

(No Model.)

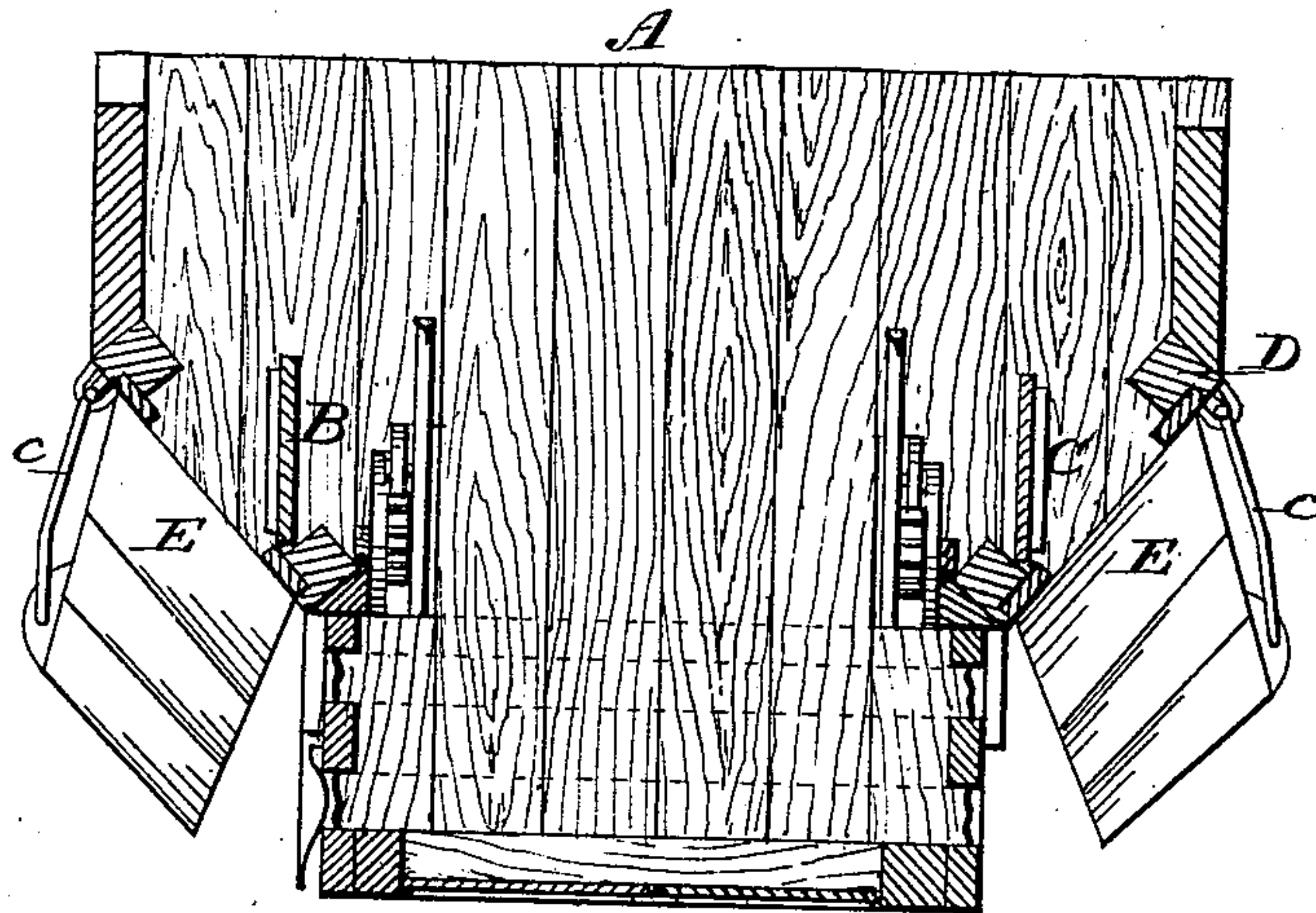
C. S. SMITH.

RAILWAY CAR.

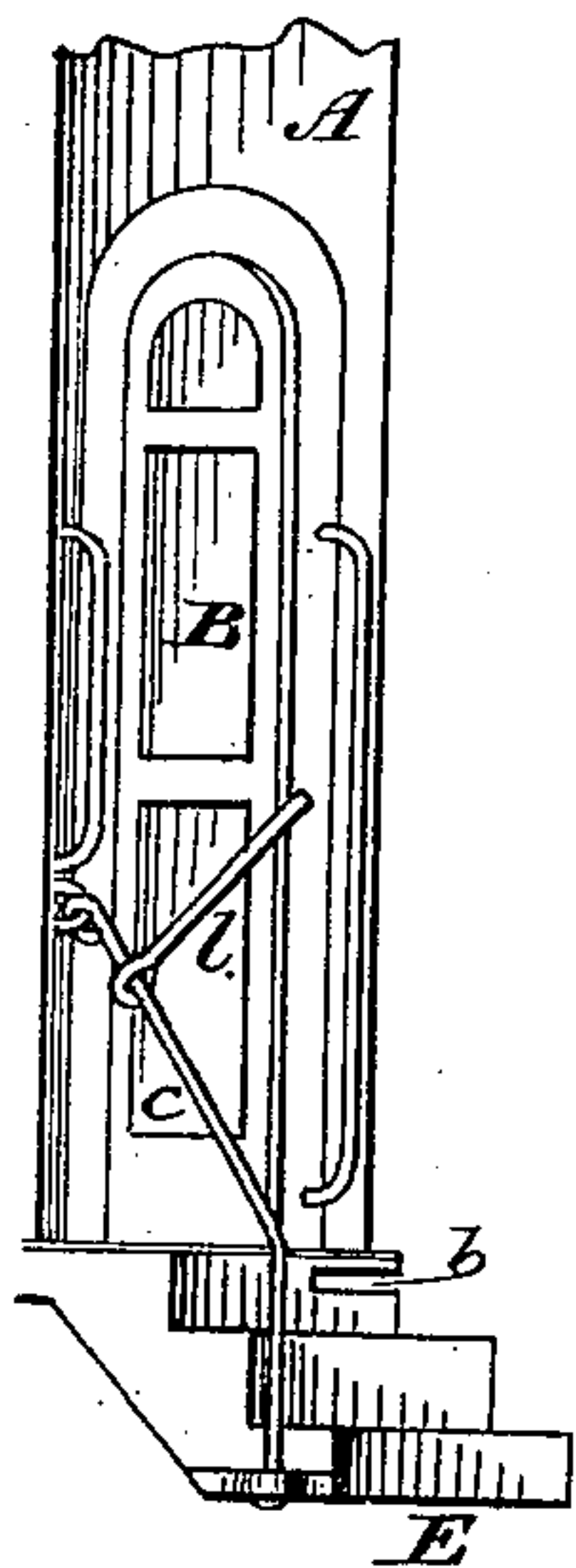
No. 266,322.

Patented Oct. 24, 1882.

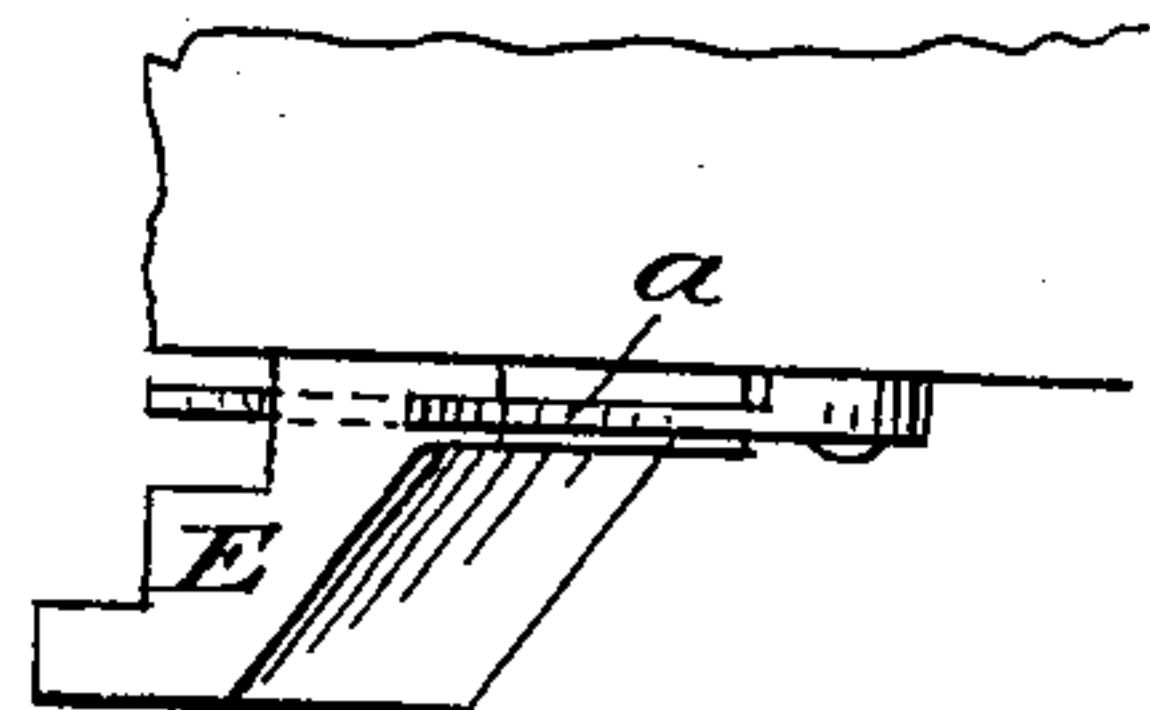
*Fig. 1.*



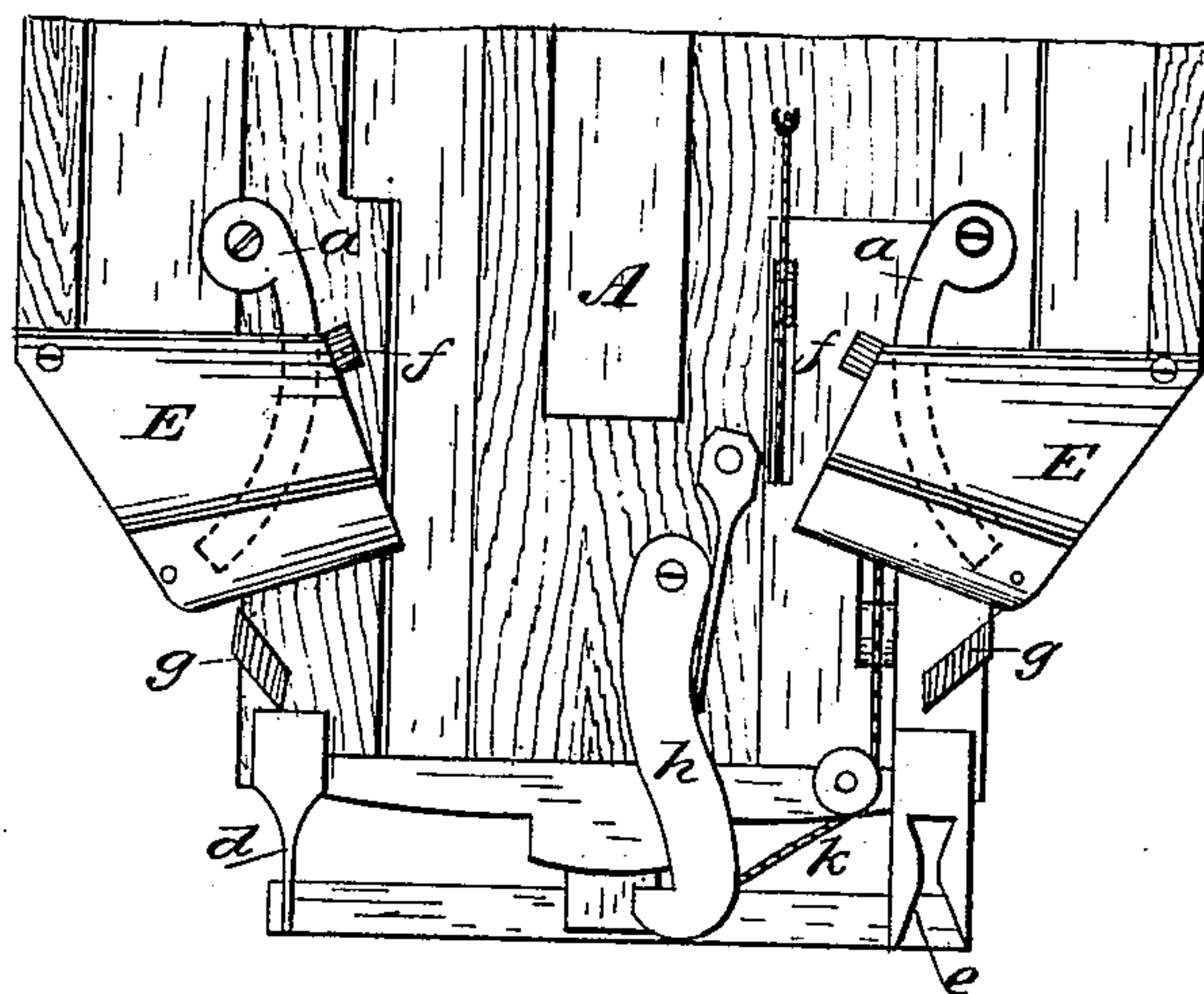
*Fig. 3.*



*Fig. 4.*



*Fig. 2.*



WITNESSES

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# UNITED STATES PATENT OFFICE.

CHARLES S. SMITH, OF BATH-ON-THE-HUDSON, NEW YORK.

## RAILWAY-CAR.

SPECIFICATION forming part of Letters Patent No. 266,322, dated October 24, 1882.

Application filed April 13, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES S. SMITH, a citizen of the United States, residing at Bath-on-the-Hudson, in the county of Rensselaer and State of New York, have invented certain new and useful Improvements in the Construction of Cars; 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 the construction of cars more especially intended for passengers, and the object is to provide a ready and convenient means for entering and leaving the cars without danger to passengers in ascending and descending the steps, while at the same time it furnishes a neat and easy manner of applying extension or connecting hoods to the ends of adjoining cars, as shown in another application of mine.

The invention consists in the construction and arrangement of parts, as will be more definitely described hereinafter, reference being had to the accompanying drawings, in which—

Figure 1 is a horizontal section of an end of a car, showing the steps moved out for ingress and egress when at stations. Fig. 2 is a bottom view of the same, with the stairs moved inward and out of the way, when the train is in motion. Fig. 3 is a detail view, showing the door, hand-rail, and stairs. Fig. 4 is a detail rear view of the stairs, showing the guide-rail and recess for it.

In the drawings, A represents the end of a car, having at each corner a door, B C, which are arranged at an angle of about forty-five degrees to the sides or ends of the car. The doors are preferably hung to swing inward, so as to be out of the way when entering or leaving a car. This arrangement of doors is especially well adapted to cars having extension-hoods, more definitely described in said application of even date herewith. To the outer corners, D, of the car are pivoted the steps or stairs E, by which to ascend or descend when entering or leaving the car. These stairs are supported on their inner edges by a curved guide-rail, a, secured to the bottom of the car, and the stairs are suitably recessed, as shown at b, to fit over the guide-rail, so

that they can be moved inward while the train is in motion and outward when at stations or stopping-places. At the inner corner of the stairs I form a projection, f, which strikes against a stop, g, when the stairs are revolved outward, and holds it in that position until moved back under the car. A hand-rail, c, is pivoted with one end to the corner D of the car, while the other end is secured to the stairs E. A lever, l, is secured to the hand-rail, which closes the door-passage when the stairs are moved under the cars, and thus forms a safety-guard. On each side of the bottom of the car are secured steadying-pieces d and e in reverse manner. Thus on one car are placed the parts d, which are made of yielding material, and on the adjoining car the parts e are made rigid, so that when brought together the parts d enter the parts e, and by the flexibility or yielding of the parts e the cars can accommodate themselves to the rocking motion to a certain degree, while at the same time they are kept in their proper position. The cars are coupled by an automatic coupling-hook, h, with spring i to force them together, and they can be readily uncoupled from the inside by means of a cord, k, passing over suitable pulleys and connected to a lever, by which they are operated.

It will be readily seen that by my arrangement of angled doors and movable or revolving stairs a very neat and compact means is obtained which prevents accidents to passengers, as they cannot enter or leave the cars when the stairs are moved under the bottom of the car. The stairs are to be manipulated only by the conductor, brakeman, or other authorized person, and, if desired, they can be provided with means for securing them in position, either thrown forward or backward, as the case may require.

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

1. In cars, the pivoted stairs secured to the bottom of cars and revolving on a curved guide-rail so as to be moved outward or inward, as shown, and for the purpose set forth.

2. The combination of the pivoted stairs, revolving on a curved guide-rail, with a pivoted hand-rail, arranged substantially as described.

3. The combination of the pivoted stairs E, the curved guide-rail *a*, pivoted hand-rail *c*, and lever *l*, all arranged substantially as and for the purpose herein specified.

5 4. The combination of the pivoted stairs E, having recess *b* to fit over the curved guide-rail *a*, and the stops *f* and *g*, as shown, and for the purpose set forth.

10 5. In cars, the combination of the pivoted stairs E, having recess *b*, the curved guide-rail *a*, and stops *f* and *g*, with the inclined or angled doors B C, arranged substantially as shown and specified.

6. In cars, the doors B C, arranged at an angle of about forty-five degrees, in the corners of the cars, in combination with the revolving stairs E, substantially as set forth. 15

In testimony whereof I hereby affix my signature in presence of two witnesses.

CHARLES S. SMITH.

Witnesses:

L. F. CHAMBERLIN,  
JAMES VAN VALKENBURG.