

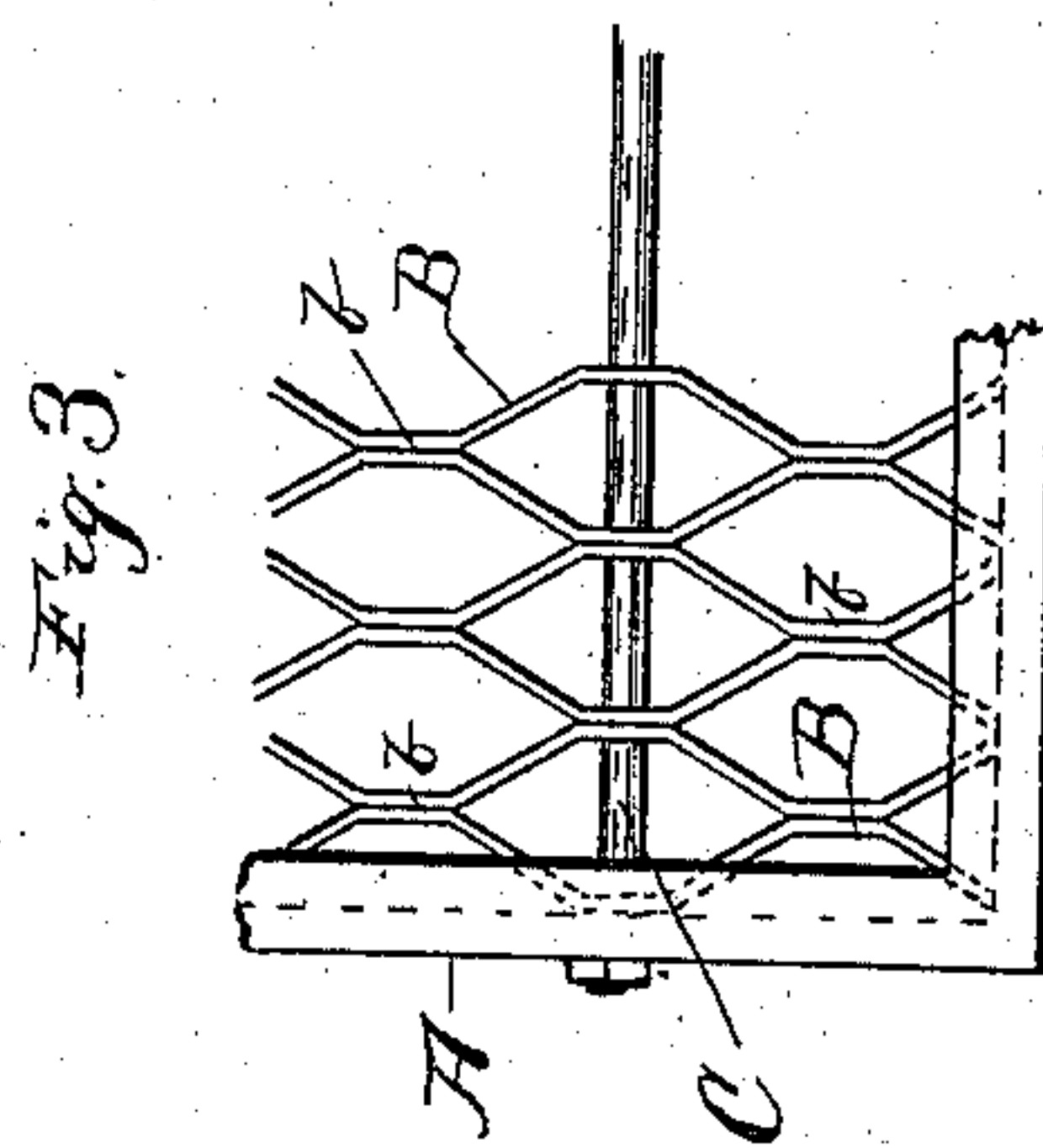
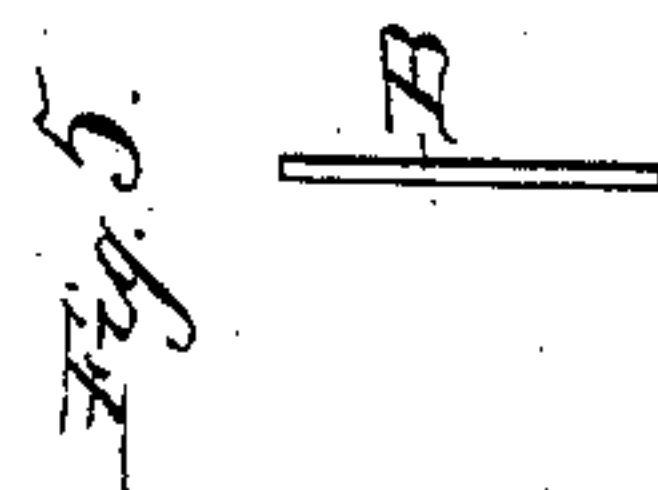
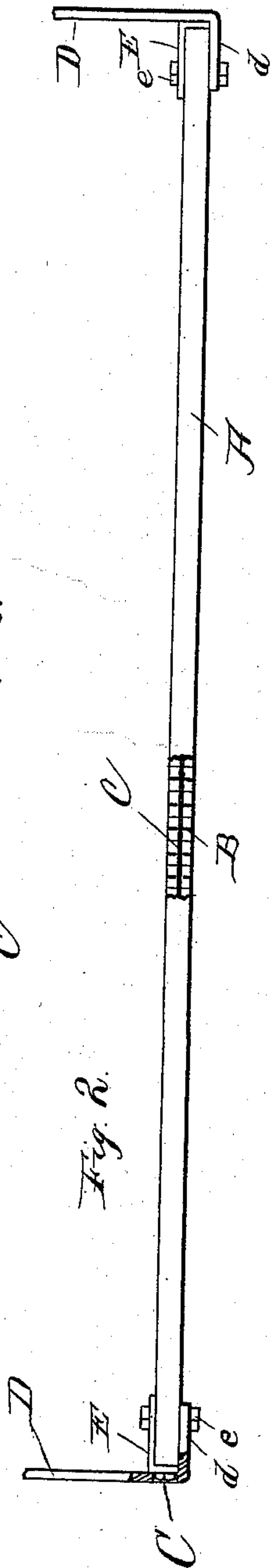
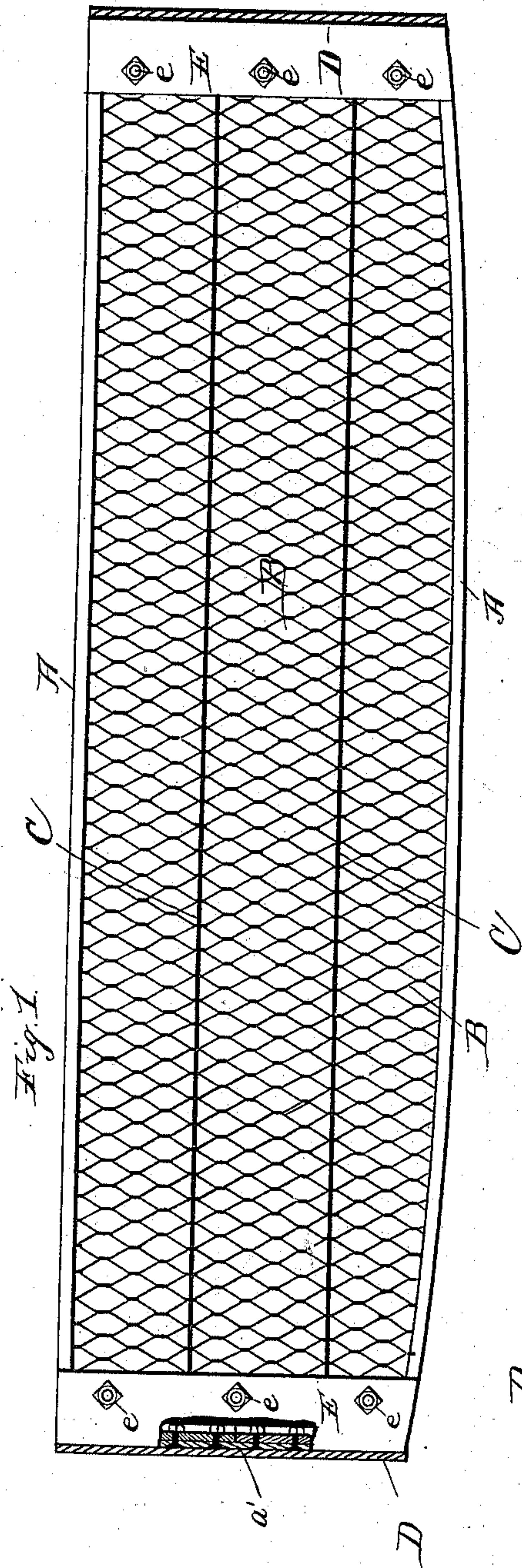
(No Model.)

F. H. STANWOOD.

CAR STEP.

No. 385,017.

Patented June 26, 1888.



Witnesses:

Lew. C. Curtis  
Jas. R. Rippert

Inventor:

Frank H. Stanwood.

By Munday Evans & Adcock  
His Att'y's



# UNITED STATES PATENT OFFICE.

FRANK H. STANWOOD, OF CHICAGO, ILLINOIS.

## CAR-STEP.

SPECIFICATION forming part of Letters Patent No. 335,017, dated June 26, 1888.

Application filed March 5, 1888. Serial No. 266,129. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK H. STANWOOD, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Car-Steps, of which the following is a specification.

In this invention I form the body of the step of a series of thin metal strips bent to an approximately zigzag shape and placed side by side, edge uppermost, with the outside angles of the bends abutting against each other, thereby forming between the strips open bottomless meshes of a diamond or other desired shape. Surrounding the reticulated body thus constructed is a metal frame channeled interiorly to receive the ends of the strips, and the structure is stiffened and prevented from sagging at its center by one or more rods passed through the series of strips and secured in the frame. These and other novel features of construction are fully set forth in the description given below, to which reference is hereby made.

In the accompanying drawings, Figure 1 is a plan, and Fig. 2 a front elevation, of my improved car-step, both views being partly in section. Fig. 3 is an enlarged detail view showing the corner of the frame and adjacent portion of the meshed structure. Fig. 4 is an enlarged section showing the joint between the frame and the ends of the sheet-metal strip. Fig. 5 is a section of one of the strips.

In said drawings, A represents the surrounding frame, consisting of one or more pieces, as desired, and having an internal channel, *a*. An approximate construction of the joint between the ends of the frame is shown at Fig. 1, a supplemental piece, *a'*, binding the joint and riveted to the ends, being applied, and the other joints, if there be others, may be made in like manner.

B B are the sheet-metal strips of which the open-work body of the step is composed. They are bent to an approximately zigzag line, and are placed side by side and edge upward, with the outer sides or points of the angles of each abutting against the outer sides of the angles of the neighbor strips. The points of the angles are preferably flattened, as shown at *b*, to enlarge the bearing-surface at the abut-

ting junctions. There is thus formed between the strips numerous diamond or approximately diamond shaped meshes, which, being bottomless, afford ready escape for the snow, ice, and dirt detached from the feet of people passing over the step. The lines of the strips, being broken in every direction, resist slipping very effectually.

I am aware that band-iron placed edgewise has been used in door-mats; but I prefer to form my strips by shearing them from sheet metal, as the edges of the strips thus produced are not rounded, as in the band-iron. The corners of the metal are also rendered sharp, instead of being smooth or rounded off, as in the band-iron, and this feature makes them specially serviceable in preventing slipping.

To stiffen the step and prevent sagging at its weakest part, I run one or more rods, C, transversely through the series of strips and secure them in the frame, as shown. Of course, if the strips were made to run longitudinally of the step instead of transversely thereof, as shown, the rods should run transversely of the step instead of longitudinally, as shown. These rods may pass under instead of through the strips, if preferred.

D D are the hangers by which the step is suspended, and are provided with horizontal members *d*, upon which it may rest, and to which it is bolted by the bolts *e*. The ends of the step are covered by plates E, which form seats for the heads of bolts *e*, and such plates may be of angle-iron and cover the ends of the step, as shown, if desired, and when so made of angle-iron the vertical portion may be used to unite the ends of the frame instead of the supplemental piece *a'*. While I have shown the invention as applied to a car-step, I wish it understood that it is applicable to the steps of other vehicles as well.

I hereby disclaim the door-mats shown in Patents Nos. 304,433, 153,735, and 130,808 as not of my invention.

I claim—

1. The car-step composed of zigzag strips of sheet metal placed edge upward and side by side, transverse strengthening-rods, and a surrounding frame, in combination with hangers, substantially as specified.

2. The car-step composed of zigzag strips of

sheet metal placed edge upward and side by side with their angles abutting, as described, and a suitable surrounding frame, in combination with hangers for suspending the step from  
5 the car, substantially as specified.

3. The combination of the strips B B, bent and positioned as described, the rods C, the frame A, and plates E, with the hangers D, substantially as specified.

4. The combination, with the reticulated step-body and its surrounding frame, of the plates E and hangers D, substantially as set forth.

FRANK H. STANWOOD.

Witnesses:

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