(No Model.)

J. P. KRAMER.

BOB SLED.

No. 367,716. Patented Aug. 2, 1887.

Fig. 1.

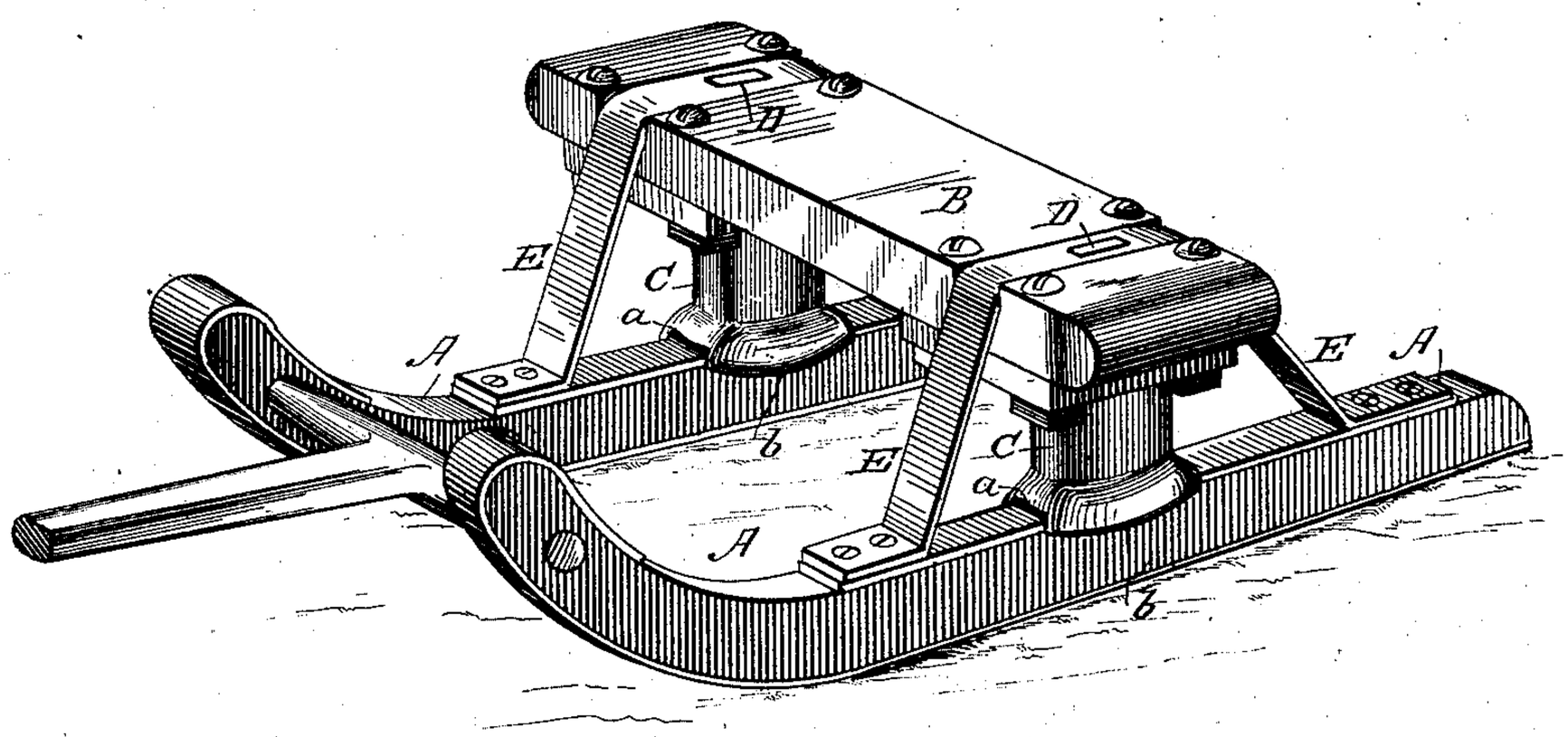
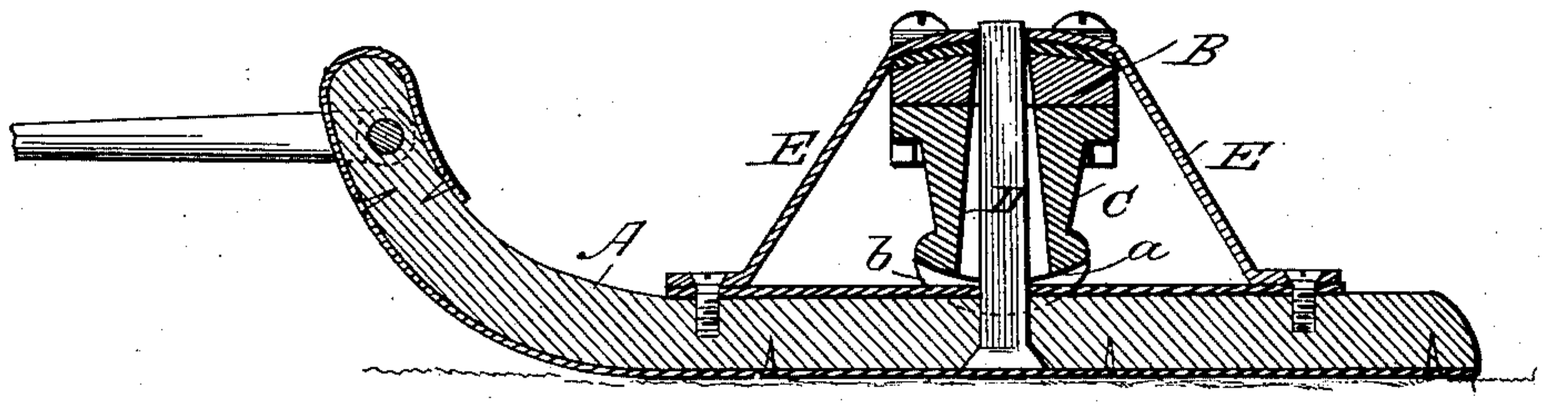


Fig. 2.



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JOSEPH P. KRAMER, OF WEST BRANCH, MICHIGAN.

BOB-SLED.

SPECIFICATION forming part of Letters Patent No. 367,716, dated August 2, 1887.

Application filed November 23, 1886. Serial No. 219,737. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH P. KRAMER, of West Branch, in the county of Ogemaw and State of Michigan, have invented a new and useful Improvement in Bob-Sleds, of which the following is a specification.

My invention relates to that form of sleds known as "bob-sleds;" and it has for its object to render the sled less subject to damaging strains, due to irregularities of the road, and to permit it to ride easier and pull with a lighter draft.

In the drawings, Figure 1 is a perspective view, and Fig. 2 a vertical section through the rocking connections of the runner.

A A are the runners, which are of the usual shape and are provided with the usual tongue-and-draft connections in front.

B is the cross-beam forming the bench.

C D E are the rocking connections between the runners and the bench. C is in the nature of a stout hollow metal standard flanged at its upper end and securely bolted to the bottom of the cross-beam, and having at its lower end a curved rocking surface, *a*, that rests upon the top of the runner upon a metal face-plate attached to said top of the runner. The lower rocking surface of the standards are provided with flanges *b b* on their sides, which extend down upon each side of the runner and hold the standards on the runners against displacement. These standards are made hollow, with a tapered hole, which is largest at the bottom. Through this hole there extends the vertical bar D, whose lower end is headed and firmly seated in the runner and whose upper end runs through to the top of the bench. This bar strengthens the connection and limits the rocking of the standard. On the runner E are the rave-braces, which are of flat metal, extending from the runner in front of the bench up to and over the bench and down to the runner behind the bench, being screwed or bolted to the runner at its opposite ends. These braces have a slot in the middle where they cross the benches, in which slot is received the upper end of the vertical bars D. These braces have sufficient spring or elasticity to permit the standards to rock; but any excessive strain on these braces is prevented by the vertical bars D.

With this construction it will be seen that there is a slight rocking movement between the runners and the bench, which allows the runners to change position slightly in rising over obstructions in the road without imparting a jerk or jolt to the superstructure. This not only makes the sled move more smoothly, but it avoids damaging strains, and by avoiding the canting of the load it also makes the draft easier.

I am aware that it is not new to make the standard C to rock on the runners, and I do not claim this alone; but when these standards are made with a tapered hole in them and are combined with a bar, D, rigidly fixed to the runner, it will be seen that the side of bar D is struck by the side of the tapered hole in the standard, and this bar D acts as a stop to limit the rocking of the standard, and thus avoids damaging strain on the rave braces E.

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

The combination of the runners, the hollow rocking standards C, having their inner bearing surfaces arranged on a taper largest at the bottom, the bars D, fixed rigidly to the runners and extending through said standards, and the rave-braces E, substantially as and for the purpose described.

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Witnesses:
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