No. 647,713. Patented Apr. 17, 1900.

# A. L. WYMER.

## FLOORING.

(Application filed Dec. 18, 1899.)

(No Model.)

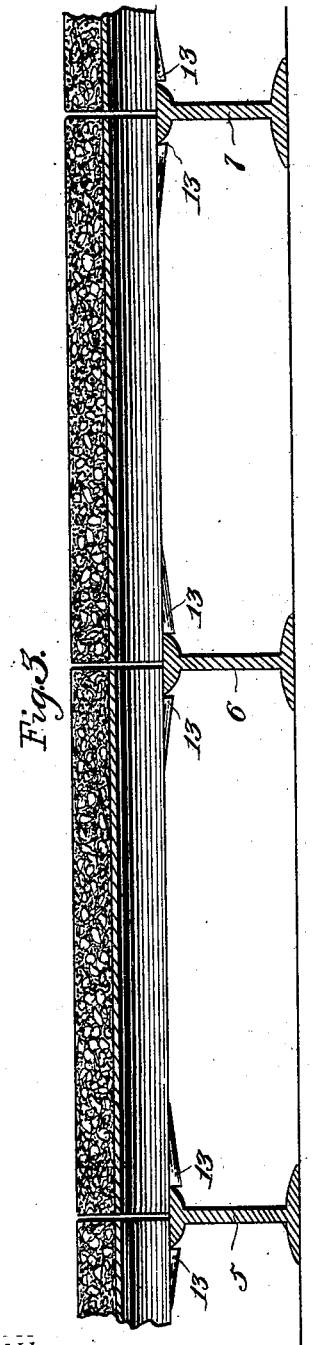


Fig. 3.

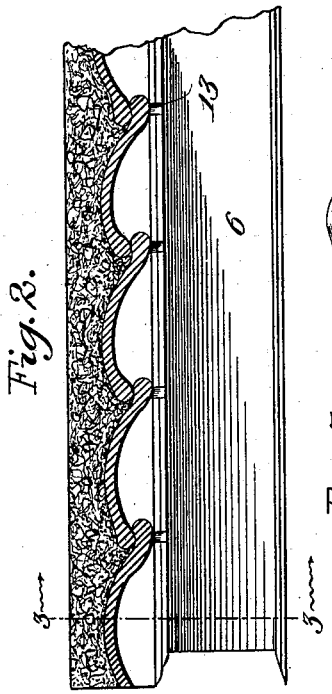


Fig. 2.

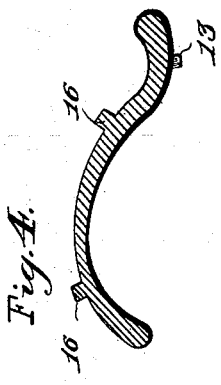


Fig. 4.

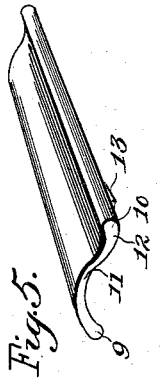


Fig. 5.

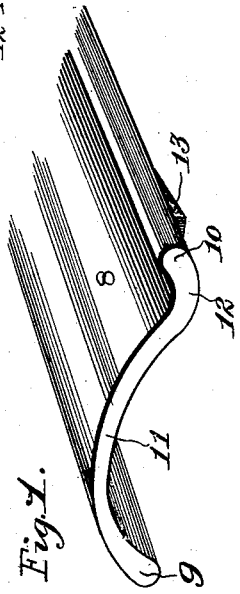


Fig. 1.

Witnesses
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Geo. H. Chandlee.

A. L. Wymer Inventor

By his Attorneys,

C. A. Snow & Co.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

ADAM L. WYMER, OF YOUNGSTOWN, OHIO, ASSIGNOR OF ONE-HALF TO ALBERT H. HELLER, OF SAME PLACE.

## FLOORING.

SPECIFICATION forming part of Letters Patent No. 647,713, dated April 17, 1900.

Application filed December 18, 1899. Serial No. 740,765. (No model.)

*To all whom it may concern:*

Be it known that I, ADAM L. WYMER, a citizen of the United States, residing at Youngstown, in the county of Mahoning and State of Ohio, have invented a new and useful Flooring, of which the following is a specification.

This invention relates to flooring in general, although the structure is equally well adapted for roofing, decking, and for other purposes where it is desired to construct a rigid and fireproof structure including the usual I-beams.

The object of the invention is to provide a structure comprising a plurality of similar plates that are so formed as to be capable of interlocking engagement and which may be placed upon the beams in a manner to prevent accidental derangement.

The invention consists, specifically, of a compound curved plate which may be of metal or other suitable material and which plate is provided with lugs adapted to lie against the side edges of the uppermost flange of the beam upon which the plate is disposed.

In the drawings forming a portion of this specification, and in which similar numerals of reference designate like and corresponding parts in the several views, Figure 1 is a perspective view showing one of the plates of the present invention. Fig. 2 is a section of a flooring, taken transversely of the plates of the flooring and between the supporting-beams thereof. Fig. 3 is a section on line 3 3 of Fig. 2 and showing a number of the supporting-beams with the plates in place. Fig. 4 is a transverse section of a plate and showing a modification. Fig. 5 is a perspective view showing the complete plate.

The plate of the present invention is preferably made of cast-iron, although it may of course be formed of any other suitable material and is intended for use in connection with the usual floor or roof beams of the style commonly known as "I-beams" and shown at 5, 6, and 7 in Fig. 3 and at 6 in Fig. 2. Each of these plates 8 is of a length sufficient to reach from the center of one beam to the center of the next beam and is disposed to rest upon the upper flanges of the beams.

The plate 8 is compoundly curved transversely, the side edges of the plates being thickened, as shown at 9 and 10. The compound transverse curvature of the plate 8 comprises a major curve 11 and a minor curve 12, resulting in the formation of corresponding major and minor portions of the plate, the reëntrant face of the minor portion forming in effect a locking-groove for a purpose which will be presently explained.

In practice a plate 8 is placed upon the upper faces of two beams 5 and 6 and resting upon the portions of the upper flanges thereof which project toward each other, the ends of the plate lying in line with the webs of the beams. These plates are placed with the edge 9 of the major portion and the convex space of the minor portion downwardly and against the flanges of the beams, the edge 10 of the minor portion extending upwardly and with the reëntrant face of the minor portion uppermost. To hold the plates against longitudinal displacement, the lugs 13 are formed upon the convex face of the minor portion and so spaced that they will contact with the side edges of the flanges of the beams upon which the plate rests. The contacting faces of these lugs are disposed at right angles to the plate, while their opposite faces are tapered, as shown, although it will be of course understood that the lugs may have any desired specific shape.

After the first plate has been properly placed a second plate is arranged with its edge 9 in the groove of the minor portion of the plate, and this arrangement of plates is continued throughout the lengths of the beams. After the desired number of plates have been put in position a layer of concrete, cement, or other plastic material 16 is placed upon the plates to a suitable depth, as shown in Figs. 2 and 3, this material acting to firmly hold the plates from slipping, as will be readily understood. It will be seen that this structure results in the formation of a number of arches disposed transversely of the beams, while the thickened portions are so disposed as to secure a structure of maximum strength.

In Fig. 4 of the drawings is shown a construction in which a rib 16 is formed longitudinally of the plate upon the convex face

of the major portion, these ribs acting to strengthen the structure and to hold the plates against lateral displacement while the plastic material is setting.

It will be seen that with the above-described construction there is provided a plate which may be disposed upon the upper faces of the beams instead of upon the lower flanges thereof and which requires no exterior fastening means. Furthermore, the several plates do not require to be fastened to each other, while a number of parts incident to the usual structure are omitted and the labor of placing them is saved.

The structure of the present invention permits the employment of cast-iron, which is a comparatively-cheap material and is much less subject to corrosion than steel, while the shapes of the plates are such as to give a maximum strength with a minimum weight. Moreover, on account of the plates not being clamped to the beams the structure is free to expand and contract somewhat independently of the expansion and contraction of the bridge proper upon which the structure may be used, and less concrete is required than usual to prepare the floor for any paving that may be desired.

What is claimed is—

1. A floor-plate having a downturned edge and having an upturned edge terminating short of the height of the body of the plate to form a groove to receive the downturned edge of a similar plate, and lugs upon the lower face of the plate adjacent the upturned edge.

2. A compoundly-curved floor-plate having a lug upon a convexed portion.

3. A floor-plate compoundly curved transversely, and having lugs upon a convex portion thereof.

4. A compoundly-curved floor-plate comprising a major curve and a minor curve, and lugs upon the minor portion.

5. A compoundly-curved floor-plate comprising a major curve and a minor curve, and lugs upon the convex face of the minor-curved portion.

6. A compoundly-curved floor-plate having upwardly and downwardly projecting thickened edges, the upwardly-projecting edge thereof being adapted to receive the downwardly-projecting edge of a similar plate, and lugs upon the plate adjacent the upturned edge.

7. A compoundly-curved floor-plate having lugs upon its convex portions.

8. The combination with supports, of a plurality of compoundly-curved plates, each disposed upon the supports with an edge within a curvature of an adjacent plate, and lugs upon the plates lying against the supports to hold the plates from movement in a direction at an angle to the curvature thereof.

9. The combination with supports, of a plurality of compoundly-curved floor-plates disposed upon the supports, the adjacent edges of the plates being interlocked, lugs upon the plates engaging the supports, and a filling disposed upon the plates.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ADAM L. WYMER.

Witnesses:
J. W. SMITH,
A. ANDERSON.