

F. R. PHILLIPS.
TREAD SURFACE.
APPLICATION FILED AUG. 26, 1908.

917,354.

Patented Apr. 6, 1909.

Fig. 1.

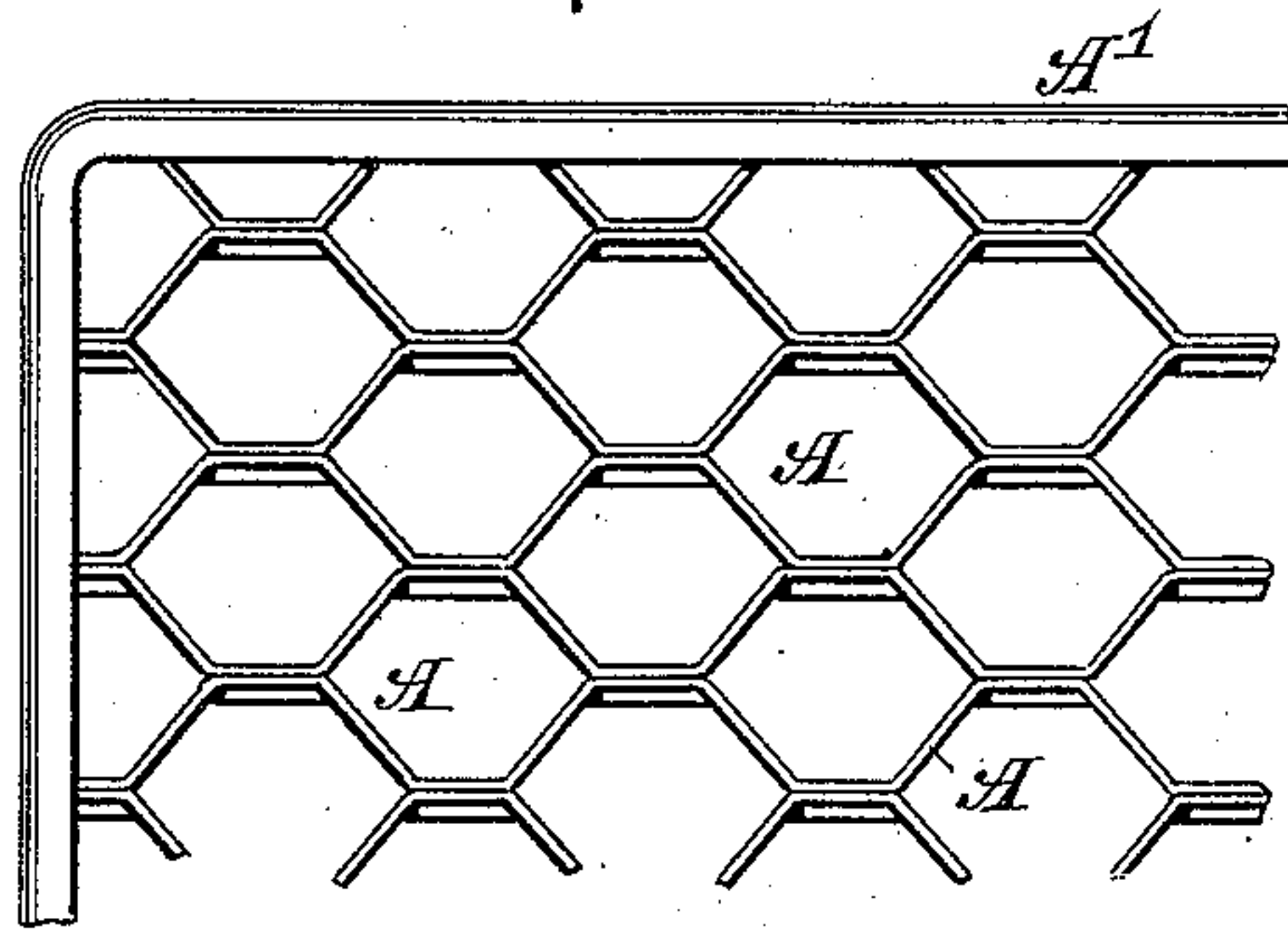


Fig. 2.

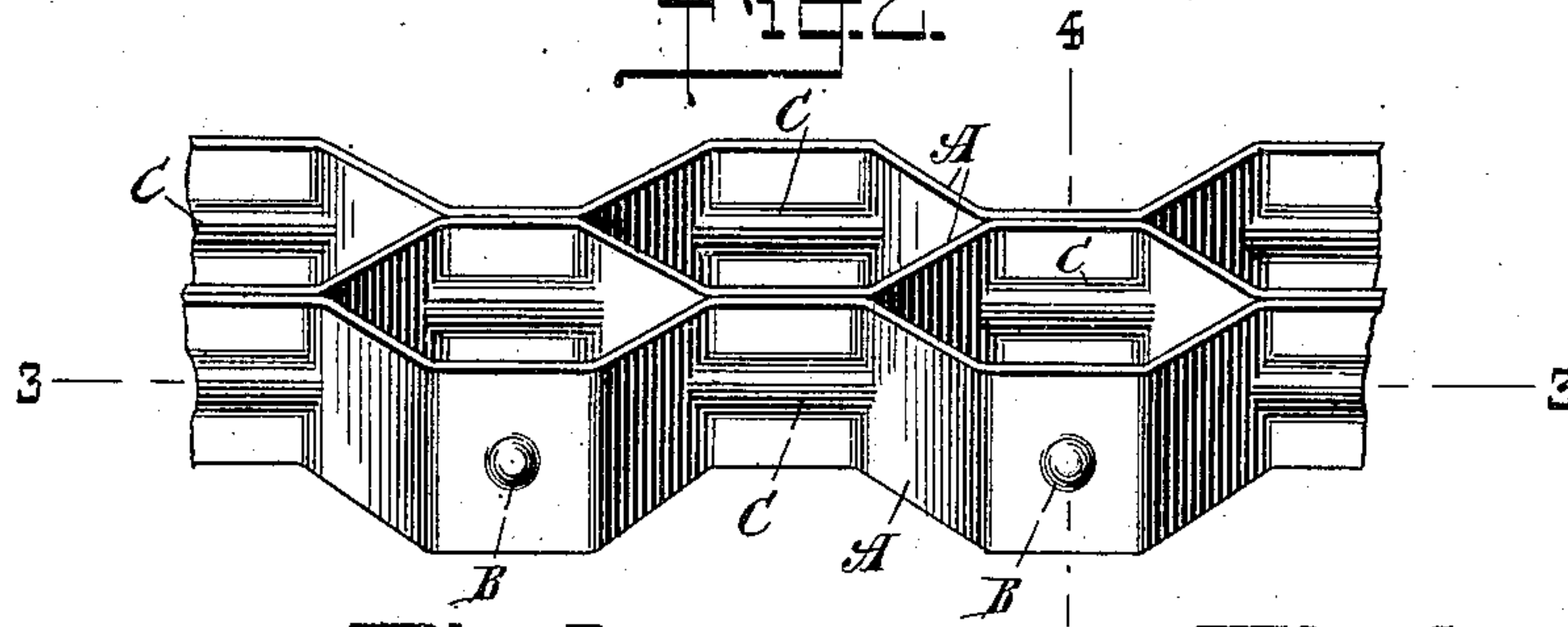


Fig. 3.

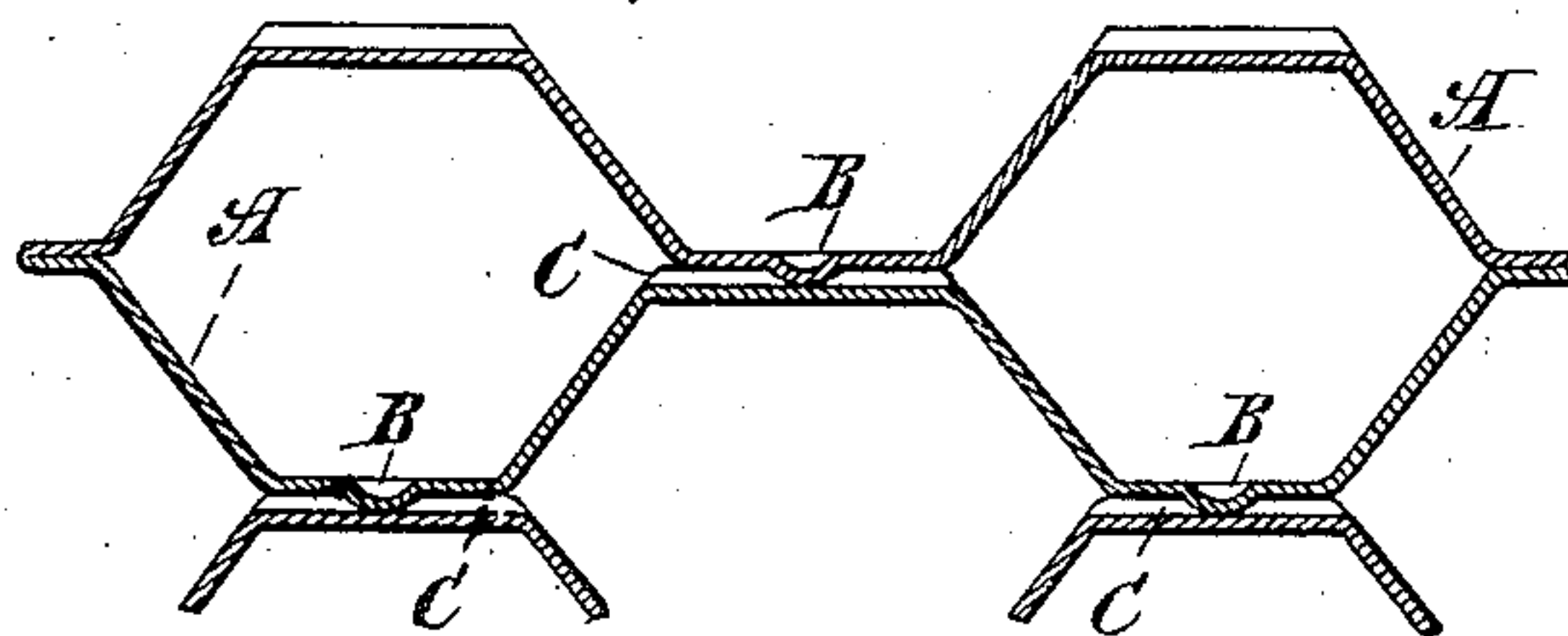


Fig. 4.

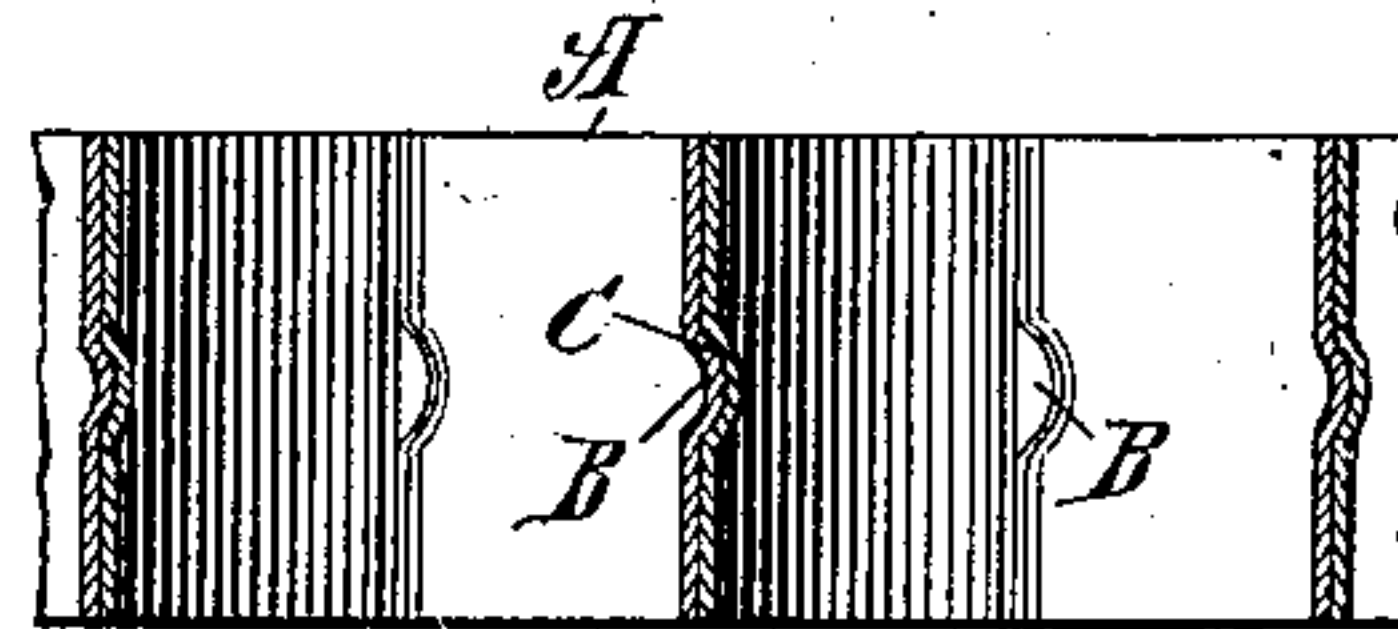


Fig. 5.

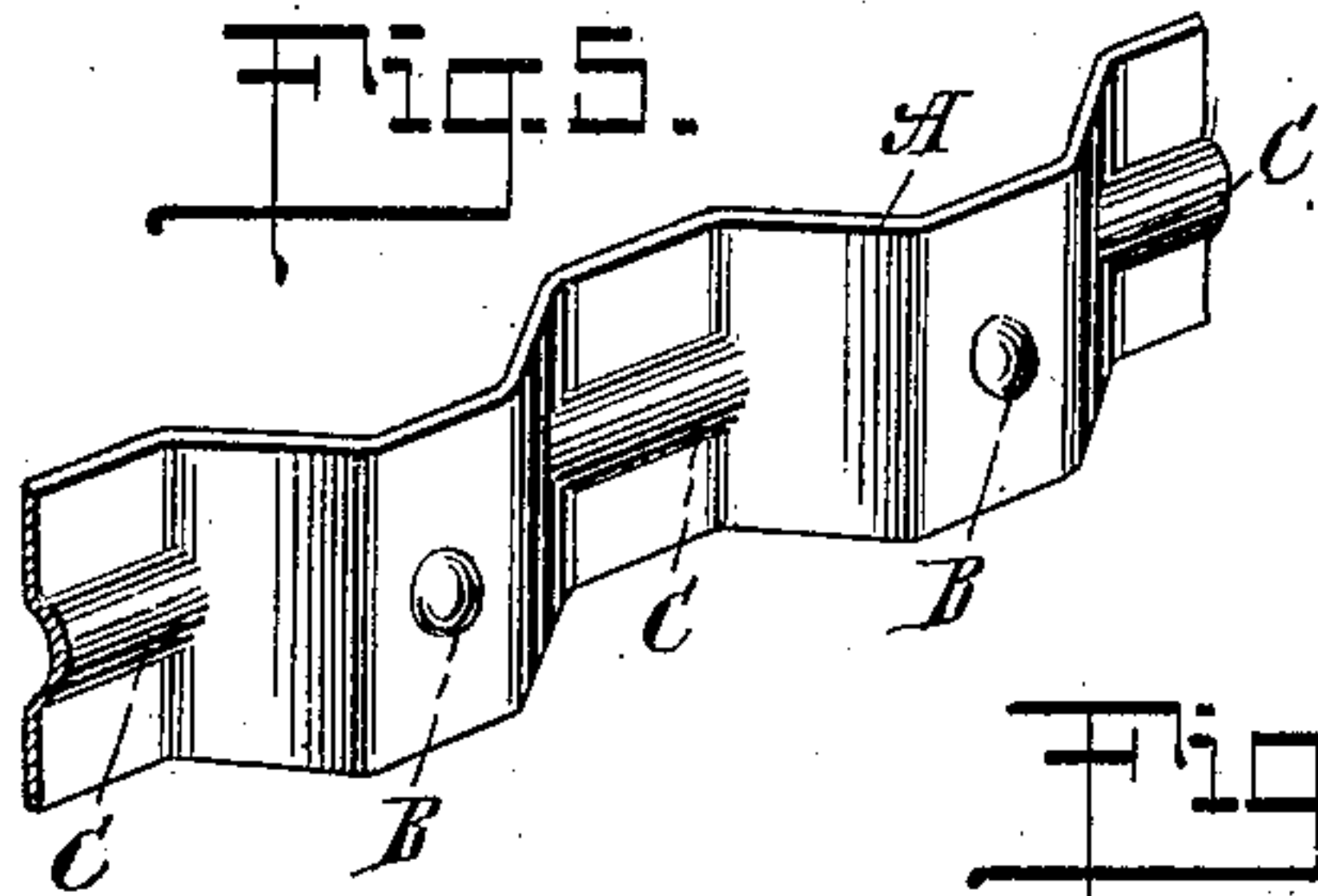


Fig. 6.

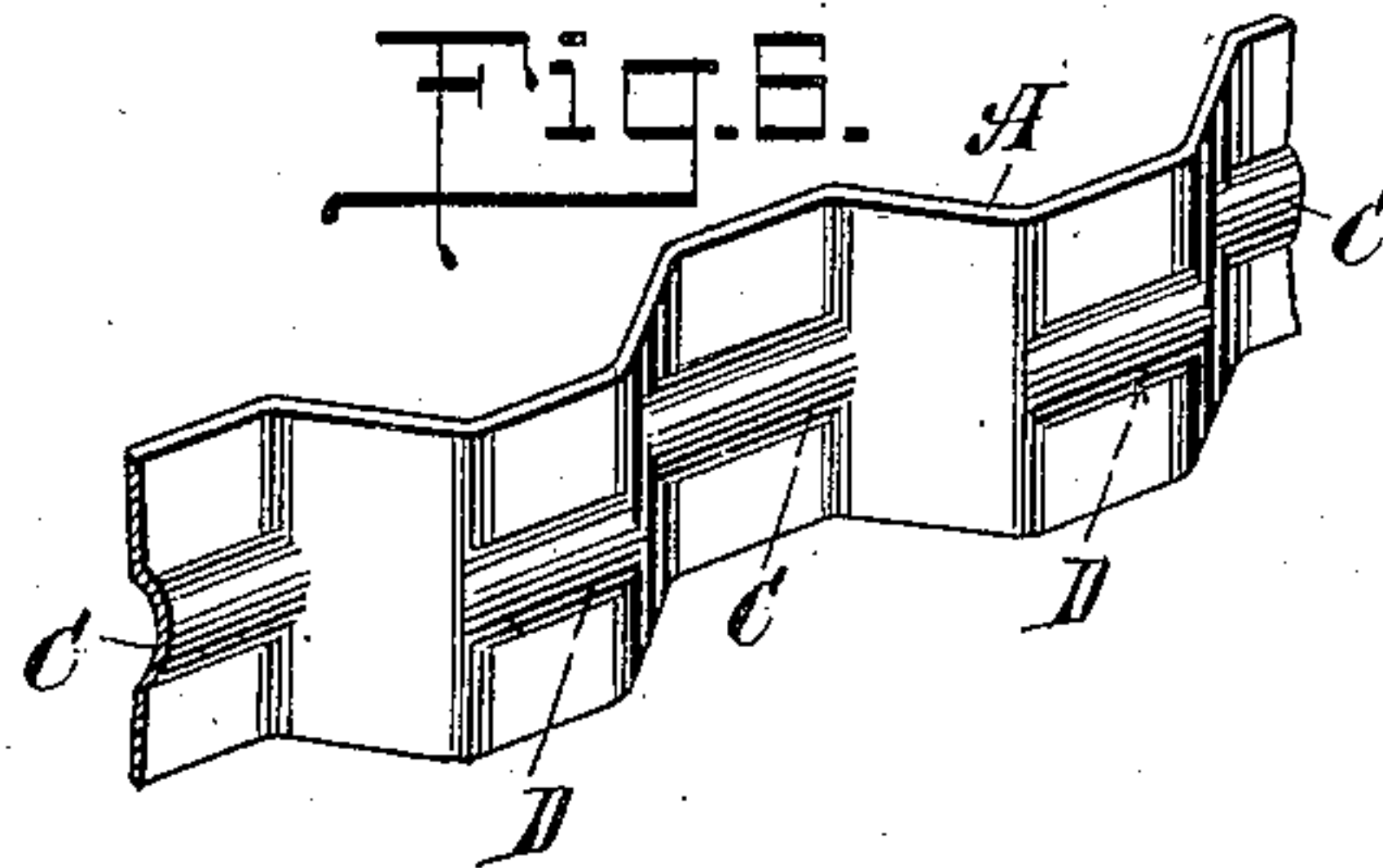
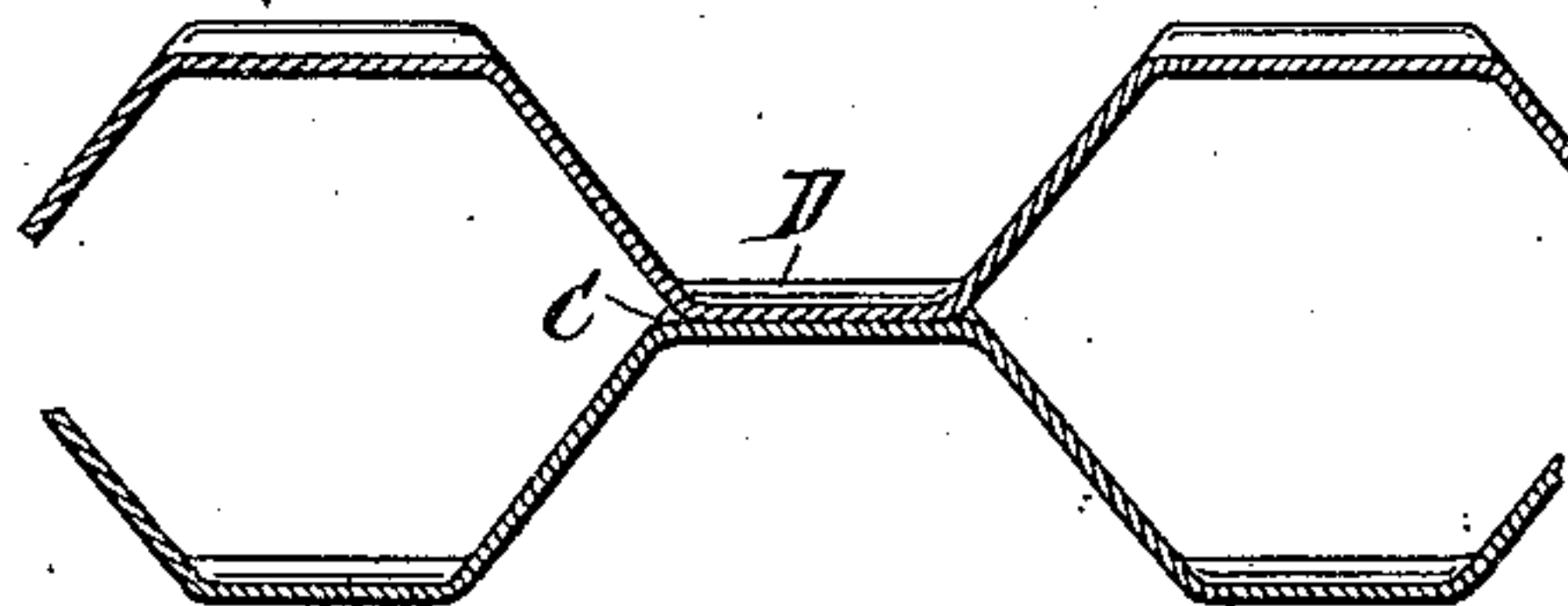


Fig. 7.



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FREDERICK R. PHILLIPS, OF PLAINFIELD, NEW JERSEY.

TREAD-SURFACE.

No. 917,354.

Specification of Letters Patent.

Patented April 6, 1909.

Application filed August 26, 1908. Serial No. 450,404.

To all whom it may concern:

Be it known that I, FREDERICK R. PHILLIPS, a citizen of the United States, and a resident of Plainfield, in the county of Union and State of New Jersey, have made and invented certain new and useful Improvements in Tread-Surfaces, of which the following is a specification.

My invention relates to an improved vehicle step, mat, platform or other tread surface, and of that particular type which is formed of crimped strips of sheet metal set edgewise to the surface, and so crimped as to leave openings of sufficient size between the strips when properly assembled, to allow dirt and snow to pass through the meshes or between the crimps, the object of the same being to produce a tread surface of this character which shall be strong and rigid and wherein the contacting surfaces of the adjacent strips will be securely and firmly held or locked together against vertical movement, but which contacting surfaces will be allowed a slight or limited longitudinal movement one upon the other, in order that said strips may be bent or curved to conform with edges other than straight, as for instance, in car steps which are occasionally made with curved or rounded front edges.

With these and other ends in view, the invention consists in certain novel features of construction, as will be hereinafter fully described and pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view of a portion of a tread surface constructed in accordance with my invention. Fig. 2 is a perspective view showing one manner of locking the contacting surfaces of several of the crimped strips. Fig. 3 is a sectional view taken on the line 3—3 of Fig. 2. Fig. 4 is a sectional view taken on the line 4—4 of Fig. 2. Fig. 5 is a perspective view of a portion of a crimped strip. Fig. 6 is a similar view of a modified form of strip. Fig. 7 is a longitudinal sectional view showing the manner of locking strips formed as illustrated in Fig. 6.

By reference to the drawings it will be seen that the mat or step is formed of strips of sheet metal of suitable width and thickness, and bent into zigzag form, whereby when properly assembled they will form a mesh, as illustrated in Fig. 1, the strips A being so bent or crimped that when locked together the openings will be of hexagonal shape.

The alternating contacting sides or surfaces of each of the crimped strips A are centrally provided with a projection B, preferably hemispherical in form, constituting the male locking members, each intermediate contacting side or surface being provided with the female locking member C in the form of a depression, preferably curved and extending longitudinally the entire width of said side, and along the center line thereof, in order that it may register or aline with the locking member B when the several strips have been assembled, as clearly illustrated in Figs. 3 and 4 of the drawings. These locking members B and C are preferably formed by indenting one side of the strip and forcing the metal outwardly on the opposite side, thereby adding rigidity and strength to the strips. In assembling these strips thus formed, the male member B is contained within the depression C, whereby the crimped strips are locked against any vertical movement, but at the same time permitted a slight longitudinal movement in order that the edges of the mat or step may be given a rounded or curved contour or outline.

Instead of forming the male locking member as above described, that is, in the form of a sector of a sphere, it may assume the shape as illustrated in Figs. 6 and 7, that is, a rib D extending entirely across the contacting side or face of the crimped strip A, and of such dimensions as will be nicely contained within the female locking member C, as shown in Fig. 7, such construction and formation of parts, as I have found in practice, effectively fulfilling all the requirements in the way of locking the parts against vertical movement while permitting of a slight longitudinal movement.

In case it be desired to bend the assembled strips to conform to the frame A¹ of a shape other than straight, the contacting sides or surfaces of the several strips A will slide or move one on the other, the male member of the locking device moving longitudinally within the opposite engaging member, the limit of movement before the several strips become disengaged, being the width of the contacting faces, the several locking members, however, avoiding or preventing any vertical movement of one strip with relation to the other.

I am aware that crimped strips have been

corrugated or ribbed their entire length, in order to strengthen the same, but:—

Having fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A step consisting of a series of crimped metal strips, the contacting faces only of each strip being provided with female locking members adapted to engage with male members on the contacting faces of the adjacent strips, whereby said strips are allowed longitudinal movement but held against vertical movement with relation to each other, substantially as described.

2. A step consisting of a series of crimped strips, the alternating contacting faces only

of each strip being provided with a male locking member in the form of a hemispherical projection, the intermediate contacting faces of said strip being provided with a female locking member in the form of a curved recess extending entirely across said faces, substantially as described.

Signed at New York, borough of Manhattan, in the county of New York, and State of New York, this 15th day of August, A. D. 1908.

FREDERICK R. PHILLIPS.

Witnesses:

M. VAN NORTWICK,
PARKER COOK.