

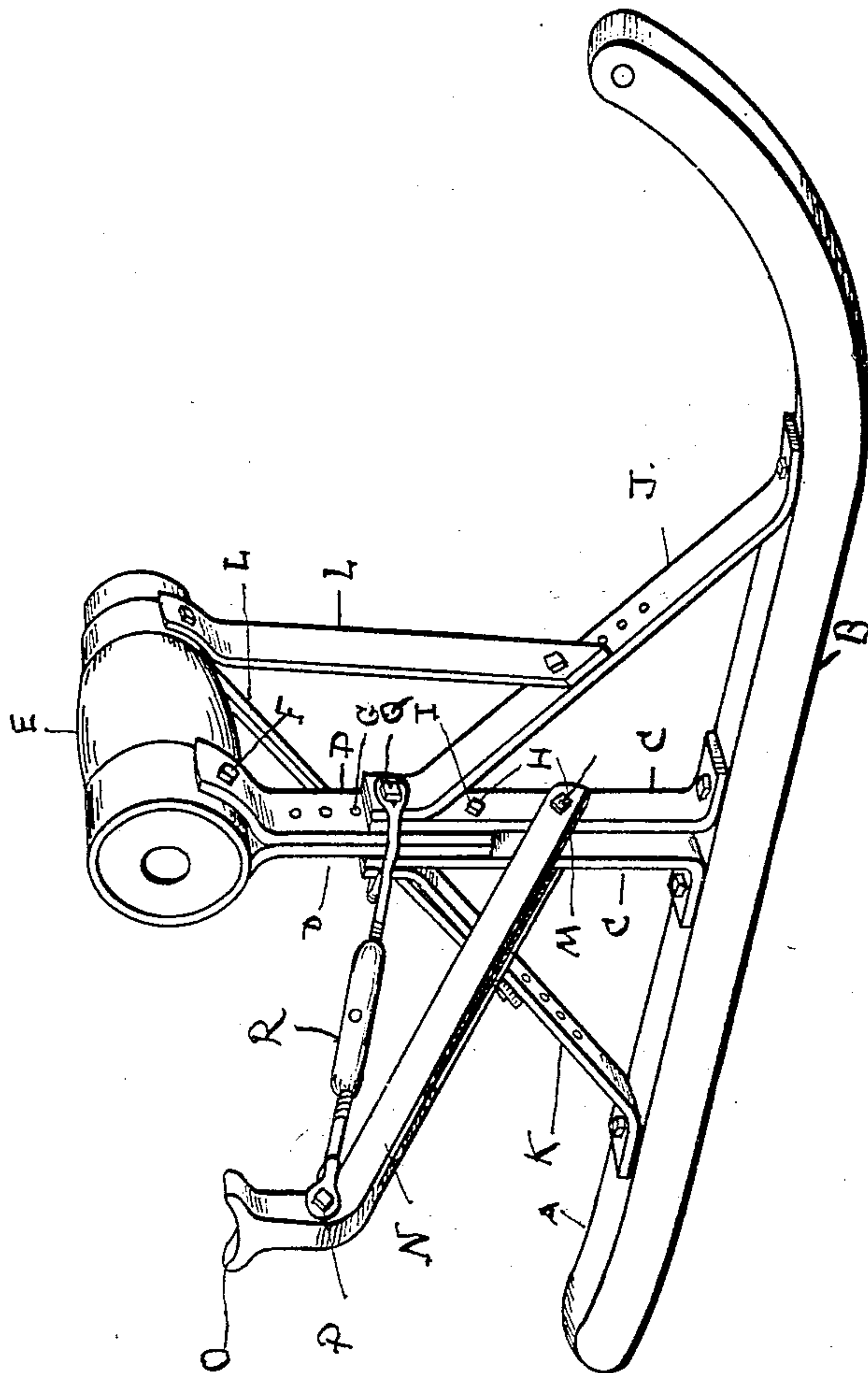
No. 704,290.

Patented July 8, 1902.

F. O. BAILEY.
ADJUSTABLE HUB RUNNER.

(Application filed Dec. 12, 1901.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

FREDERICK O. BAILEY, OF PORTLAND, MAINE.

ADJUSTABLE HUB-RUNNER.

SPECIFICATION forming part of Letters Patent No. 704,290, dated July 8, 1902.

Application filed December 12, 1901. Serial No. 85,558. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK O. BAILEY, a citizen of the United States, residing at Portland, in the county of Cumberland and State of Maine, have invented certain new and useful Improvements in Adjustable Hub-Runners; 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 improvements in adjustable hub-runners, and especially to means for accomplishing a vertical adjustment of the runner, so that the same can be attached to carriages of various sizes and heights.

In hub-runners as previously constructed one of the great objections to them has been the fact that the runners are not interchangeable—that is, they cannot be applied to carriages of varying heights, it being necessary to make runners for each special carriage. There has also been an objection in that the axles have not been sufficiently braced, so that when the carriage slews or slips on ice and brings up suddenly against some obstruction the axle is very likely to be bent, and that at its weakest point—namely, near the shoulders.

My invention consists of a novel means of obtaining a vertical adjustment of the hub, so that the same may be attached to the axle of carriages of various heights, and also in novel means of bracing the axle, so as to avoid bending or springing.

In the drawing herewith accompanying and forming a part of this application the figure is a perspective view of my improved hub-runner.

Same letters of reference refer to like parts.

In said drawing, A represents a runner of any desired configuration provided with the usual shoe B. Arising about midway of the runner is a double brace C, firmly strapped or bolted to the runner. Adapted to have a vertical movement within said brace and to be held in any desired position therein are sliding supports D, their upper ends being slightly curved, so as to form a seat for the inner end of the hub E, and to which ends the hub is attached in any suitable manner,

as by bolts F, as shown in the drawing. These sliding supports are provided with suitable holes G at stated distances. I have shown the adjustable hub-support as made in two parts; but the same can be made in a single piece without departing from the spirit of my invention. The double brace is also provided with a plurality of holes H, the object of these being that when the adjustable hub-supports D are raised or lowered suitable means, as bolts I, can be inserted through holes in the brace and sliding supports, the holes in the brace and supports being made to register, so that by this means the two parts may be firmly held in position. Extending forwardly and backwardly from the center uprights are braces J and K, strapped or bolted at one end to the upright and at the other end to the runner. Extending from said inclined braces to the outer end of the hub and attached thereto in any suitable manner are braces L, these braces being intended to support the outer end of the hub and to keep the same rigid. They also prevent any tendency of the end of the hub to bend downwardly and, further, prevent any forward or backward movement, which would of necessity have a tendency to spring the axle. Said braces L are adjustable on the inclined braces J and K. Pivotaly attached to said uprights, as at M, is an inwardly-extending brace N, bifurcated part way of its length and having a rest or shoulder O at one end. Pivotaly attached to said brace, as at P, and to the upright, as at Q, is a turnbuckle R, the object of this being to raise or lower the said arm as desired, and, furthermore, when said arm is in the desired position to hold it firmly there against displacement.

The operation of my improved device is as follows: When it is desired to attach the runner to a carriage, the distance which it is desired that the carriage shall be from the ground is first ascertained. The hub-supports are then raised or lowered until the proper height is obtained, when they are firmly locked by means of the bolts. The hub is then placed upon the axle and held in place by the ordinary nut. When the sliding support is raised, the inwardly-extending brace is raised or lowered, as the case may be, until the shoulder or rest is approximately on a

horizontal line with the hub-support. After the axle has been attached to the hub and the nut set upon the axle the turnbuckle is adjusted so that the shoulder or rest on the end of the inwardly-extending arm will bear tightly against the under side of the axle at some distance from its end. This gives a greater rigidity to the runner and at the same time serves as a powerful brace for the axle.

10 In the drawing I have shown but one runner, it being understood that all the runners are of the same design and construction.

The advantages of my improved runners are that they are strong, easily adjusted to any height, and can be quickly attached to or removed from a carriage.

Having thus described my invention and its use, I claim—

20 1. In a hub-runner, in combination, a double vertical brace, inclined braces running rearwardly and forwardly from said vertical braces to the runner, a vertically-adjustable hub-support moving within said vertical brace and an inwardly-extending vertically-adjustable arm pivotally mounted on said vertical braces.

2. In a hub-runner, in combination, a hub,

central vertical braces, a sliding hub-support adapted to have vertical movement therein, an inwardly-extending brace having a rest on the inner end pivotally attached to said vertical brace and capable of being rigidly held in position, inclined braces running from said central brace to the runner and braces running from the outer end of the hub to said inclined braces and capable of vertical adjustment thereon.

3. In a hub-runner, in combination, a hub, a vertically-adjustable hub-support, a central vertical brace, an axle-support pivotally mounted on said central vertical support and means for raising and lowering said support and holding it rigidly in position, inclined braces running from the said central brace to the runner and braces adjustable on said inclined braces running therefrom to the outer end of the hub.

In testimony whereof I affix my signature, in presence of two witnesses, this 7th day of December, 1901.

FREDERICK O. BAILEY.

In presence of—

NATHAN CLIFFORD,
ELGIN C. VERRILL.