

No. 685,996.

Patented Nov. 5, 1901.

D. B. LITTLEFIELD.
DEVICE FOR ANCHORING RAILWAY TRACKS.

(Application filed Sept. 6, 1900.)

(No Model.)

2 Sheets—Sheet 1.

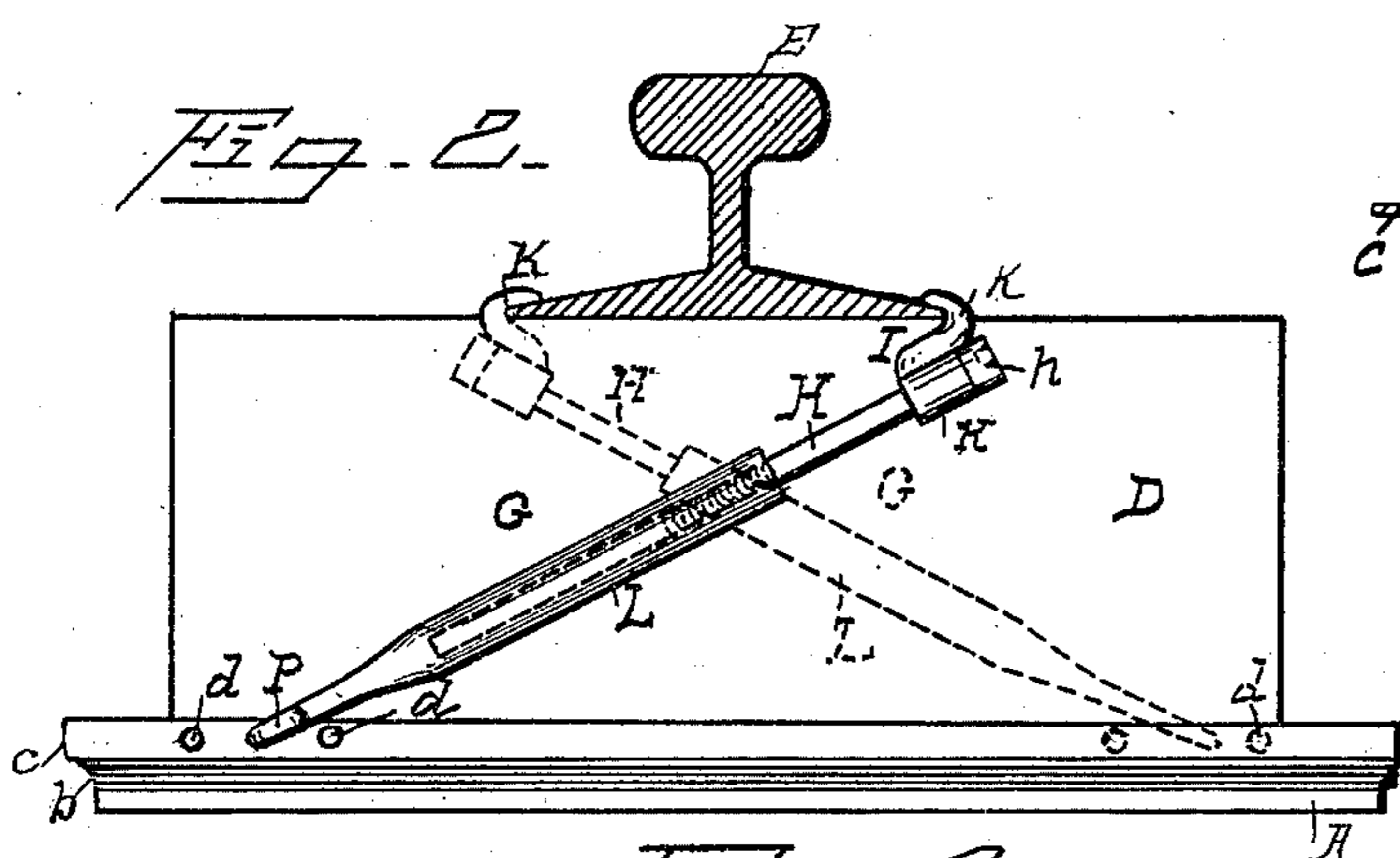
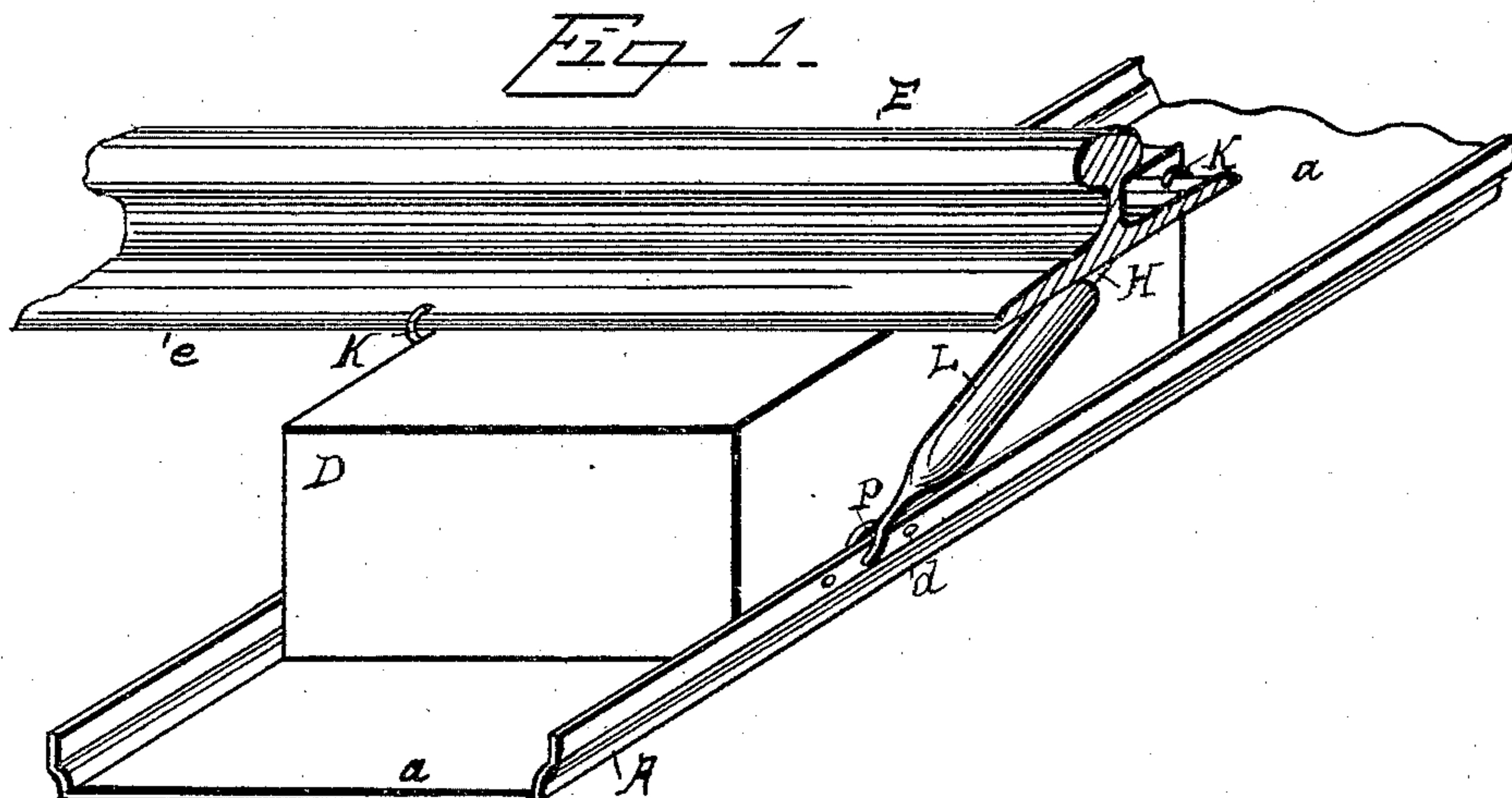
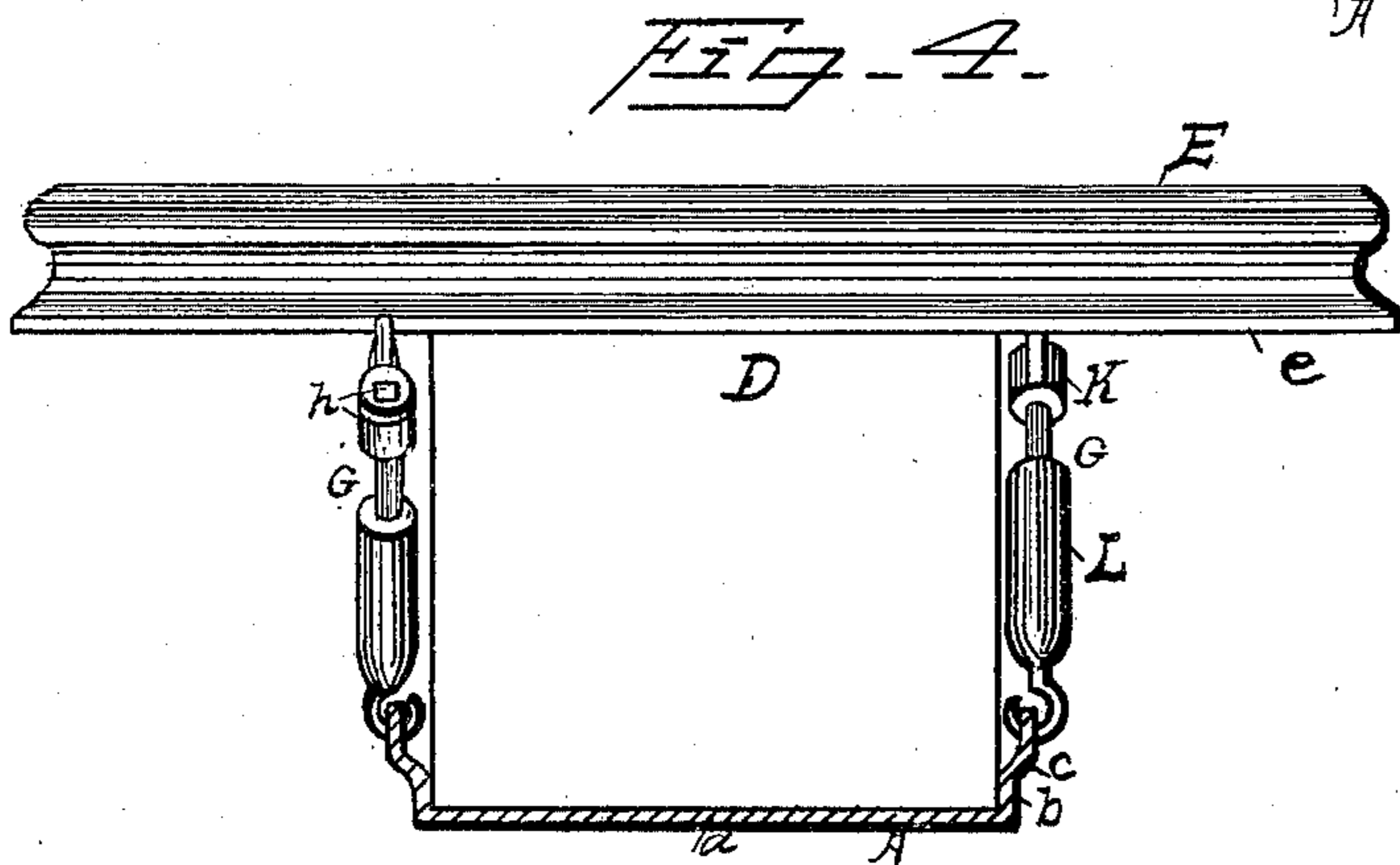


Fig. 7.



Fig. 8.



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Fig. 3.

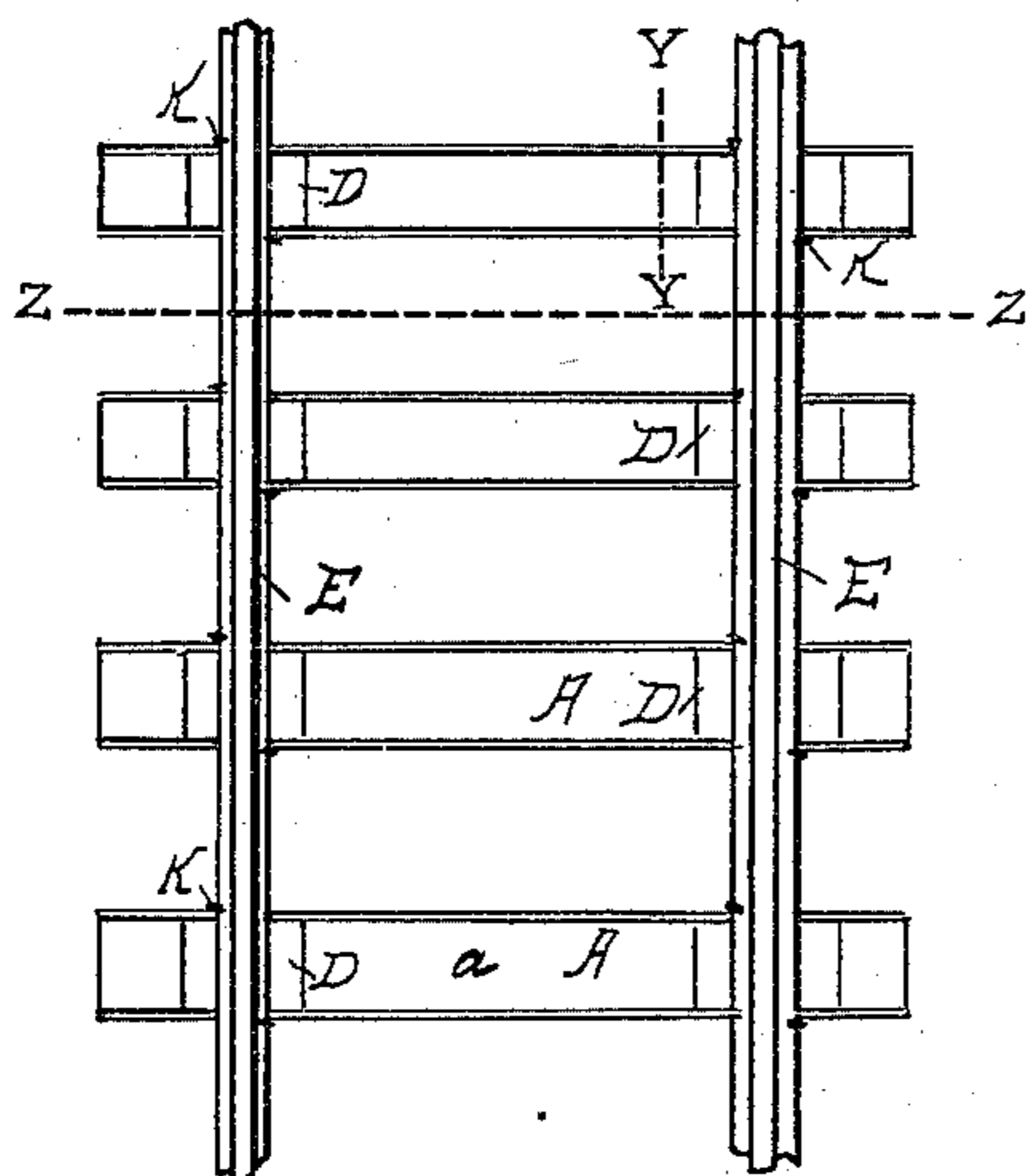


Fig. 6.

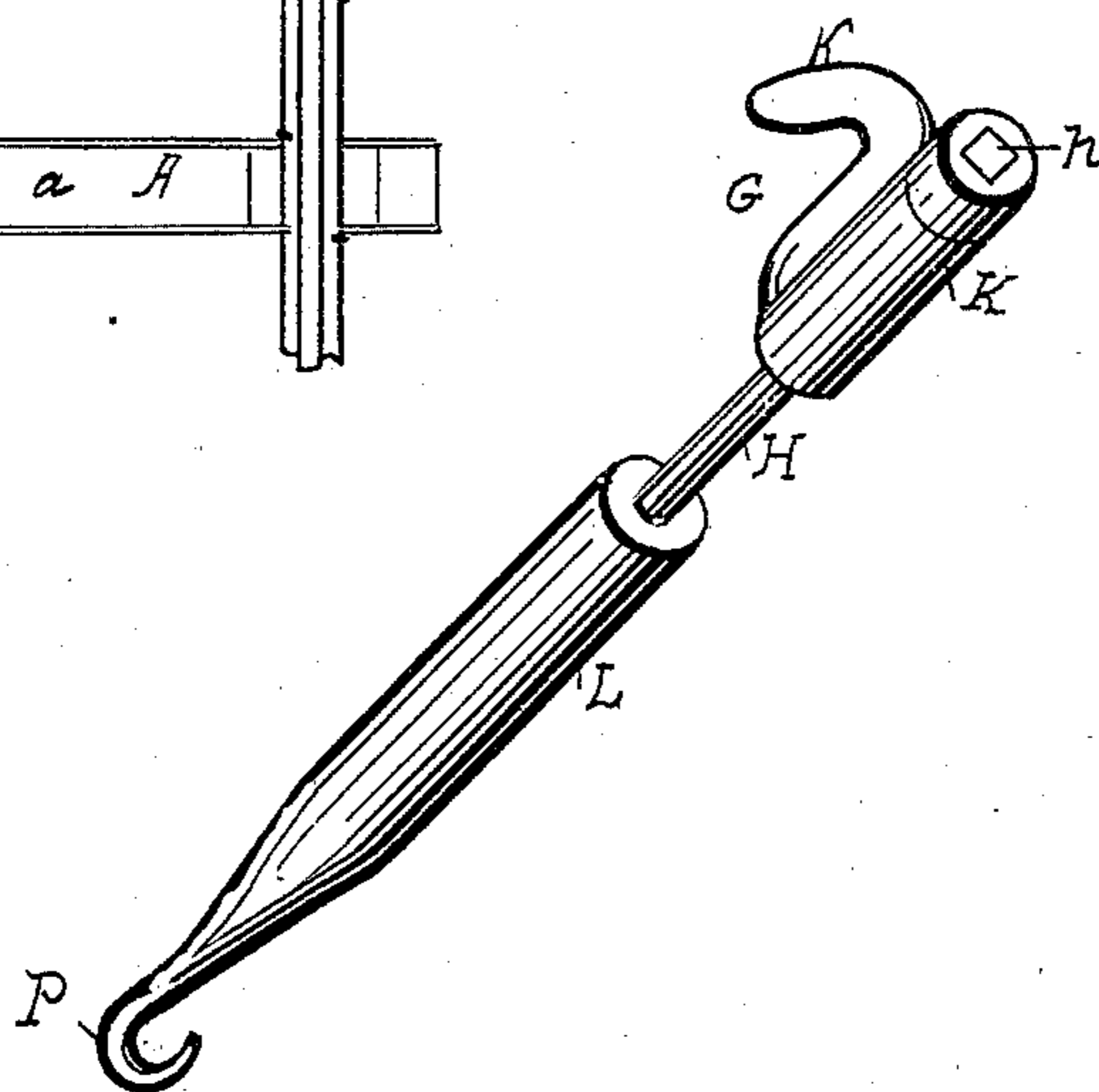
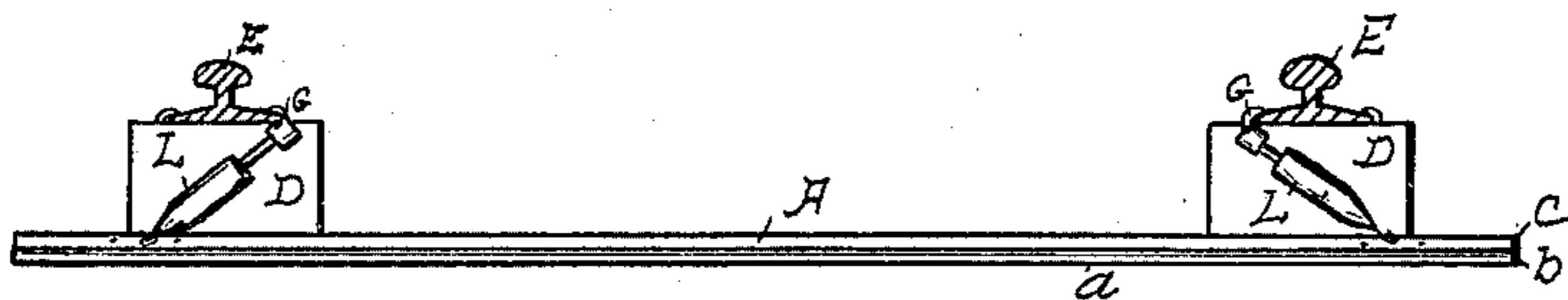


Fig. 5.



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DANIEL B. LITTLEFIELD, OF CHICAGO, ILLINOIS.

DEVICE FOR ANCHORING RAILWAY-TRACKS.

SPECIFICATION forming part of Letters Patent No. 685,996, dated November 5, 1901.

Application filed September 6, 1900. Serial No. 29,163. (No model.)

To all whom it may concern:

Be it known that I, DANIEL B. LITTLEFIELD, a citizen of the United States, residing at the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Devices for Anchoring Railway-Tracks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to devices for anchoring railway-tracks, and has for its object to provide a metallic tie for railroads and tramways which shall be not only inexpensive in construction and attachment, but shall combine the elasticity of a wooden tie with the strength and durability of a metal tie.

A further object is to provide means in connection with the rail to anchor the track firmly to the road-bed.

It consists in a general way in a channel-bar-shaped base, wooden blocks set in the channel-bar on which the rails rest, and means attached to the rail and tie for adjustably holding the parts firmly together.

It further consists in the peculiar means whereby the rails are adjustably secured on the wooden blocks by their connection with the channel-bar and the flanges of the rails.

The manner in which I accomplish my various objects and the detailed mode of its construction will be fully set out in the following specification when taken in connection with the drawings accompanying the same.

Figure 1 is a perspective of the tie with the rail and attachments. Fig. 2 is a side elevation of part of the tie and cross-section of the rail with one set of the hooks in elevation and the other set in dotted lines. Fig. 3 is a plan view of the track complete. Fig. 4 is a section through line Y Y of Fig. 3. Fig. 5 is a section through line Z Z of Fig. 3. Fig. 6 is a perspective of the securing-hook, and Figs. 7 and 8 are cross-sections of modified form of the tie.

Like letters of reference denote corresponding parts in each of the drawings.

Referring to the drawings, A designates the tie, which is made of steel and pressed or rolled into channel-bar shape and of about the usual length of the wooden tie now in

use. Its base *a* is flat and its sides *b* at right angles to the base *a*. The upper portions of the sides are bent or curved outwardly near the top at *c* and supplied with the holes *d*, the object of which will presently appear.

In Figs. 7 and 8 are shown modified forms of constructing the sides of the tie. In Fig. 7 the upper portions of the sides are turned out at right angles, and in Fig. 8 they are curved outwardly near the top; but both are supplied with the same holes *d*. It is manifest that instead of the holes *d* there might be lugs formed on the sides of the tie with which the hooks, hereinafter to be described, may engage, and in such case the sides of the tie would remain perpendicular all the way. The tie thus formed is placed on the ground crosswise of the road-bed and anchored down in any well-known manner by ballast, preferably covering the entire tie and partly covering the wooden blocks on the tie.

Within the tie A upon the base *a* are set wooden blocks D, upon which the car-rails E are fastened. The blocks D extend a short distance along in the tie near both ends and serve to give elasticity to the bed of the rail. The rail to be used is the ordinary T-rail; but any rail may be used which is provided with the flange *e* on each side of its base.

For the purpose of adjustably holding the rail E firmly on the blocks D and also the blocks within the channel-bar there is provided a hook G. (Shown in Figs. 2 and 6.) This hook G is composed of a clutch I, formed of a short tube or ring K and a hook *k*. Through the ring K is inserted a rod H, having a head *h* at one end and screw-threaded at the other end. The opposite end of the hook G is formed of a tube L, screw-threaded in one end and the other end terminating in a hook P. The rod H is inserted in the ring K till the head *h* rests upon the top of the ring K, and then the other end of the rod H is screwed into the tube L.

The manner of securing the rail on the blocks and the blocks in the tie is substantially as follows: The blocks are placed in the channel of the tie, near each end, and the hook G, with its various parts assembled as above described, is brought into engagement with the tie by engaging the hook P with one of the holes *d* and the hook *k* with the

flange *e* on the opposite side of the rail *E*. Then another hook *G* is similarly attached on the opposite side of the block and tie and upon the opposite flange of the rail, as shown in Fig. 2. The other rail composing the track is set in a similar manner. The four hooks *G* are then partially tightened by a wrench applied to the head *h* of each of the hooks *G*, which screws the rod *H* into the tube *L*.

10 In order to accurately adjust the rails at the proper distance apart, one of the hooks *G* on the side of the rail in the direction it is desired to move the rail is drawn up till the rails are the desired distance apart. Then all of the hooks *G* are rigidly tightened, forcing the blocks into the channel-bar of the tie and the rails firmly on the blocks. It will be observed that as the holes *d*, with which the hooks *G* engage the tie, are situated at some distance outside of a perpendicular drawn from the outside of the edge of the flange of the rail the draft of the hooks *G* on one side of the tie will be downward and lateral in one direction, and the hook on the opposite side of the tie will also be downward and lateral, but in the opposite direction, and both will draw past each other. In this manner of fastening and adjusting the rail there can be no possibility of movement of the rail after it has been once adjusted and the hooks *G* have been rigidly drawn up. It will be further seen that there is no piercing of the blocks of wood by spikes or otherwise, and hence they will last a long time, and if they become decayed or otherwise injured they can be replaced at a trifling cost and without the trouble and expense of taking up the whole tie. By this mode of construction there is obtained all the elasticity of the wooden tie and the durability and rigidity of the metal tie.

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

1. In a device of the character described, a metallic tie of channel-bar shape, wooden blocks set within the tie, a rail set upon each

block, hooks adapted to directly grasp the flange of the rail and connected to the flange of the tie upon the opposite sides of the tie, block, and rail, and means for adjustably drawing the hooks past each other in opposite diagonal directions upon the opposite sides of the block, as and for the purpose shown. 50

2. In a device of the character described, a metallic tie of channel-bar shape, a wooden block fitted in between the flanges of the tie, a rail upon each block, hooks adapted to directly grasp the rail and flange of the tie upon the opposite sides of the tie, block and the rail, and a screw for each hook to adjust its length and to force the rail in opposite and downward directions upon the opposite sides of the tie, substantially as and for the purpose shown. 55 60

3. A U-shaped tie, wooden blocks set within the tie, a rail upon each block, and means for adjustably securing the rails upon the blocks, consisting of telescoping adjustable members having hooks at each end, one of which hooks grasps directly the flange of the rail, the other hook grasping the flange of the tie, and means intermediate of the ends of the telescoping members for drawing and locking the structure together, substantially as shown. 65 70

4. A device of the character described, consisting of a metallic tie, having a base *a* and sides *b*, and provided with engagements *d*, blocks of wood set within the tie, rails upon the blocks, hooks *G* adapted to engage the base of the rails and the sides of the tie on their opposite sides and to draw them toward each other in an opposite diagonal direction, and means connected with the hooks, for adjusting the length of the hooks, to anchor the rail on the block and the block in the tie, all combined as and for the purposes shown. 75 80 85

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

DANIEL B. LITTLEFIELD.

Witnesses:

M. M. CADY,

C. H. REYNOLDS.