

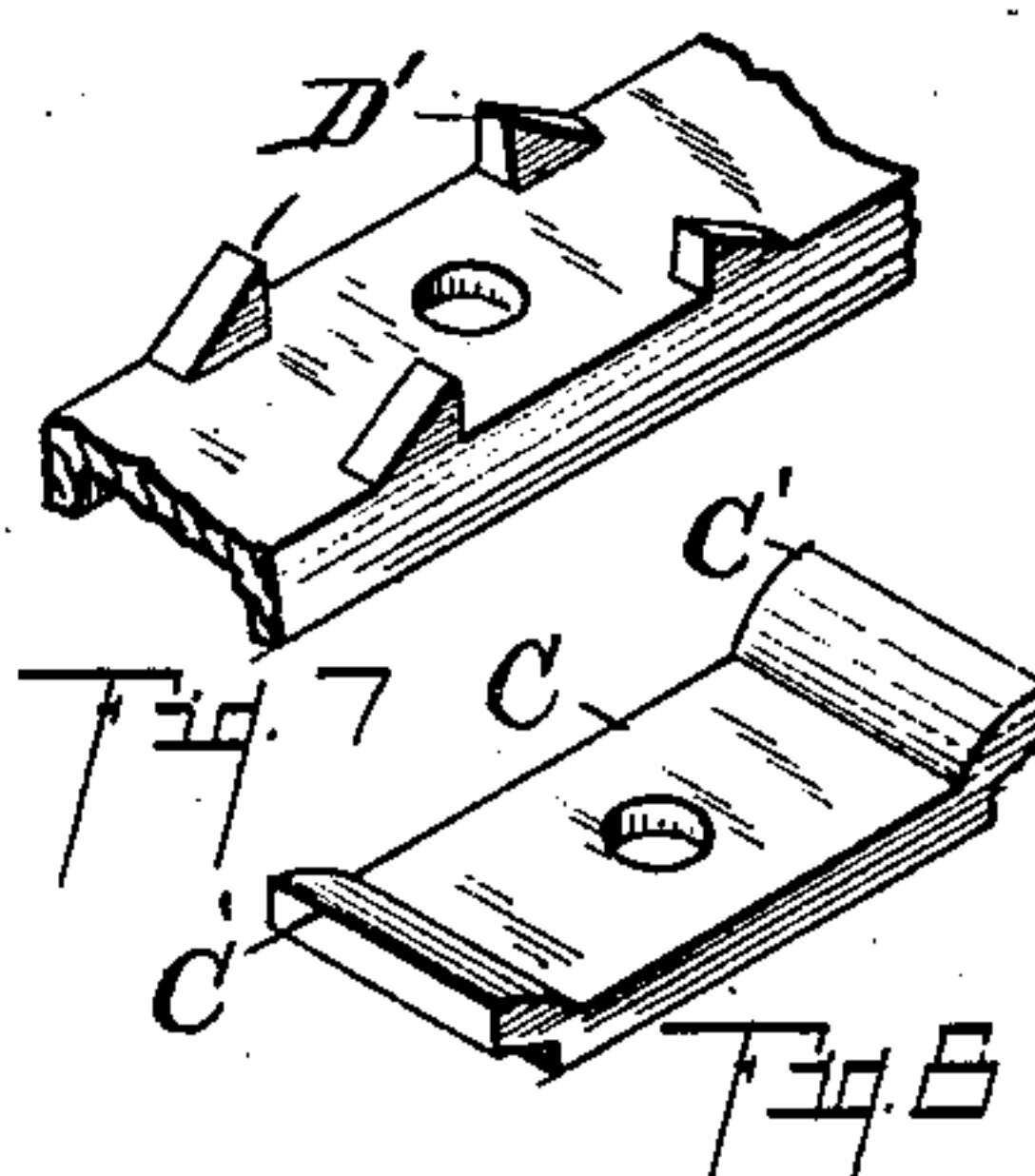
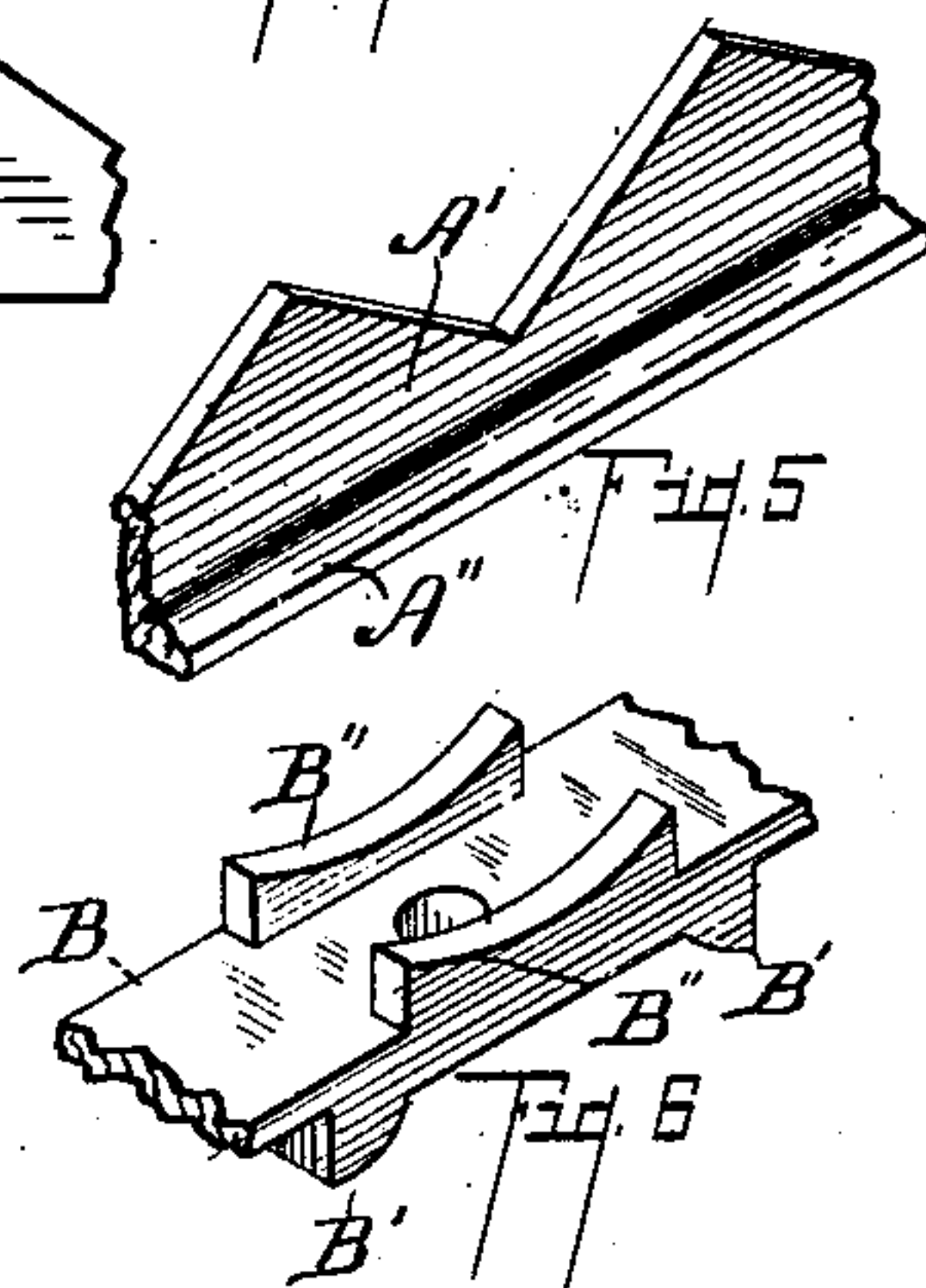
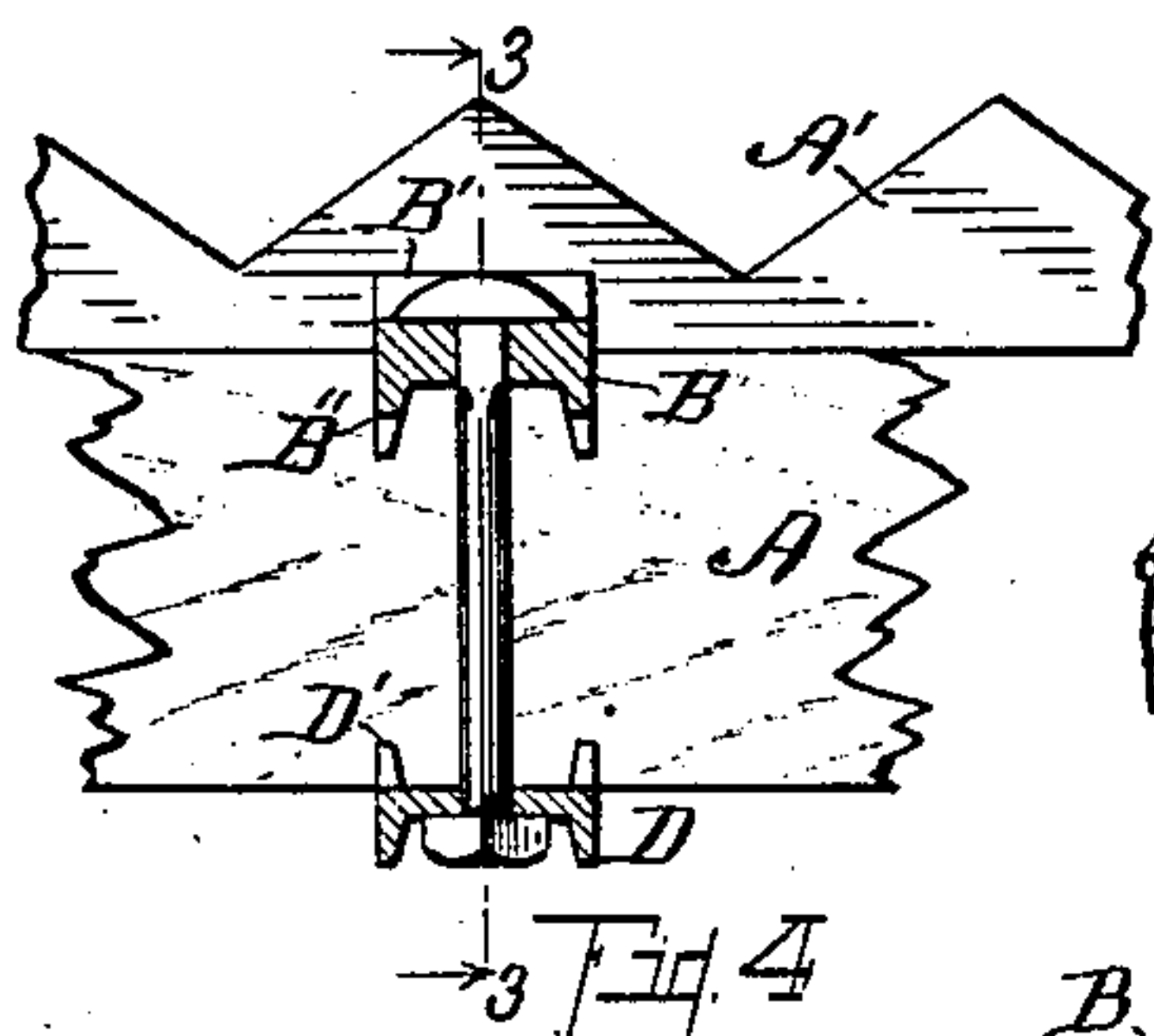
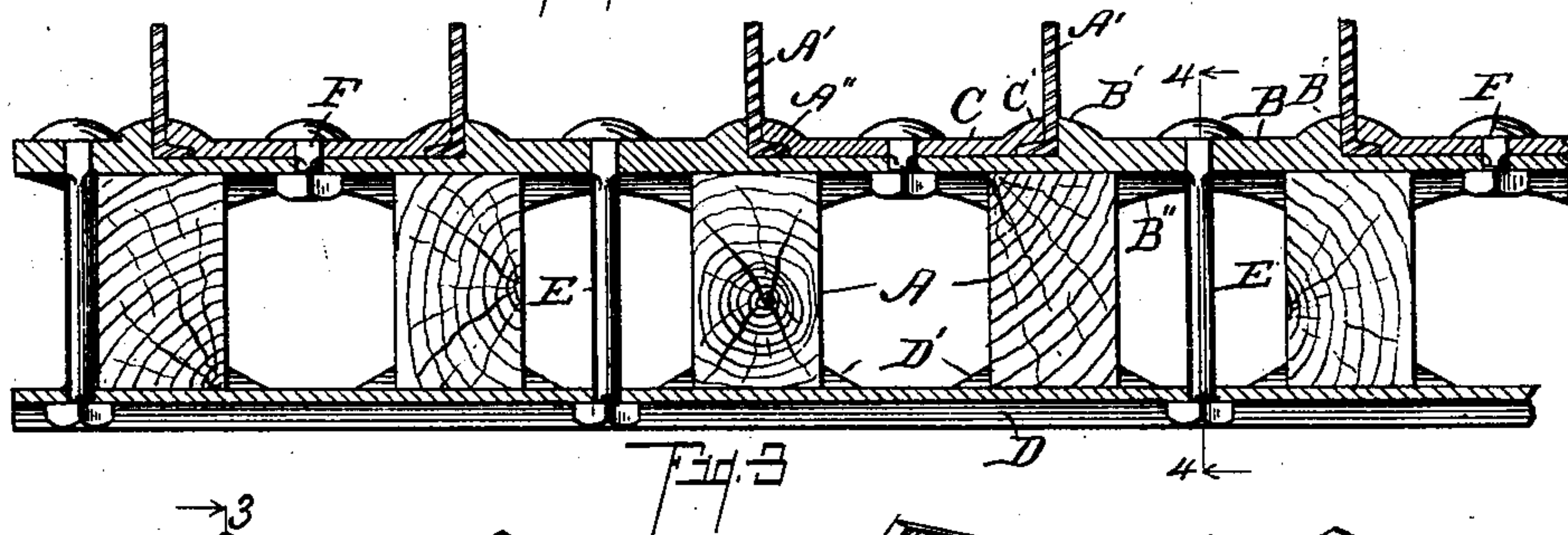
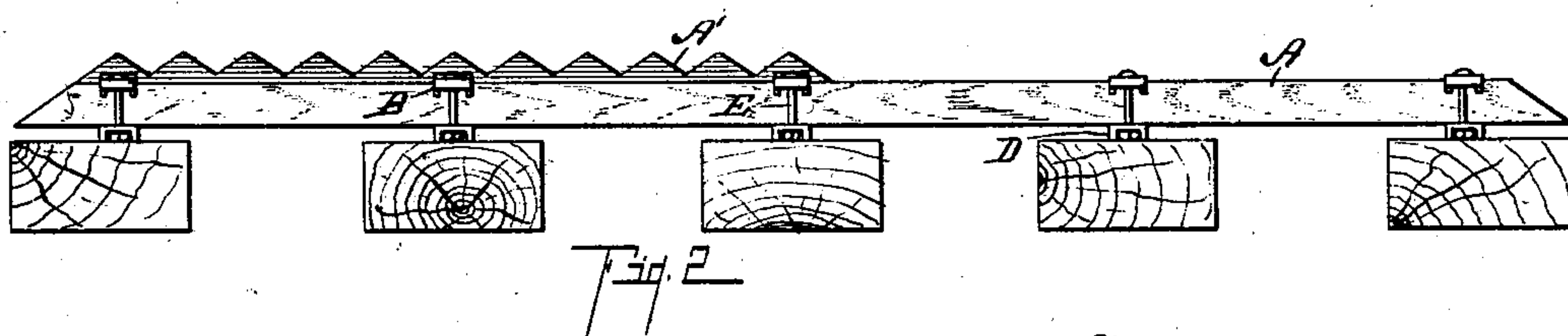
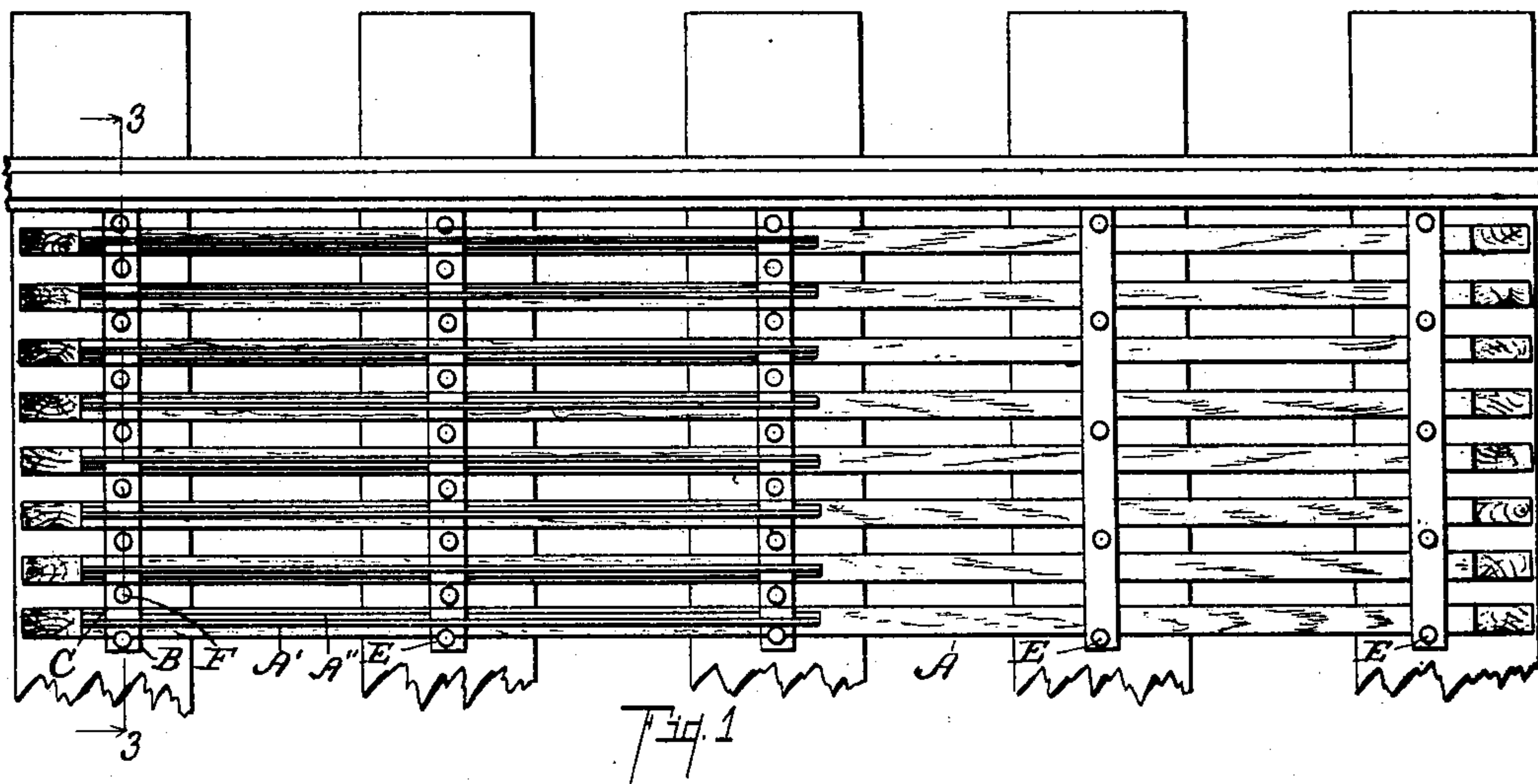
No. 673,112.

Patented Apr. 30, 1901.

E. COOK.  
RAILWAY CATTLE GUARD.

(Application filed Mar. 26, 1900.)

(No Model.)



Witnesses:

S. A. East.  
Otis A. Earl

Inventor,

Engene Cook  
By Fred L. Chappell  
Att'y.



# UNITED STATES PATENT OFFICE.

EUGENE COOK, OF KALAMAZOO, MICHIGAN.

## RAILWAY STOCK-GUARD.

SPECIFICATION forming part of Letters Patent No. 673,112, dated April 30, 1901.

Application filed March 26, 1900. Serial No. 10,301. (No model.)

*To all whom it may concern:*

Be it known that I, EUGENE COOK, a citizen of the United States, residing at the city of Kalamazoo, in the county of Kalamazoo and State of Michigan, have invented a Railway Stock-Guard, of which the following is a specification.

This invention relates to improvements in surface cattle-guards or stock-guards for railway ways.

The object of the invention is, first, to provide a construction of cattle-guard which shall be effective in turning cattle and which shall at the same time be economical of material and cheap and easy to manufacture.

A specific object is to provide a construction of cattle-guard combining wood and metal to the best advantage for economy, strength, durability, and efficiency.

A minor object is to provide an effective means of connecting metallic rails to wooden bases or supports in cattle-guard construction.

Further objects will definitely appear in the detailed description to follow.

I accomplish the objects of my invention by devices and means described in this specification.

The invention is clearly defined and pointed out in the claims.

A structure embodying the features of my invention is illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a plan view of a section of cattle-guard in position on a railway embodying the features of my invention. Fig. 2 is a side elevation of the structure appearing in Fig. 1. Fig. 3 is an enlarged detail transverse sectional elevation taken on a line corresponding to line 33 of Figs. 1 and 4. Fig. 4 is an enlarged detail view, partially in section, on line 44 of Fig. 3. Fig. 5 is a detail perspective view of a portion of the guard-rail. Fig. 6 is a detail inverted perspective view of a portion of the bar B, showing projections or lugs B'' to engage the wooden rails A A and projections on the opposite side for engaging and retaining the metal rails. Fig. 7 is a detail perspective view of the lugs of a portion of the bar D, showing the lugs D', which engage the side of the wooden rails A. Fig. 8 is a detail per-

spective view of one of the clip-plates C for retaining the metal rails in position.

In the drawings all of the sectional views are taken looking in the direction of the little arrows at the end of the section-lines, and similar letters of reference refer to similar parts throughout the several views.

Referring to the lettered parts of the drawings, A A are suitable longitudinal bars of wood. These are joined together by the cross-pieces of metal B D.

D is the under cross-bar. On its upper side lugs D' project upwardly at intervals to engage the longitudinal bars of wood A. The upper cross-bar B is provided with similar downwardly-projecting portions B'', which engage the top of the wooden bars and hold them securely in position. These bars B D are strengthened by being of what is known as "channel" form.

The bars A A have suitable gains cut in the upper surface to allow the bar B to settle into the same, so that the upper surface is flush with the tops of the bars A. The upper sides of the bars B are provided with upwardly-projecting lugs B', which have right-angled shoulders, those adjacent being opposed to each other and located directly above the longitudinal bars A. Clip-plates C fit between the shoulders and project upwardly at each end at C' to form a recess. The metal rails of the guard A' have a flange A'' turned at right angles at the bottom to strengthen the same and also afford convenient means of attachment. This angled portion A'' at the bottom is embraced by the projecting portion C', which is clamped in place by a suitable screw-bolt, with a nut at the center. The guard-rails A' are preferably formed by dividing the web portion of channel-steel by a zigzag line to form the angular projections, this being the most economical way in which to produce this form of metal guard-rail. The bar B and the bar D are connected by bolts E, which serve to clamp the longitudinal bars A into a grating. These bars B D extend transversely of the longitudinal bars A at intervals, preferably over each tie, and serve as an attaching means for attaching the stock-guards to the ties of the railway-track and retain the parts securely in position. The metal rails A' extend over about one-half the length of the



wooden rails A and are provided on their upper surfaces with alternating angular projections like those appearing in my Patent No. 520,179, issued on the 22d day of May, 1894,

5 which will need no further description.

Cattle approaching this guard and attempting to pass onto the grounds of the railway company will first encounter the irregular metal rails and will find an uncomfortable  
10 footing, and as the parts beyond have the same appearance they will become frightened and withdraw. Of course the metal rails could be extended the entire length of the guard; but practically it is found to be not  
15 really necessary. These guard-rails act by producing an uneven surface, which causes an uncomfortable footing without sharp angular projections, which prick and injure the flesh.

20 I desire to state that my improved cattle-guard can be considerably varied in its details without departing from my invention. The projections I have shown on the cross-pieces for retaining the wooden rails are not  
25 absolutely essential, though they serve a very useful purpose in strengthening the parts. The cross-rail B might be used for supporting wider metal guard-rails and rest directly upon the ties; but as it is admirably adapted  
30 for use with wooden rails I illustrate it and claim it in that connection also.

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

35 1. In a railway cattle-guard, the combination of longitudinal bars A of wood, cross-bars B, D, clamping said wooden rails together the said bars being formed with suitable projection to engage and retain the  
40 wooden rails in position and the upper bar B being set in suitable gains in the wooden bars; metal bars A' having horizontal flanges A'' at their bottom resting on cross-bars B and against shoulders B' thereon; and clip-plates  
45 C conformed to engage the flanges A'' and re-

tain the metal guard-rails in position, all co-acting for the purpose specified.

2. In a railway cattle-guard, the combination of longitudinal bars A of wood, cross-bars B, D, clamping said wooden rails to-  
50 gether, the upper bar B being set in suitable gains in the wooden bars; metal bars A' having horizontal flanges A'' at their bottom resting on cross-bars B and against shoulders B' thereon; and clip-plates C conformed to en-  
55 gage the flanges A'' and retain the metal guard-rails in position, all coacting for the purpose specified.

3. In a railway cattle-guard, the combination of longitudinal bars A of wood, cross-  
60 bars B, D, clamping said wooden rails together; metal bars A' having horizontal flanges A'' at their bottom resting on cross-bars B and against shoulders B' thereon; and clip-plates C conformed to engage the flanges A'' and re-  
65 tain the metal guard-rails in position, all co-acting for the purpose specified.

4. In a railway cattle-guard, the combination of longitudinal bars of wood; cross-bars  
70 of metal retaining said wooden bars in position, one of which cross-bars is to the upper side of said wooden bars; and metallic rails with horizontal flanges on their under side; and suitable means of clamping them onto  
75 the upper side of the wooden rails below, for the purpose specified.

5. In a railway cattle-guard, the combination of a transverse bar having oppositely-  
80 facing vertical shoulders; guard-rails having right-angled flanges on their under side; and a clip-piece to embrace the flange and clamp the guard-rails against the vertical shoulders, for the purpose specified.

In witness whereof I have hereunto set my hand and seal in the presence of two witnesses. 85

EUGENE COOK. [L. s.]

Witnesses:

S. A. EARL,

OTIS A. EARL.