No. 654,535. Patented July 24, 1900.

J. E. GLOVER.

FOLDING CARRIAGE STEP.

(Application filed June 6, 1900.)

(No Model.)

Fig. 1.

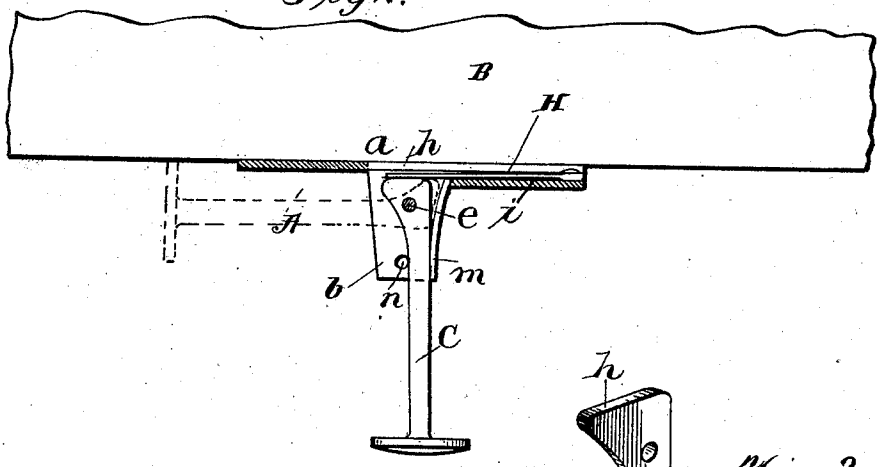


Fig. 2.

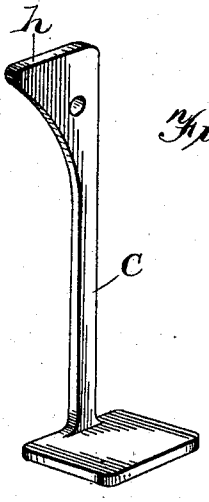
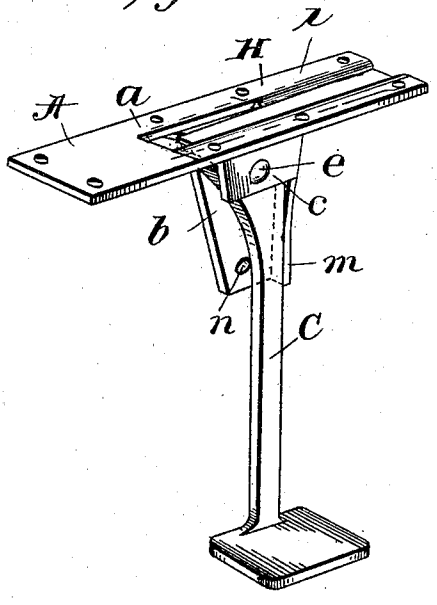


Fig. 3.



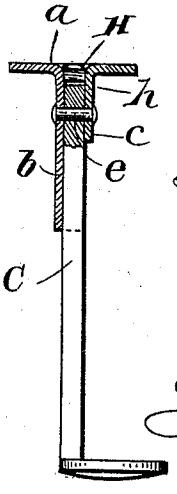


Fig. 4.

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Witnesses

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UNITED STATES PATENT OFFICE.

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FOLDING CARRIAGE-STEP.

SPECIFICATION forming part of Letters Patent No. 654,535, dated July 24, 1900.

Application filed June 6, 1900. Serial No. 19,291. (No model.)

To all whom it may concern:

Be it known that I, JOHN E. GLOVER, a citizen of the United States, residing at Cloud Chief, in the county of Washita and Territory of Oklahoma, have invented new and useful Improvements in Folding Carriage-Steps, of which the following is a specification.

My invention relates to improvements in folding carriage-steps, all of which will be fully described hereinafter and particularly pointed out in the claims.

The object of my invention is to provide a carriage-step which is adapted to fold up under the carriage-body when engaged by an obstruction of any kind, which prevents the breaking or bending of the step, which would occur in the old rigid form, the construction being such that when the step is in its normal position it is braced by a downwardly-extending jaw or arm.

In the accompanying drawings, Figure 1 is a side elevation of a step embodying my invention, showing it connected with the body of a vehicle, the step being shown in its normal position in full lines and folded in dotted lines. Fig. 2 is a detached perspective view of my step and the supporting-plate to which it is pivoted. Fig. 3 is a view of the step portion, showing it removed from its supporting-plate. Fig. 4 is a transverse sectional view taken longitudinal the swinging step.

Referring now to the drawings, A is a suitable supporting-plate, which is adapted to be attached to the under side of the edge of the vehicle-body B at any desired point by means of screws or bolts. Formed in this plate is an opening *a*, and projecting down from opposite edges of this opening are the jaws *b* and *c*, between which the upper end of the step-arm C is pivoted by means of a suitable pivot *e*. The inner jaw *b* extends down considerably below the pivotal point and engages the inner side of the step-arm, as shown, whereby it forms a brace for the step-arm under the weight of a person upon the step and relieves the strain upon the pivotal point which would otherwise occur, as will be readily understood.

The upper end of the step-arm above the pivotal point is provided with a transverse portion *f*, with which a longitudinally-extending spring H engages, the outer end of the spring being riveted to one end of the supporting-plate A and the supporting-plate A provided with a depression *i* to receive the said spring and to provide for its vertical movement when the step is turned upon its pivot.

The forward edge of the inner and elongated arm *b* is provided with a lateral flange *m*, against which the forward edge of the step engages when it is in its downward and normal position, and thus limits the forward swinging movement of the step; but the step has a free rear movement when engaged by an obstruction of any kind. When the step is thrown in the position shown in dotted lines, Fig. 1, the said spring serves to support it in this position.

For the purpose of locking the step in its downward position, if desired, the jaw *b* is made wider than the step-arm and is provided with an opening *n*, adapted to receive a pin, which will prevent the swinging of the step. The wood pin will break and no damage will be done.

From this description it will be seen that if the step is down and any obstruction strikes the step-arm or step when the vehicle is moving the step will swing backward without any injury thereto, and if the swinging movement is only slight the spring will return it to its normal position. If the swinging movement is considerable, then the spring will carry the step to the position shown in dotted lines, Fig. 1. If desired, the step can be thrown up in the position shown in dotted lines when driving through the woods or other places where obstructions are likely to be met, thus avoiding absolutely any possibility of injury to the step.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A folding carriage-step comprising a horizontally-arranged supporting-plate having a depending arm, a step-arm intermediately and transversely pivotally connected to the outer side of the said depending arm, and a longitudinally-arranged spring having its inner free end adapted to rest against the upper side of the upper end of the said step-arm, to hold the same in either an upward or a downward position, substantially as described.

2. A folding carriage-step comprising an elongated horizontally-arranged supporting-plate having a longitudinally-elongated depression in its upper side and a depending arm, a step-arm intermediately pivoted to the said depending arm and having its upper end in a plane below the said longitudinal recess of the supporting-plate, and a longitudinally-arranged spring having one end attached at the outer end of the said longitudinally-arranged recess extending inward and having its free end resting upon the upper end of the said step-arm, substantially as and for the purpose described.

3. A folding step for carriages comprising a supporting-plate having downwardly-projecting jaws or arms, a step-arm having its upper end pivoted between the said arms, the inner step-arm being elongated downwardly to form a support for the step, and the said arm having its forward edge provided with a lateral flange for engaging the front edge of the said step, and a spring adapted to normally hold the step in a downward and upward position, substantially as described.

4. A folding carriage-step comprising a supporting-plate, the said plate having downwardly-extending parallel jaws, a step-arm having its upper end pivoted between the said arms, one of the said arms being widened and extending below the pivotal point and provided with an opening for the reception of a locking member, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOHN E. GLOVER.

Witnesses:
HENRY N. BERRY,
A. D. BERRY.