

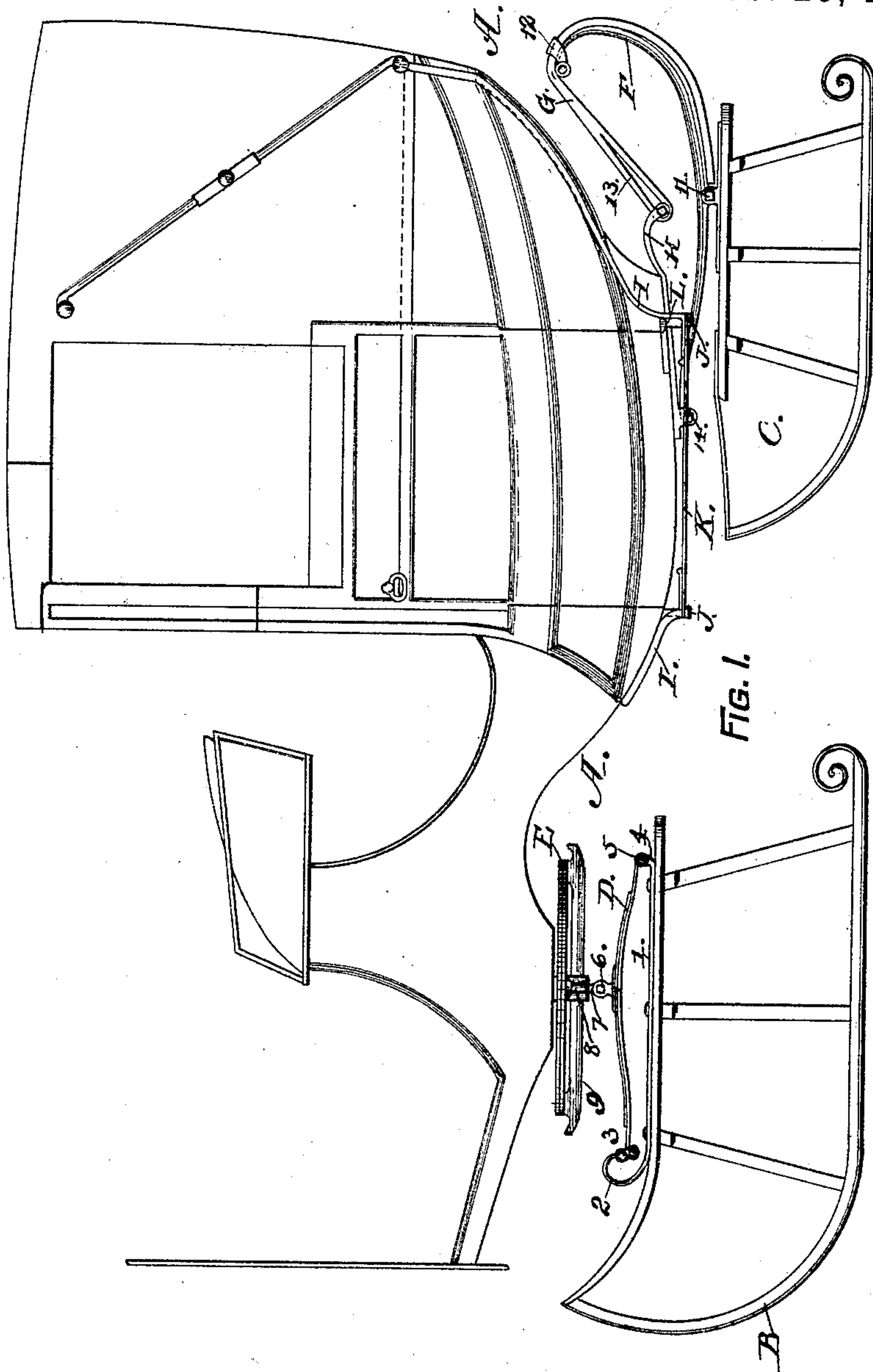
(No Model.)

2 Sheets—Sheet 1.

J. KINGSBURY.
SLEIGH.

No. 422,022.

Patented Feb. 25, 1890.



Witnesses:

S. B. Brewer,
W. M. Brown

Inventor:

JOHN KINGSBURY,

by

William H. Loe,
Attorney.

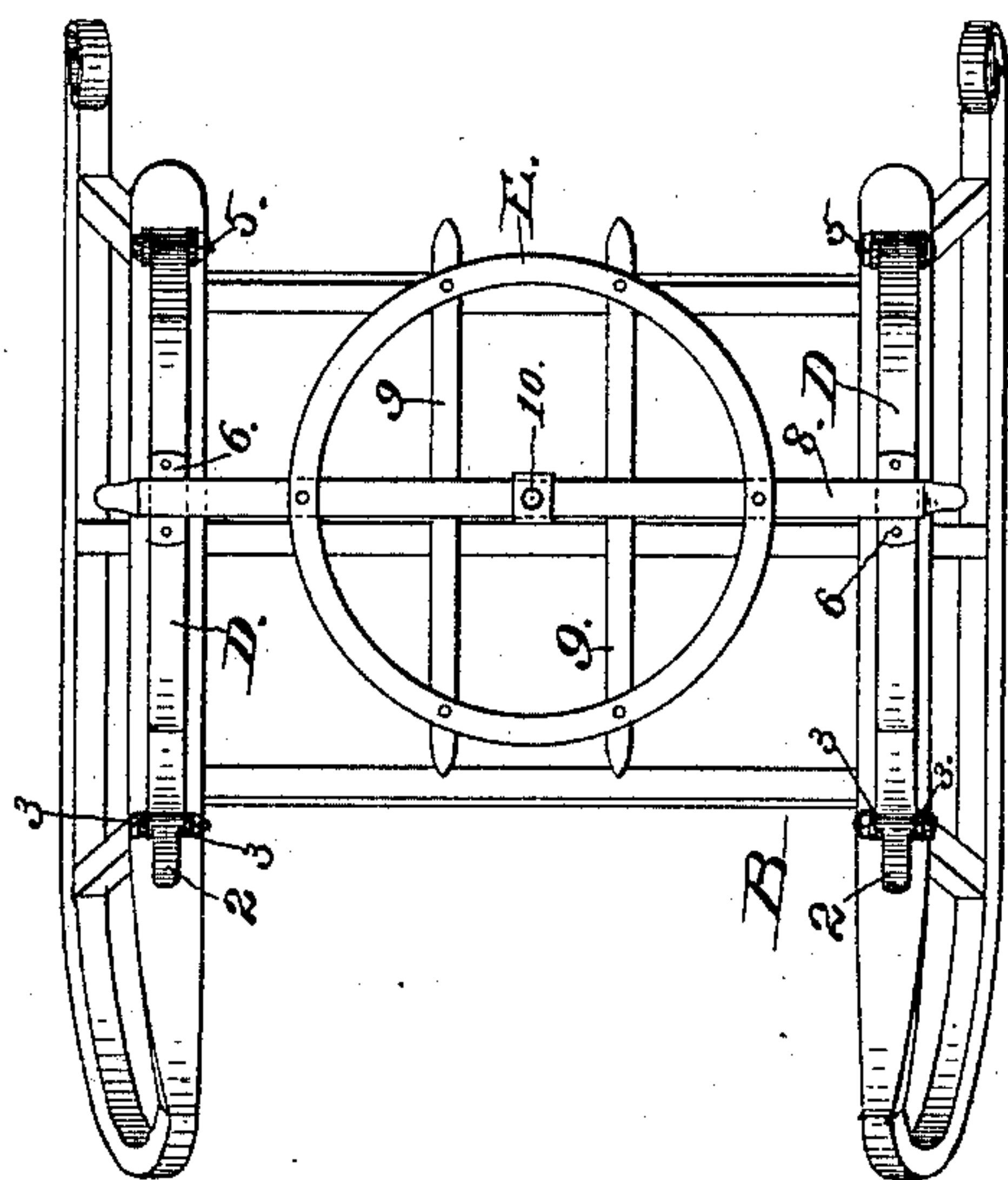
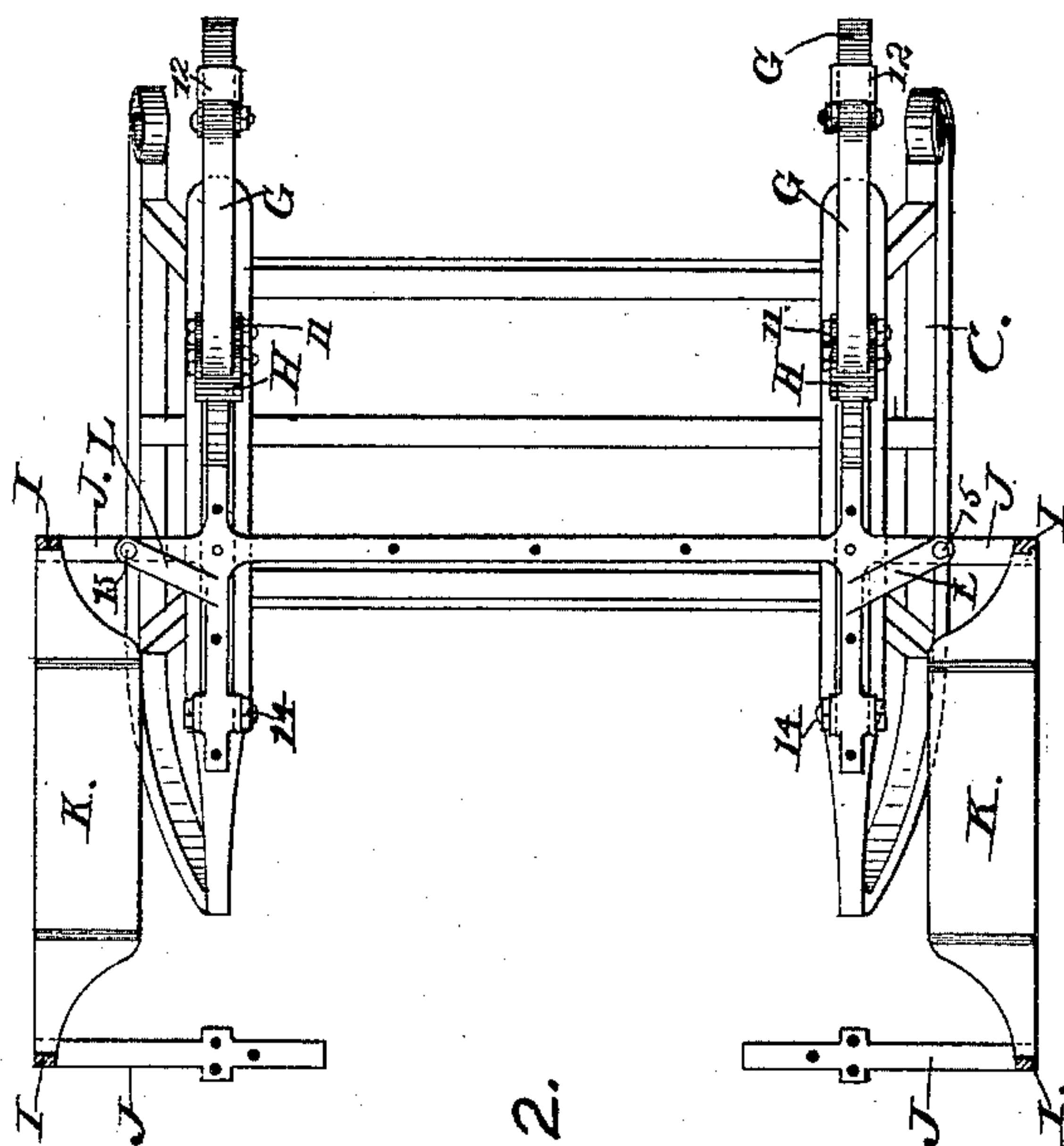
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S. B. Brewster.
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UNITED STATES PATENT OFFICE.

JOHN KINGSBURY, OF ALBANY, NEW YORK.

SLEIGH.

SPECIFICATION forming part of Letters Patent No. 422,022, dated February 25, 1890.

Application filed November 16, 1888. Serial No. 290,996. (No model.)

To all whom it may concern:

Be it known that I, JOHN KINGSBURY, of the city and county of Albany, in the State of New York, have invented new and useful
5 Improvements in Sleighs, of which the following is a specification.

My invention relates to improvements in the class of sleighs that are commonly used for pleasure-riding, and in which the body of
10 the sleigh is carried on two pairs of short runners or what are technically denominated as "bobs;" and it consists of a novel manner of connecting the sleigh-body with its supporting-springs, a novel construction of said
15 springs, and in combining the lower hinge of each door with the adjacent stay for the fender on the corresponding side of the sleigh-body.

In the accompanying drawings, which are
20 herein referred to and form part of this specification, Figure 1 is a side elevation of a coupélet-sleigh in which my invention is embodied, and Fig. 2 is a plan view of the runners and springs, with the sleigh-body re-
25 moved therefrom, the fender-stays, and steps.

As represented in the drawings, A designates the sleigh-body, which may be of the coupélet form shown, or of any other preferred form, said sleigh-body not forming any
30 part of my present invention.

B is the forward pair of runners or bobs, and C the rearward pair of said runners or bobs.

To the upper side of each top piece of the
35 forward runners B is secured a plate 1, which forms a bracket for receiving the spring D, two of said springs being arranged to carry the forward part of the sleigh-body A. The forward end of said plate is provided with a
40 goose-neck bend 2, to which the forward end of the spring D is connected by means of links 3, so that said spring can be expanded and contracted in length to accommodate the action of the fore-body of the sleigh, whose
45 weight rests on said springs. The rearward end of the plate has an upward turn 4, to which the rearward end of the springs D are pivoted, as at 5, so that said springs will be left free to yield freely to an up-and-down
50 motion when the forward runners are passing over any rough portion of a road, and

thereby the sleigh will be relieved from the rough jolting motion incident to travel on a road of the character just referred to.

On the upper side of each of the springs D, 55 near the middle of the same, is secured a forked joint-piece 6, which is fitted to engage with a corresponding joint piece or eye 7, of which there is one secured in the opposite ends of a transom-bar 8, and thereby a hinge- 60 joint is formed directly on the lower side of said transom-bar and the upper side of said springs, so as to permit the forward runners or bob B to receive a rocking motion on the joint formed by said joint-pieces in such 65 manner that the jolting motion usually imparted to the body of the sleigh while passing over rough roads will be practically imperceptible. The lower circle of the fifth-wheel E is secured to the upper side of said 70 transom-bar and to the upper side of the futchells 9. The upper circle of said fifth-wheel is secured to the under side of the fore part of the sleigh-body A, and a king-bolt 10, which is preferably made with a clip which 75 clasps over said transom-bar, passes through a suitable opening in the lower part of the fore-body of the sleigh to form a pivotal center on which the forward runners B can turn in a horizontal plane. 80

The sleigh-body A has its rearward part borne on the runners C, and for this purpose I employ a modification of the thorough-brace commonly used on stage-coaches, and to this end each top piece of the runners C has a 85 rigid stay or rocker F, which has the form of a C-spring without the elastic quality of a spring, and which is pivoted to said runners, as at 11, to permit the latter to receive a rocking motion when required. A flexible thor- 90 ough-brace strap G is attached to the under side of said stay, and after passing along the under side of said stay and under a clip 12 near the upper end of said stay it is formed into a loop 13, that connects with a body-loop 95 H, made of metal and secured to the lower part of the after body of the sleigh. The forward end of each stay F is pivoted, as at 14, to the under side of the sleigh-body A, at each side of the latter. By this mode of at- 100 taching the rearward runners C to the sleigh-body A the springs commonly employed for

that purpose are entirely dispensed with and a perfect freedom of action is obtained for said body and runners in passing over rough roads, and at the same time the occupants of the sleigh are thereby relieved from all sudden and disagreeable jarring motion of the sleigh-body.

I is a fender-rail, which is attached to the sleigh-body A at each side, so as to extend beyond the swelled sides of the latter. Said fender-rail, besides being attached at each end to the sleigh-body A, is connected to the lower part of said sleigh-body by means of stays J, of which there are preferably two on each side of said body, and preferably said stays are arranged so that one will be near the forward side and the other near the rearward side of each door in the opposite sides of the sleigh-body. Integral with said fender-rail is a step-plate K, which is located between the stays J, so as to be directly opposite the door on the corresponding side of the sleigh-body. The lower hinge L of each door is pivoted, as at 15, to the stay J, located near the rearmost side of the door at the corresponding side of the sleigh-body, and by this arrangement said stay is utilized to form one member of the lower hinge of each door, and thereby the pivotal center of said hinge is carried outwardly to range in line with the pivot of the upper hinge, regardless of the usual swell given to the sides of the sleigh-body.

While, as herein described, and shown in the accompanying drawings, my invention is applied to a coupélet-sleigh, it is applicable, without further invention, to any other form of pleasure-sleigh that is carried upon two pairs of runners or bobs.

It is obvious that the mode of attaching either one of the pairs of runners as herein described may be used in conjunction with any other suitable mode of attaching the other pair of the runners to the sleigh-body. Therefore it is not necessary that both pairs of said runners should be connected to the sleigh-body by attachments made exactly in accordance with the mode herein shown and described; but either attachment may be used separately with its appropriate pair of runners, irrespective of the mode of attaching the other pair of runners, and it should be understood that the different modes described herein for attaching the forward and rearward pairs of runners are not interchangeable one in the place of the other; but I prefer to use the two modes conjunctively.

I am aware that it has long been a common practice during the winter season to remove the wheels from carriages and other wheeled vehicles and to substitute sleigh bobs or runners therefor, the springs of said vehicles remaining undisturbed and the attachment of said runners being usually effected by fixing them on the axles from which the wheels were taken, the axles then serving as pivots

on which the runners can have a rocking movement. In cases where the axles have been removed a cross-bar has been attached to the lower side of the springs in the place of the axles and a hinge-joint formed between said cross-bar and the upper side of the runner; but in all such substitutions the hinge-joint of necessity is arranged between the lower side of the springs and the upper side of the runners. By this former mode of attachment the strain of a sudden shock, which is commonly produced by the runners striking any obstruction, is thrown upon the fastenings by which the upper side of the springs is secured to the body of the vehicle, and thereby the springs become quickly loosened from the body of the vehicle to such a degree as to render the vehicle of but little value. In my invention the spring is secured to the runners, and the liability to become loosened is entirely avoided. I do not claim the earlier constructions above referred to; but

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

1. In a sleigh having two pairs of runners or bobs, the combination of two forward runners B, each having secured to its upper side a plate 1, provided at opposite ends with a goose-neck bend 2 and an upward turn 4, said plates forming brackets by which semi-elliptical springs D are attached to said runners, said springs being connected to said plates at one end by links 3 and at the opposite end by pivots 5, and each having a standing joint-piece 6, secured to its upper side, and a transom-bar 8, provided with pendent joint-pieces 7, which engage with the joint-pieces 6 of the springs D, so as to form a rocking joint therewith, said transom-bar being centrally pivoted to the fore part of the body A, all being constructed and combined to operate substantially as herein specified.

2. In a sleigh having two pairs of runners or bobs, the combination of the hind runners C, rigid rockers F, which have an upwardly-turned curve at their rearmost end, and which are jointed to said runners, as at 11, and to the after part of the body A, as at 14, and flexible thorough-brace straps G, which are secured to said rockers and are each provided with a loop 13, by which connection is made with a body-loop H, secured to the body A, all being constructed and combined to operate as herein specified.

3. In a sleigh, the combination of the lower door-hinge L, attached to the door of the sleigh-body, and the fender-rail stays J, having said door-hinge pivoted thereto, as and for the purpose herein specified.

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Witnesses:

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