

No. 861,804.

PATENTED JULY 30, 1907.

C. E. BURGESS.
RAIL FASTENING TIE.
APPLICATION FILED NOV. 14, 1906.

FIG. 1

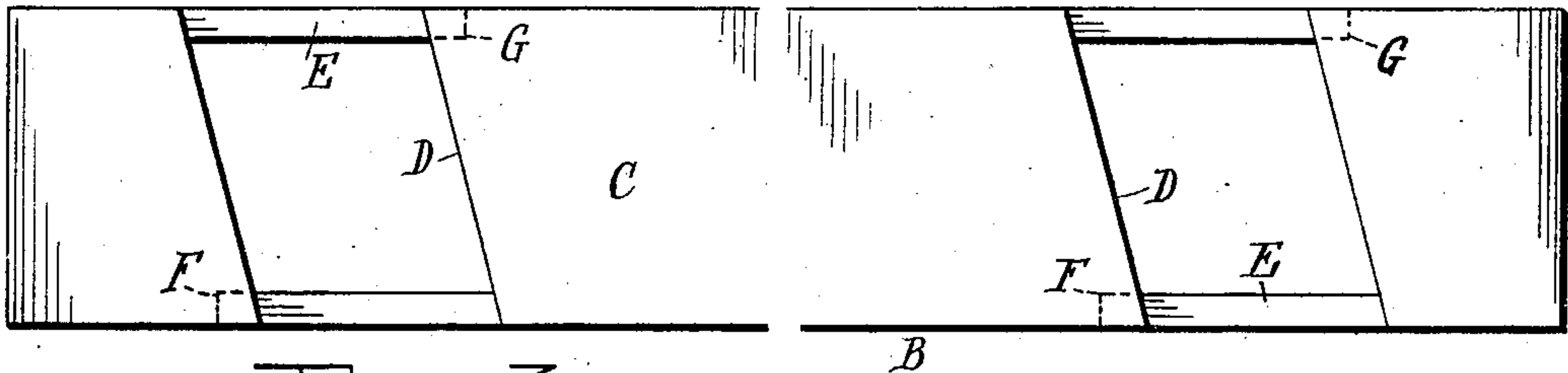


FIG. 3

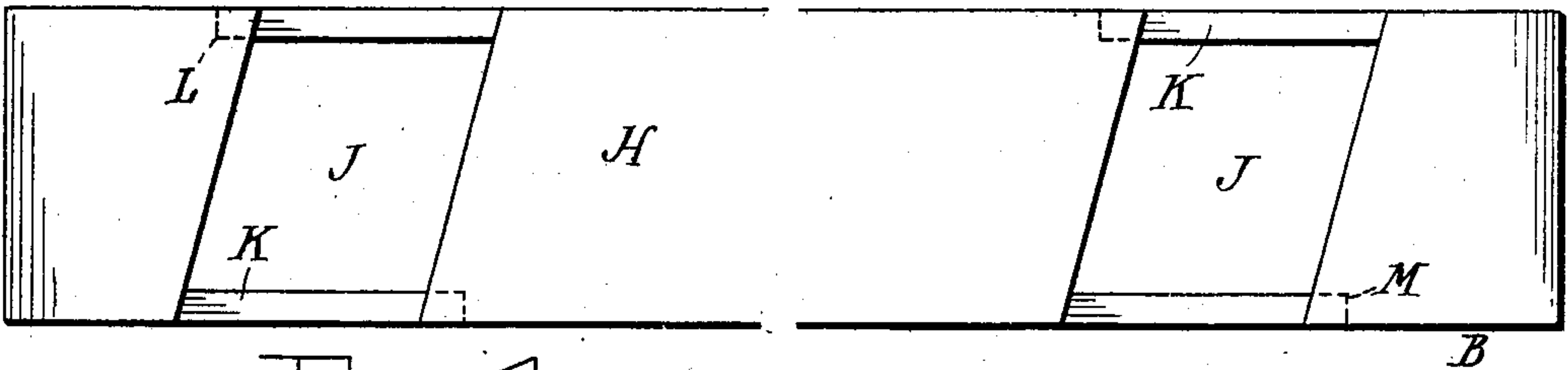


FIG. 4

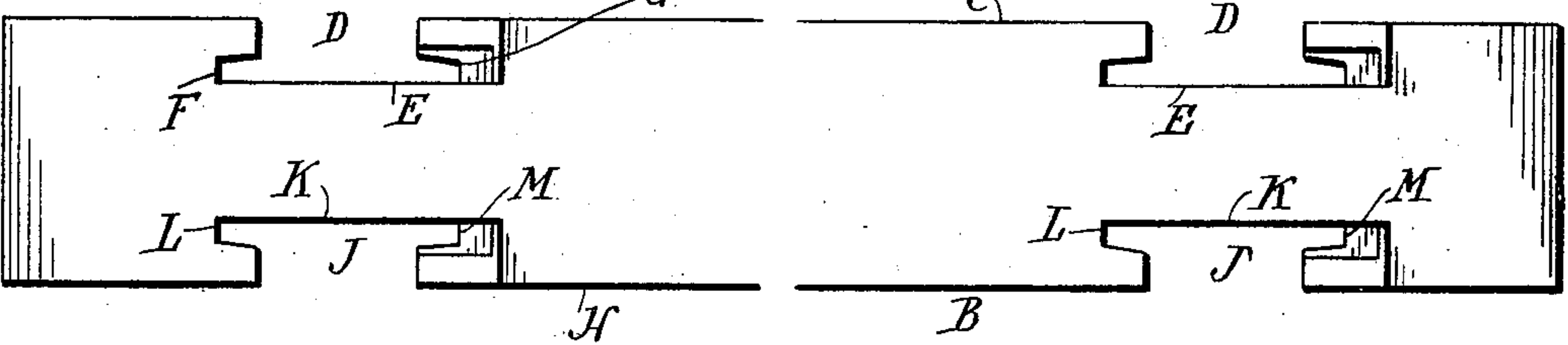


FIG. 2

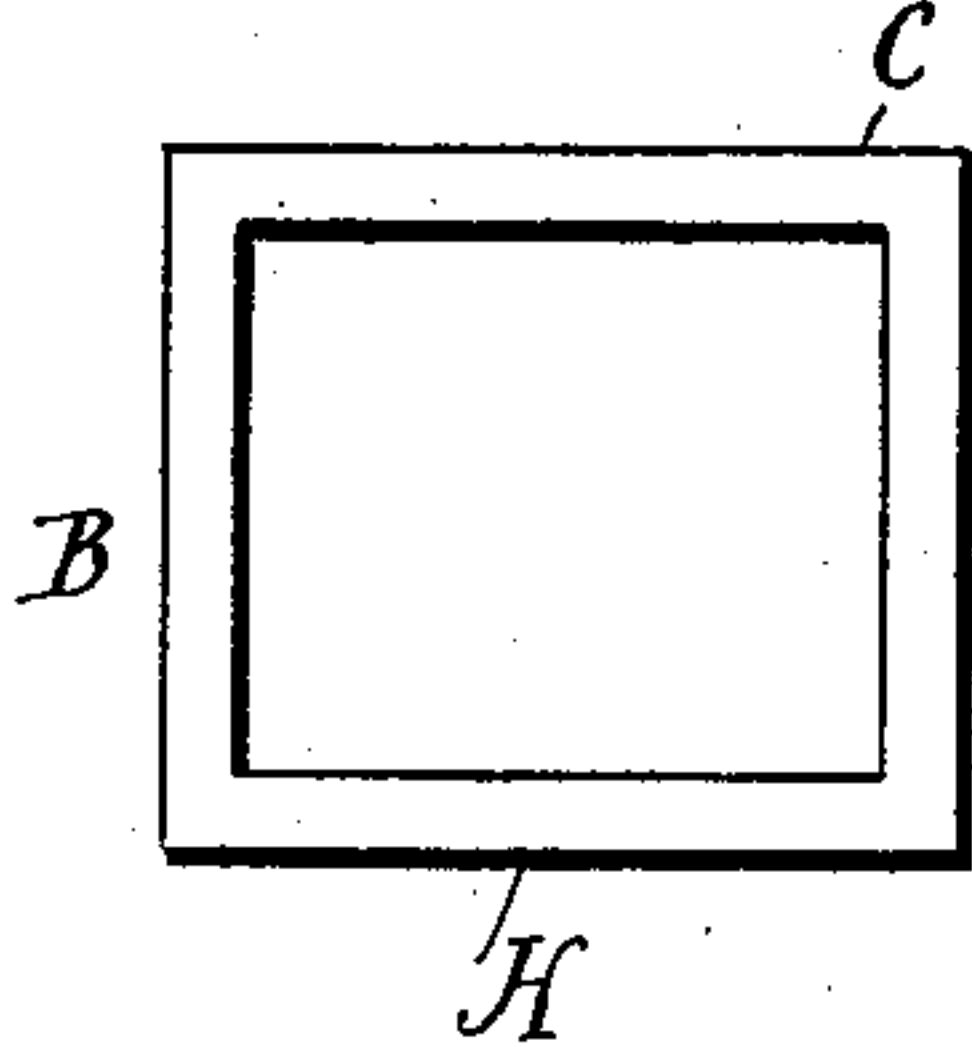
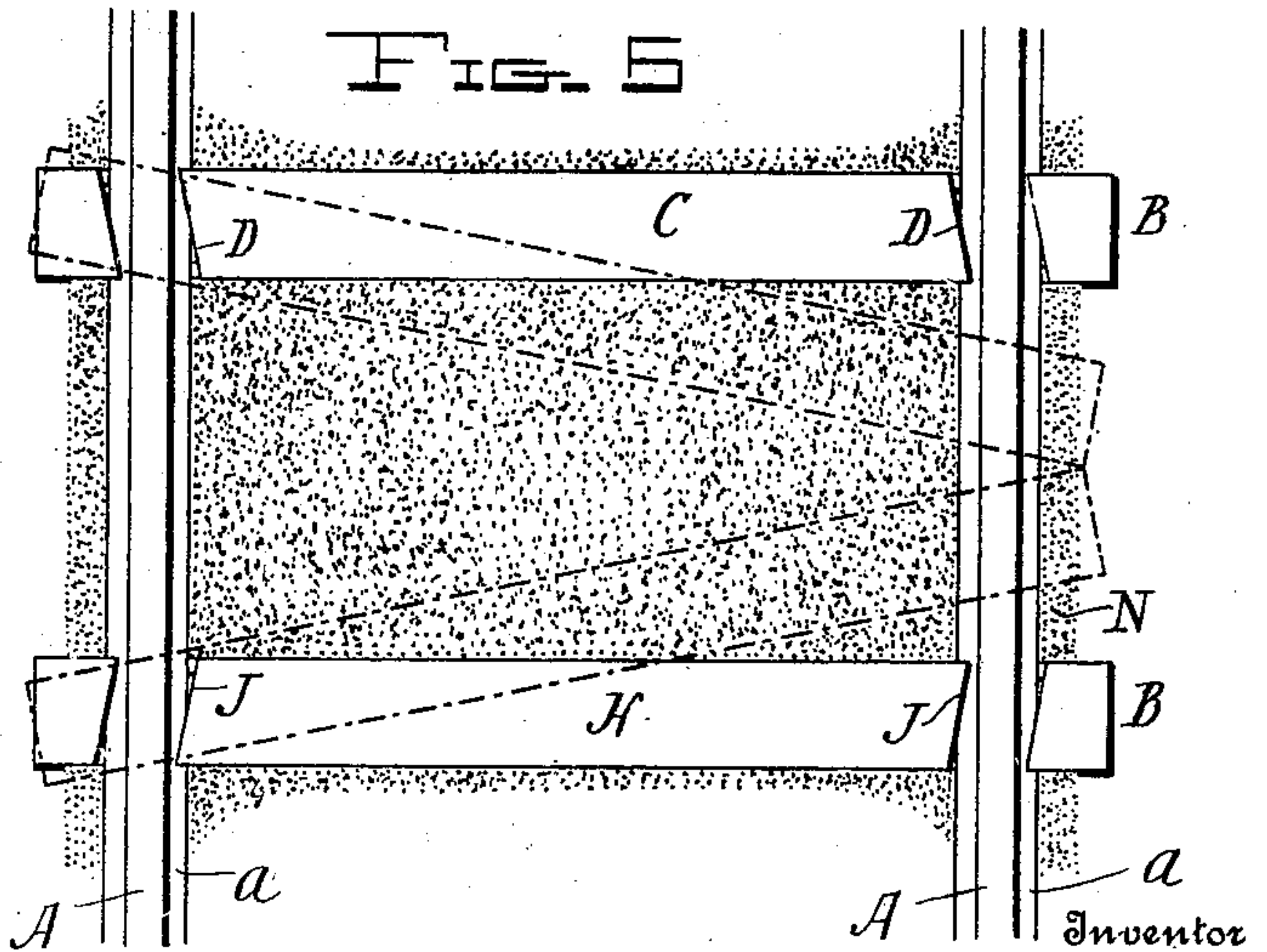


FIG. 5



Witnesses

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UNITED STATES PATENT OFFICE.

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RAIL-FASTENING TIE.

No. 861,804.

Specification of Letters Patent.

Patented July 30, 1907.

Application filed November 14, 1906. Serial No. 343,402.

To all whom it may concern:

Be it known that I, CARL E. BURGESS, a citizen of the United States, residing at Bluffton, in the county of Wells and State of Indiana, have invented certain new and useful Improvements in Rail-Fastening Ties, of which the following is a specification.

My invention relates to rail-fastening ties, and the object of my invention is the production of a railway tie having special construction and adapted for particular arrangement with respect to the rails, whereby the rails are adequately engaged and secured in parallel position and alinement without other fastening means than that provided by the construction and arrangement of the ties themselves, there being no detached or attached working parts, spikes, bolts or clamps or other like auxiliaries employed.

I accomplish the stated object by fashioning the ties and arranging them as illustrated in the accompanying drawings, of which

Figure 1 represents a top plan view of my invention. Fig. 2 is an end view. Fig. 3 is a view of the tie shown in Fig. 1 inverted so as to present its bottom side. Fig. 4 is a side view. Fig. 5 is a plan view of a piece of railway track laid with my invention, and shows the manner in which the ties are first placed and then arranged with respect to the rails and in order to secure the rails as above set forth.

Like letters refer to like parts throughout the specification and drawings.

The letter A designates an ordinary railroad rail having the usual base or flange *a*.

The body of the tie constituting my invention as shown in Fig. 4 is marked B. It is usually made in the form of a hollow tube of rectangular cross-section. The rectangular hollow form is shown in Fig. 2.

For purposes of description, I will term that surface of the tie shown in Fig. 1, the top, and designate it by the letter C. In the top C near the ends of the tie are formed the recesses or seats D for the flanges of the rails. The seats D are as shown inclined with respect to the sides of the tie. The seats D are in size, position with regard to the end of the rail, and in every other attribute duplicates. If the rail is turned end for end keeping the surface C uppermost it will be noted that the seats have the same slant and in the same direction as before. In other words, so long as surface C is the top, it does not make any difference which end of the tie lies at either side of the track. The rails are supported upon the edges E of the vertical sides of the body B, and in Fig. 4 it will be seen that there are two small recesses F and G formed at the sides of each of the seats D. That is to say, immediately under the top C in the nearer vertical side of the body the recesses F are formed, and the recesses G are made in the opposite vertical side of the body of the tie, the recesses G being situated upon opposite sides of the seats from recesses F.

Considering now Fig. 3, which represents the tie shown in Fig. 1 inverted, that is to say, with its bottom uppermost. For purposes of explanation I will mark the bottom with the reference letter H. It will be observed that there are two rail seats J formed in the bottom, and that they are in all respects like the seats D in the top, with the exception that when the bottom H of the tie is uppermost as in Fig. 3, the seats J slant differently with respect to the vertical sides of the tie body B, than do the seats D when top C is uppermost. As a matter of fact the seats D and J are in all particulars equal and parallel, and the change of direction described is due to the inversion. In the seats J the edges K of the vertical sides of body B support the rails, and recesses L and M are formed immediately beneath the bottom H, as shown in Fig. 4. In all the recesses F, G, L, M, mentioned the edges of the vertical sides of the body B upon which the rails rest are continued directly into or coincide with the bottoms of those recesses.

The operation of my invention may be understood by considering Fig. 5. The first tie at the lower part of the figure is the one illustrated in Fig. 1. To locate the tie in engagement with the flange *a* of rail A, it is first necessary to slant the tie as indicated by the broken lines. The rail may then be seated in the seats D. The next succeeding tie is a duplicate of the first, but is in the inverted position illustrated in Fig. 3. To admit the rails the tie is first given the slant indicated by the broken lines. That is to say, the ties when placed to receive the rails would, if projected meet on one side of the track. When the ties have received the rails, each tie is moved into a position perpendicular to the rails A, and, the recesses F, G, L and M, engage the edges of the flanges *a* of the rails. To bring the ties into their final and perpendicular positions it is clearly necessary to move each oppositely to the movement given its predecessor. As the ties are brought strongly into engagement with the rails, the turning of one tie might throw the rails in one direction out of line, were it not for the fact that the next tie affects those rails equally and oppositely. After the ties are brought into engagement as described, the ballast or filling N keeps them in their positions.

Attention is called to the fact that any tie may be removed and replaced by taking away the ballast N and moving the tie in a direction contrary to that which caused it to engage the rails.

Having now described my invention, and explained the mode of its operation, what I claim is—

1. An invertible tie, comprising a body portion having seats in corresponding positions in its top and bottom near its ends adapted to receive the flanges of rails when arranged in a predetermined position with respect to the rails, the said seats being provided with devices adapted to engage the flanges of the rails when moved with reference to the rails.

2. An invertible tie, comprising a hollow body portion having parallel slanting seats in its top and bottom near the ends adapted to receive the flanges of rails when the tie is inclined to the rails, the said seats being provided
5 with recesses constructed and arranged to engage the flanges of the rails when the tie is moved into place perpendicular to the rails.
3. An invertible tie, comprising a body portion having parallel slanting seats in its top and bottom near the ends
10 adapted to receive the flanges of rails when the tie is inclined to the rails, the said seats being provided with recesses constructed and arranged to engage the flanges of the rails when the tie is moved into place perpendicular to the rails.
4. An invertible tie, comprising a hollow body portion having parallel slanting seats in its top and bottom near
15 the ends adapted to receive the flanges of rails when the tie is inclined to the rails, the said seats being provided

with recesses formed at diagonally opposite corners constructed and arranged to engage the flanges of the rails 20 when the tie is moved into place perpendicular to the rails.

5. An invertible tie, comprising a hollow body portion having parallel slanting seats in its top and bottom near the ends adapted to receive the flanges of rails when the tie is inclined to the rails, the said seats being provided
25 with recesses constructed and arranged to engage the flanges of the rails when the tie is moved into place perpendicular to the rails.

In testimony whereof I affix my signature in presence of 30 two witnesses.

CARL E. BURGESS.

Witnesses:

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HAMER MCKINNEY.