beam, and E is the under bearing-plate secured to the upper edge of the runner. These plates are most conveniently made of cast-iron and will hereinafter be termed "castings."

The bearing-surfaces are cylindrical, being respectively concave on the upper and convex on the lower casting. The upper casting has also a concave center or socket *d*, and the lower casting a convex center or semi-spherical head *e*, loosely fitting said socket with clearance between the two. The socket is provided with a central perforation *d'* and the head an elongated slot parallel with the sled-runner. The head is also convex on its under surface. A headed bolt F works through said slot and perforation for securing the parts together and to the cross-

beam of the sled by a nut F'. Parallel with the runners on opposite sides of their centers the castings are provided, one with slits or depressions *f* and the other with depending lugs *f'* fitting the same, the two being so fitted as to allow a limited lateral play to the runners with reference to the beams. The lower casting is provided with extension E', fitting the top of the runner and with depending flanges G, adapted to embrace the sides of the runners for affording a strong and rigid connection with the runners. The lower casting is secured to the runner by bolts H, or in any other suitable manner.

The operation is evident. The load is carried on the cylindrical convex and concave surfaces of the castings surrounding their centers. Each runner may swing in the vertical plane independently of the cross-beam, the bolt F working freely in the slot *d'* of the convex ball *e*, with its head bearing against and sliding on the under surface of the same. The ball-and-socket engagement of the two castings, together with the said bolt, limits the movements and secures the parts from displacement. These cylindrical bearing-surfaces, instead of acting as a fulcrum for the runner in its rocking movement, form a pivot for the same, permitting the runners to swing on the radius of the curve of the said cylindrical surfaces. This is a great advantage in carrying heavy loads, as it gives a large and constant bearing-surface, while permitting the necessary freedom of movement. By actual usage I have demonstrated the efficiency of this coupling. The strength and durability of the sled is greatly increased and the hauling-strain considerably reduced by the ready adaptation of the runners to the unevenness of the roadway.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. The combination, with a sled-runner and cross-beam, of the bearing-plates securable thereto, one of which has a convex bearing-surface around a concave center or socket and the other a concave bearing-surface around a convex center or head engaging said socket, the said socket being provided with a central perforation and said head with an elongated slot lengthwise of the runner, and a headed bolt working through said slot

and perforation for connecting the parts together and to the cross-beam, substantially as described.

2. The combination, with the sled-runner
5 C and cross-beam B, of the upper bearing-plate D, having perforated socket *d* and lugs *f'*, the lower bearing-plate E, having the convex head *e*, with slot *e'*, the depressions *f*, the

wings E', and the flanges G, and the retaining-bolt F, substantially as described. 10

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

PETER MOE.

Witnesses:

JNO. RUSTGARD,
E. F. ELMORE.