

(No Model.)

R. HAMMILL.
STEP OR LADDER.

No. 305,590.

Patented Sept. 23, 1884.

Fig. 1.

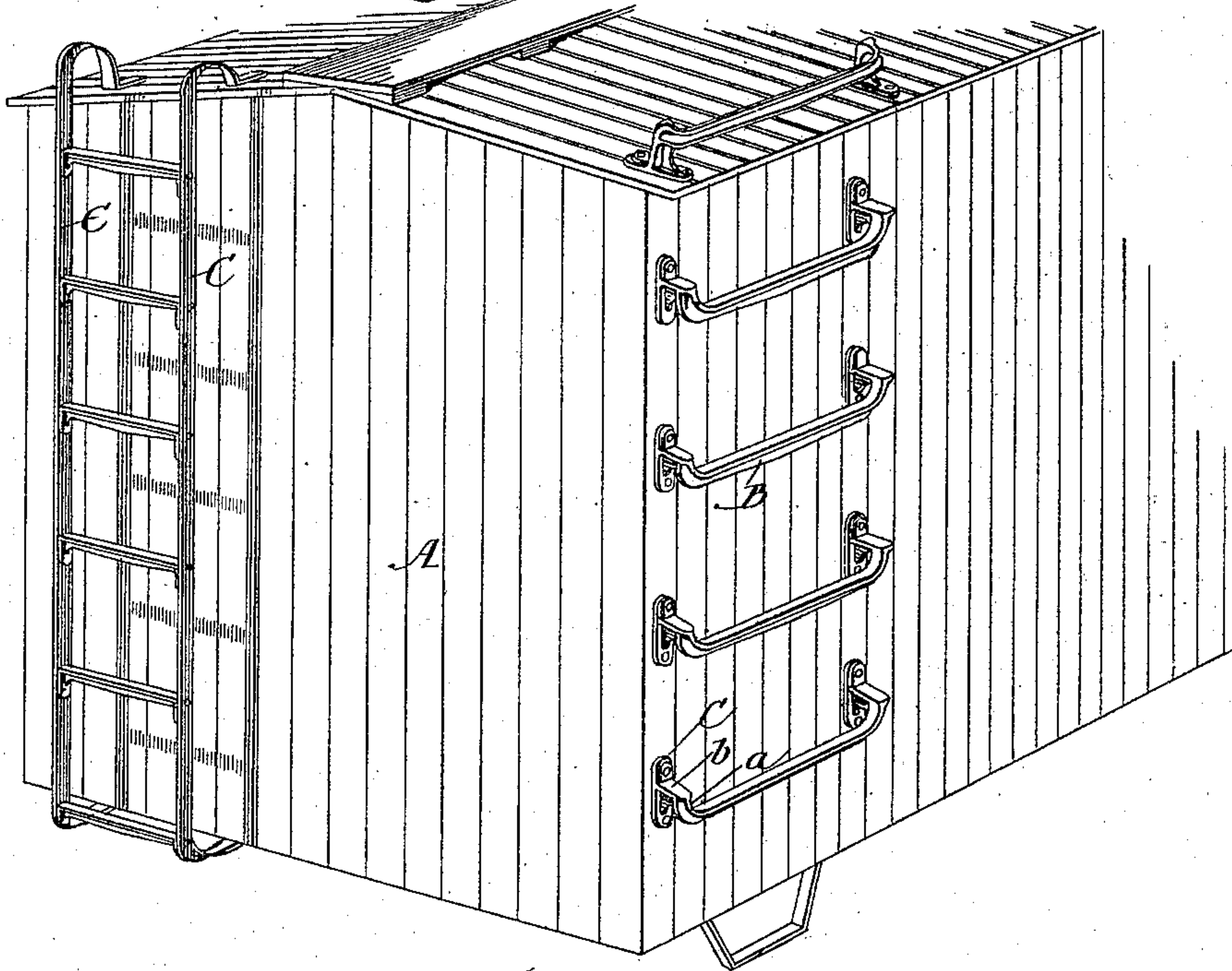


Fig. 2.

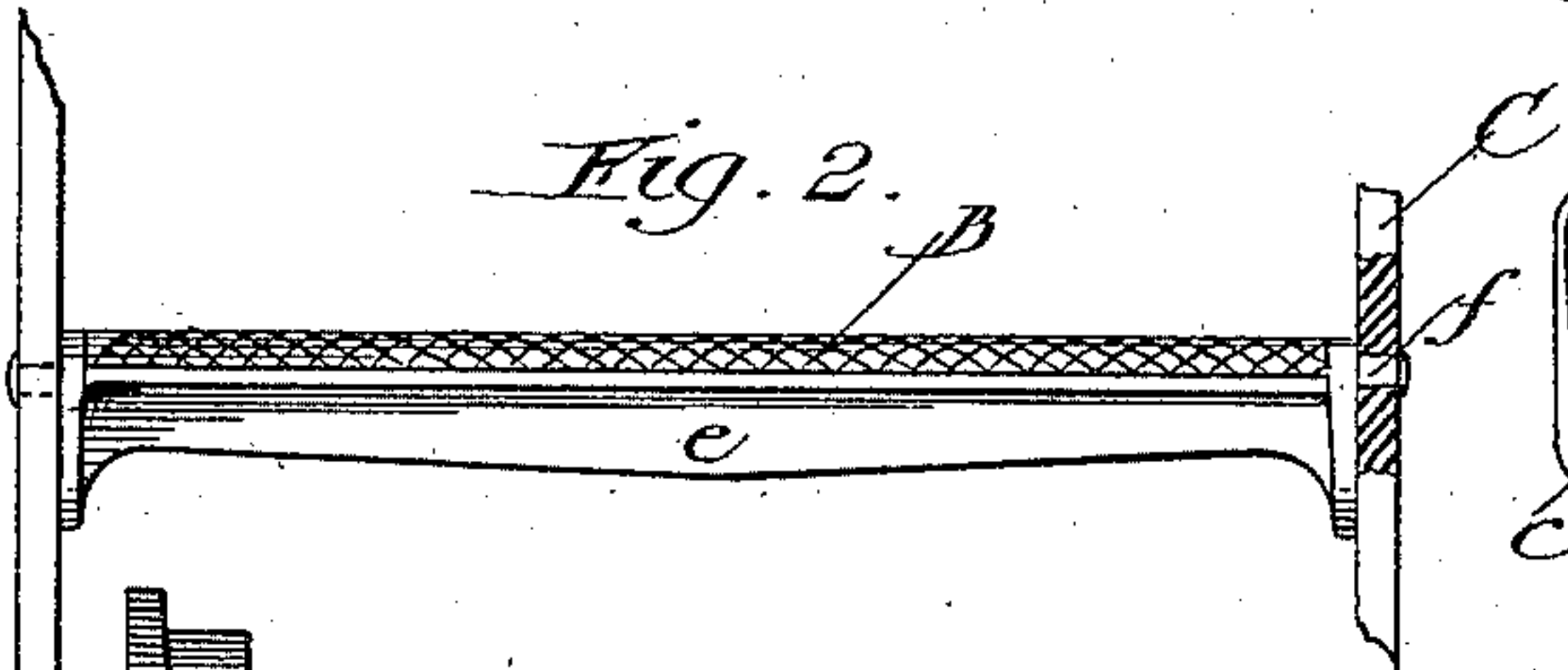


Fig. 3.

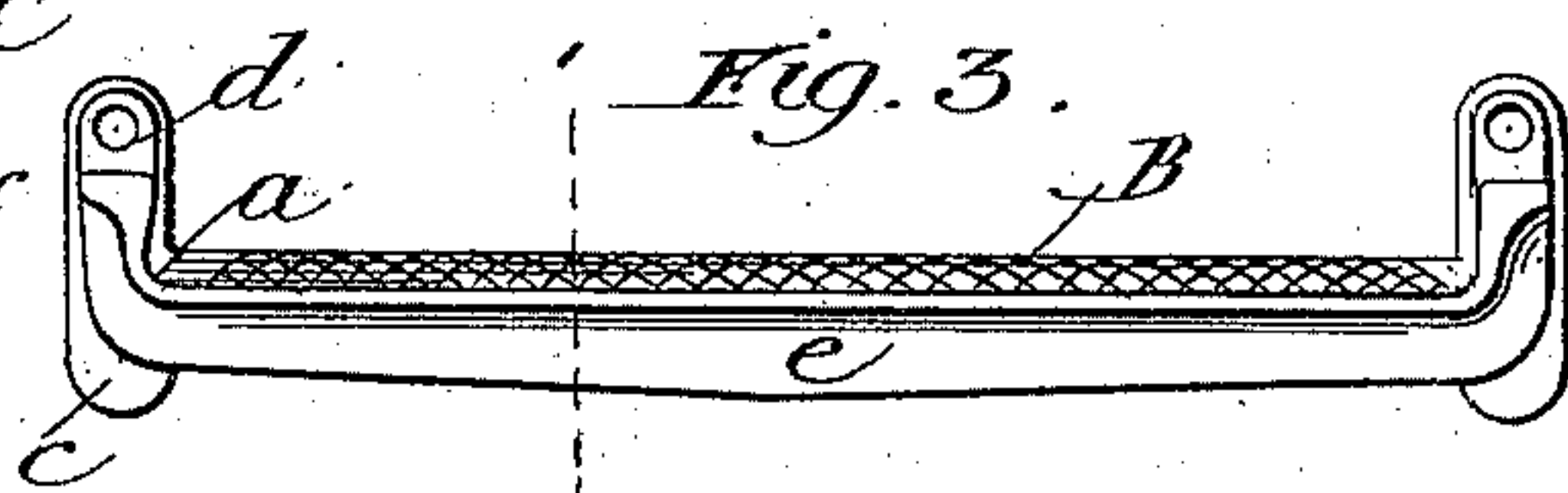


Fig. 4.

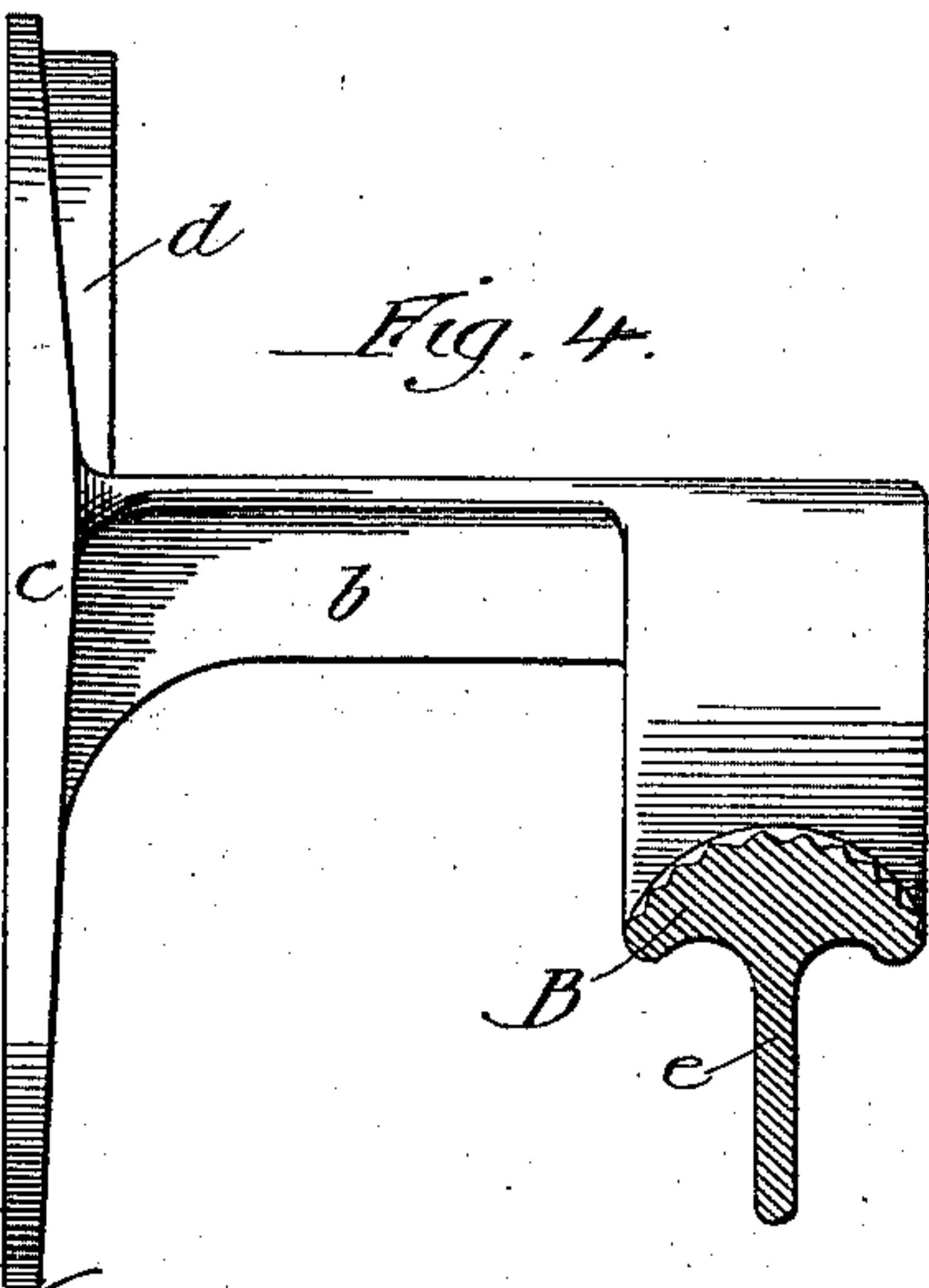
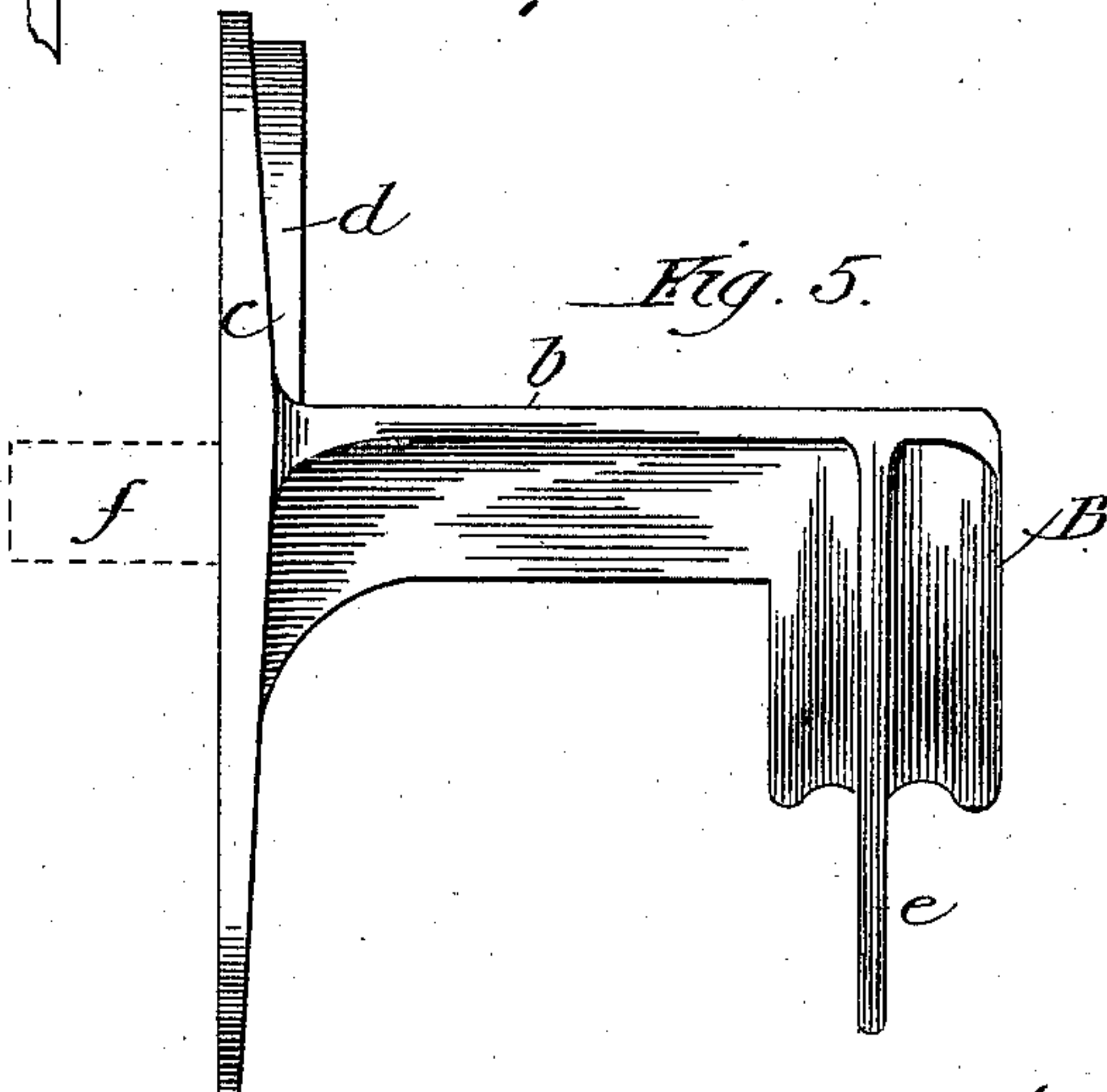


Fig. 5.



Witnesses:
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UNITED STATES PATENT OFFICE.

RICHARD HAMMILL, OF CHICAGO, ILLINOIS.

STEP OR LADDER.

SPECIFICATION forming part of Letters Patent No. 305,590, dated September 23, 1884.

Application filed July 15, 1884. (No model.)

To all whom it may concern:

Be it known that I, RICHARD HAMMILL, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Steps or Ladders, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to an improved step or ladder especially adapted to use upon freight-cars, but also applicable as a fire-escape.

The object of the invention is to improve the general construction of the step or ladder, and, further, to provide means for preventing the foot of the person using the same from slipping off at the side.

To the accomplishment of the above, the invention consists of the novel devices and combination of devices, as will be described and claimed.

Reference will be made to the accompanying drawings, in which Figure 1 is a view of the end of a freight-car, with my improvements in position; Fig. 2, a front view of the invention when used as a ladder; Fig. 3, a similar view of one step when used as such; Fig. 4, a section on line 1 1 of Fig. 3, and Fig. 5 an end view of one step.

Like letters refer to like parts in each view.

A represents a freight-car to which my invention is applicable. It has been customary heretofore to secure to the sides of such cars a series of steps, by the use of which the brakemen and others can reach the top thereof.

My invention consists in certain improvements made in such steps.

Each step B consists of a cast-metal strip bent upwardly at each end, as at *a*, and then bent at right angles to form the extensions *b*, upon the rear ends of which plates *c* are cast. Through plates *c* suitable openings are formed for the passage of any suitable bolts, these bolts entering frame of the car, and adapted to hold the steps in position. As shown in the drawings, plates *c* extend above and below the cross-bar of the step, and upon the upper front face of each there is formed a boss, *d*, to give additional strength at that particular point

where the greatest strain is felt. The cross-bar forming the step proper is roughened upon its upper edge to render the step ice-proof, and a strengthening-flange, *e*, is formed upon its lower face, as shown. These steps are secured to the sides or ends of the car, being placed one above the other, as shown in Fig. 1, and preferably one upon the top of the car. It is sometimes found convenient to use a ladder in place of these steps, this being generally done where the appliance is to be secured to the end of the car.

To adapt my invention to use as a ladder, I do away with the upward curve at the ends of the cross-bar and also with the extensions *b*, and instead form what is substantially half of one of the plates *c* upon each end of said cross-bar. Upon each end of the cross-bar is cast a pin, *f*, which are adapted to enter suitable openings formed in uprights C and to be riveted therein, whereby the step is securely held in position. These cross-bars when used to form ladders are formed with the same roughened upper surface and with the same strengthening-flange *e* as described in the first instance. The uprights C are secured to the top and bottom of the car, and extend sufficiently above the top of same to form a complete ladder, the ends being curved, as shown in Fig. 1, to leave a space between the car top and them for the hand of the person.

It will be understood that, although this invention has been described throughout in connection with a freight-car and so illustrated, I do not wish to be confined to its use in that connection, it being also especially adapted to use as a fire-escape for buildings, &c.

What I claim is—

1. A step consisting of a cross-bar bent upwardly at its ends, and provided with suitable means for securing it to cars, houses, &c., as and for the purposes set forth.

2. The steps B, constructed as described, in combination with uprights C, as and for the purpose set forth.

3. The combination, with steps B, of uprights C, curved at their upper ends, as set forth.

4. The step B, consisting of a cross-bar bent

upwardly at its ends, roughened upon its upper face, provided with strengthening-flange *e*, and cast with suitable plates for securing it in position, as set forth.

- 5 5. The step B, consisting of a cross-piece bent upwardly at its ends and cast with plates *e*, said plates provided on their upper front face with bosses *d*, as set forth.

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

RICHARD HAMMILL.

Witnesses:

M. J. CLAGETT,
LOUIS NOLTING.