

(No Model.)

T. A. FITE.  
EXTENSION STEP FOR RAILWAY CARS.

No. 411,495.

Patented Sept. 24, 1889.

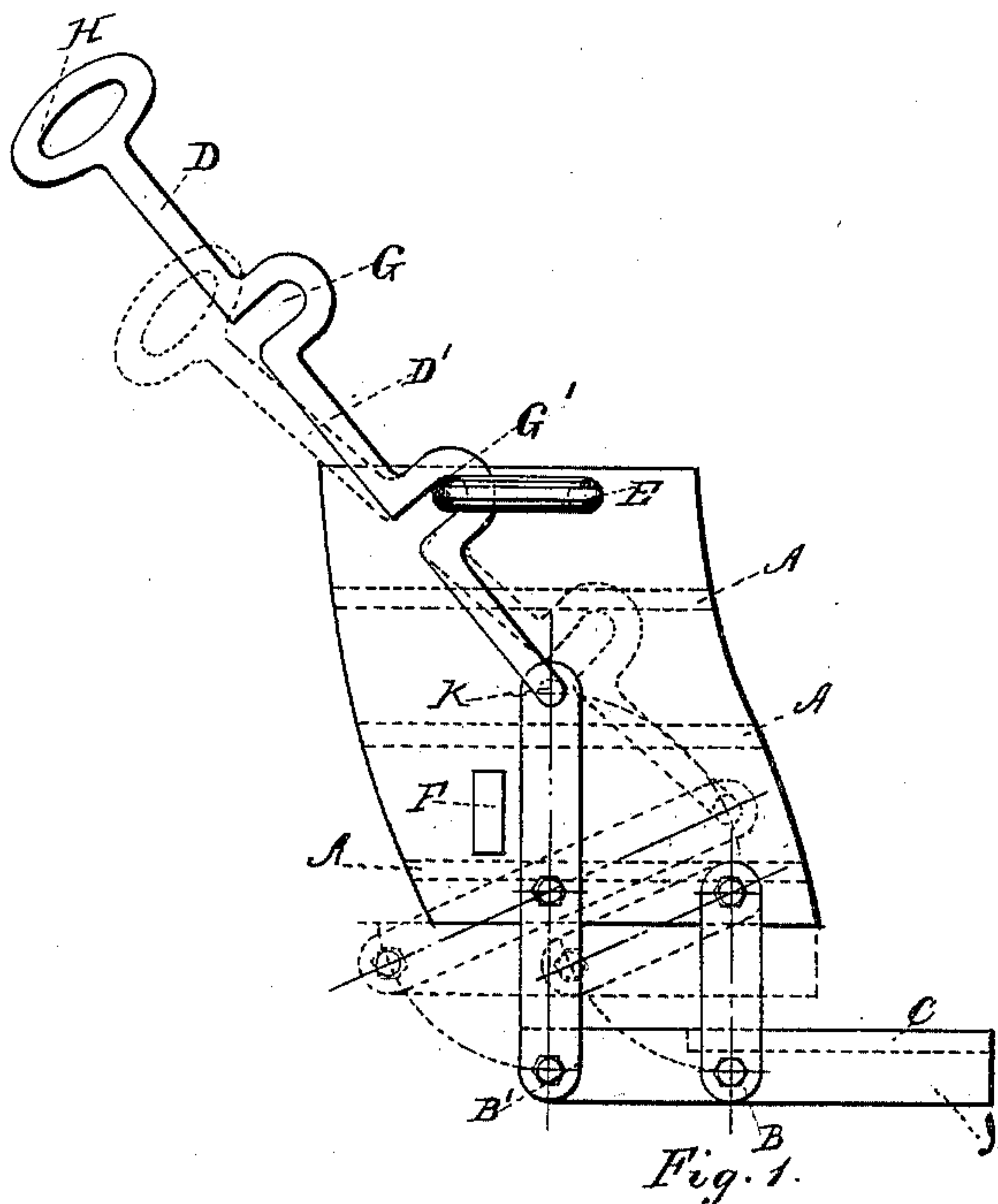


Fig. 1.

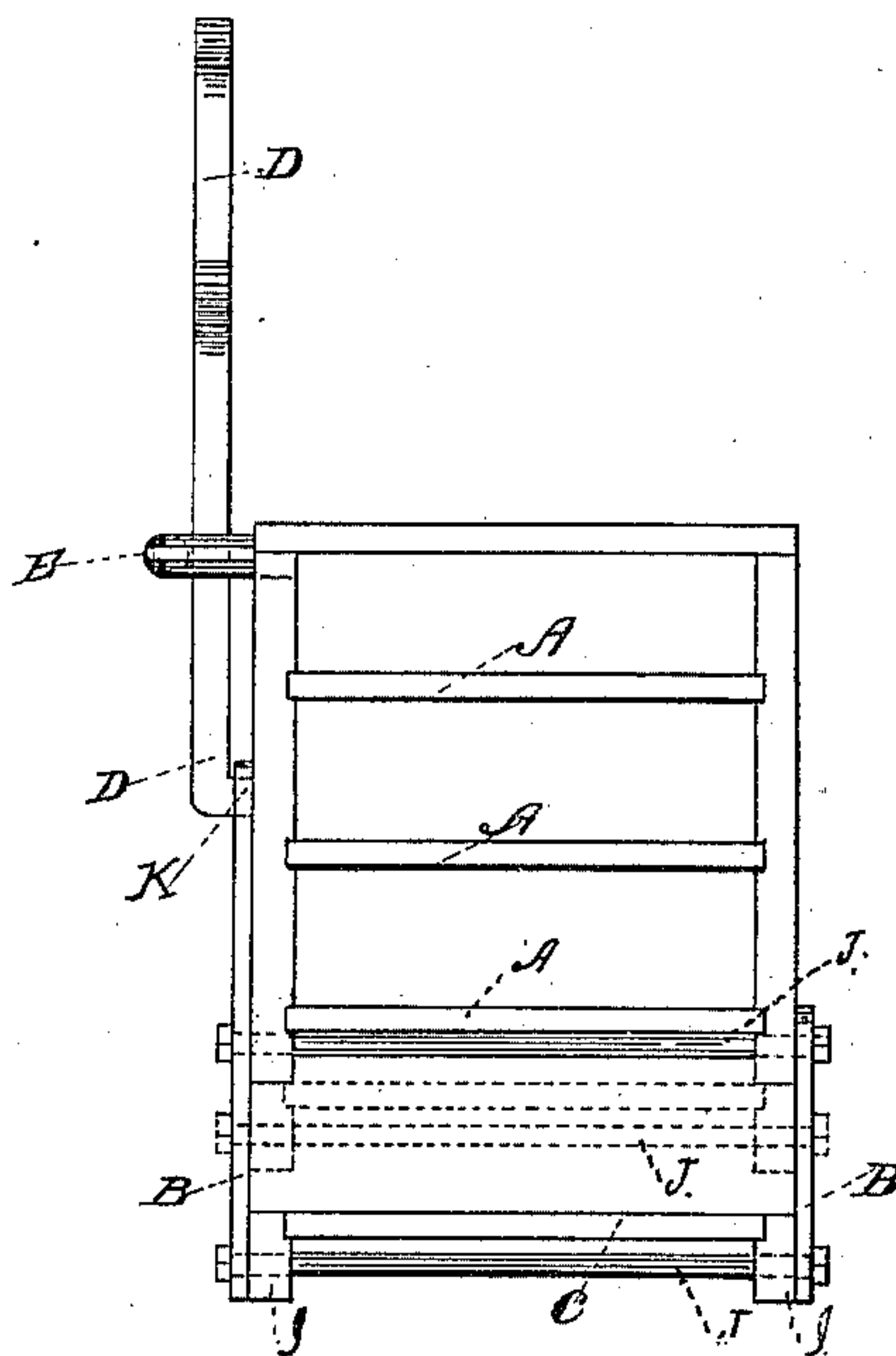


Fig. 2.

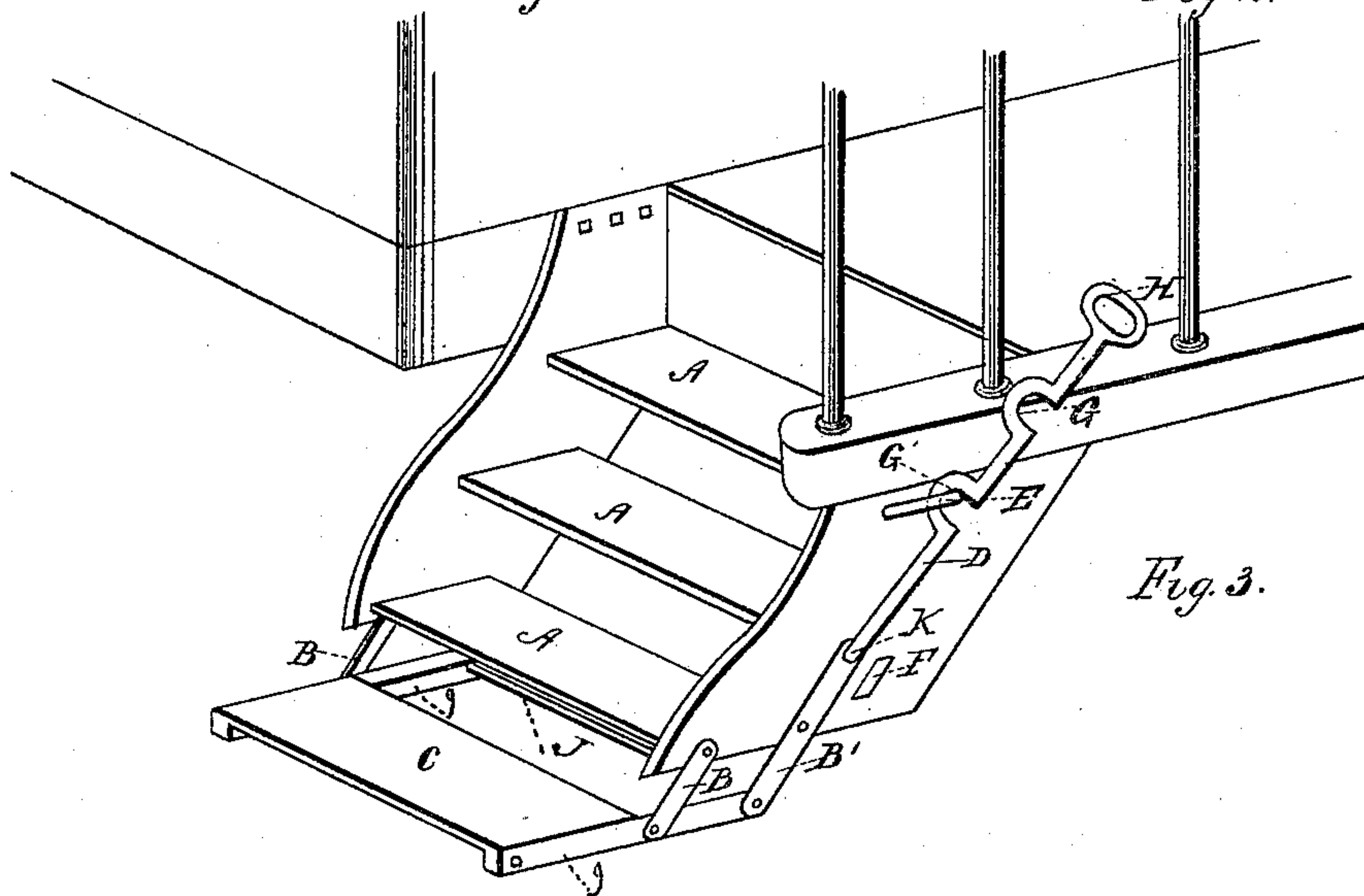


Fig. 3.

Witnesses

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# UNITED STATES PATENT OFFICE.

THOMAS ALEXANDER FITE, OF PARSONS, KANSAS.

## EXTENSION-STEP FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 411,495, dated September 24, 1889.

Application filed June 8, 1889. Serial No. 313,636. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS ALEXANDER FITE, a citizen of the United States, residing at the city of Parsons, in the county of Labette and State of Kansas, have invented a new and Improved Extension Car-Step, of which the following is a specification.

My invention relates to improvements in extension-steps for cars or other vehicles. Ordinarily on railway-cars the lowest step is about sixteen inches above the top of the rail or track, to which the following objections exist: First, the step is too high from the track for convenience; second, the step is so high from the track that persons who are sick, lame, aged, or feeble, and women and children cannot step onto or off it without injuring or endangering themselves; third, boxes are frequently used as steps to step on, and from which to step onto the lowest step of the cars, but these boxes are unsteady, unhandy, and frequently lost, and, fourth, the extension-steps, together with their operating devices heretofore in use are not convenient and are too expensive and unreliable.

The objects of my invention are to attach one or more extension-steps to stationary steps, which will provide easy steps for cars or other vehicles, which can be very easily and rapidly extended or withdrawn out of the way while the cars are moving, or the step may remain extended or withdrawn, as may be desired, whether the cars are moving or not, and which will be simple, handy, and durable, and will cost but little, and is absolutely safe and reliable at all times. I attain these objects by the mechanism shown in the accompanying drawings, in which similar letters refer to similar parts throughout the several views, in which—

Figure 1 is a side view of an extension-step attached to ordinary steps, as extended, in which the dotted lines A A A are the places of ordinary steps on the opposite side of the notch-board. B is a movable supporting-arm, the upper end of which is pivoted to the side of the notch-board or ordinary steps, and the lower end of which is pivoted to the carrying-arm I. B' is a supporting-lever, and at or near its center is pivoted to said notch-board, and its lower end is pivoted to the in-

ner end of the carrying-arm I, and its upper end is pivoted to the lower end of the looped or notched lever D, as shown at K. E is a loop or staple to hold and guide the looped or notched lever D. G G' are the loops or notches in lever D to fasten or hold it on the side of staple E. D is the looped or notched lever, which has a handle H at its upper end. F is a block or stop to prevent supporting-lever B' from going back too far. Dotted lines D' indicate the action of the whole and their position when the extension-step C is withdrawn under the ordinary steps out of the way. I is an arm to hold and carry the extension-step, or whatever may be carried thereon. K shows the pivot at the upper end of the supporting-lever B'.

Fig. 2 is a front view of ordinary steps, with the extension-step attached thereto, in which J J J are rods or bars running longitudinally with and under the steps to support and strengthen them and to prevent the notch-boards from spreading. These rods or bars may be made enough longer than heretofore to go through and form pivots for supporting-arms B B B and the supporting-lever B'.

Fig. 3 shows a portion of a railway-car and platform and the ordinary car-steps with my invention attached thereto, and showing the step C extended ready to step onto.

In attaching this invention to railway-cars the supporting-lever B' and the looped or notched lever D may be put onto the end, as shown in Fig. 3, or the ordinary car-steps can be shortened to let these levers operate between the car and the steps, having handle H near the car. I use three movable supporting-arms B B B, of which two are on one notch-board and one is on the other notch-board with the supporting-lever B'. The two loops or notches G G' in lever D are about eight inches apart. Their distance apart is governed by the rise or height of step required. Two or more extension-steps may be added to one set of ordinary steps and operated by this device.

To extend the step, take hold of handle H and raise it a little to disconnect loop or notch G from the side of the staple E, and then pull lever D upward longitudinally until the next



loop or notch G' drops onto and connects with the side of staple E. By drawing lever D upward longitudinally the upper end of lever B' is moved backward and its lower end forward, which pushes the movable supporting-arms B B B and the carrying or extension arms I I outward, and extends the step C or whatever may be placed on the carrying or extension arms I I. To withdraw  
10 step C and carry it under the ordinary steps out of the way, raise lever D, as before, to disconnect loop or notch G', and push it downward longitudinally until loop or notch G is connected with or fastened to staple E  
15 or other fastening.

I am aware that extension-steps have been made; but

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

1. In an extension device, the combination 20 of lever D, loops or notches G and G', and supporting-lever B', movable supporting-arms B B B, carrying or extension arms I I, and staple E, or other guide and fastening, substantially as and for the purpose specified. 25

2. In an extension-step for railway-cars and other vehicles, the combination of lever D, loops or notches G and G', supporting-lever B', movable supporting-arms B B B, and extension-arms I I, with step C, for the pur- 30 pose and substantially as specified.

THOMAS ALEXANDER FITE.

In presence of—

WM. GRAY,

CHAS. W. DUZAN.