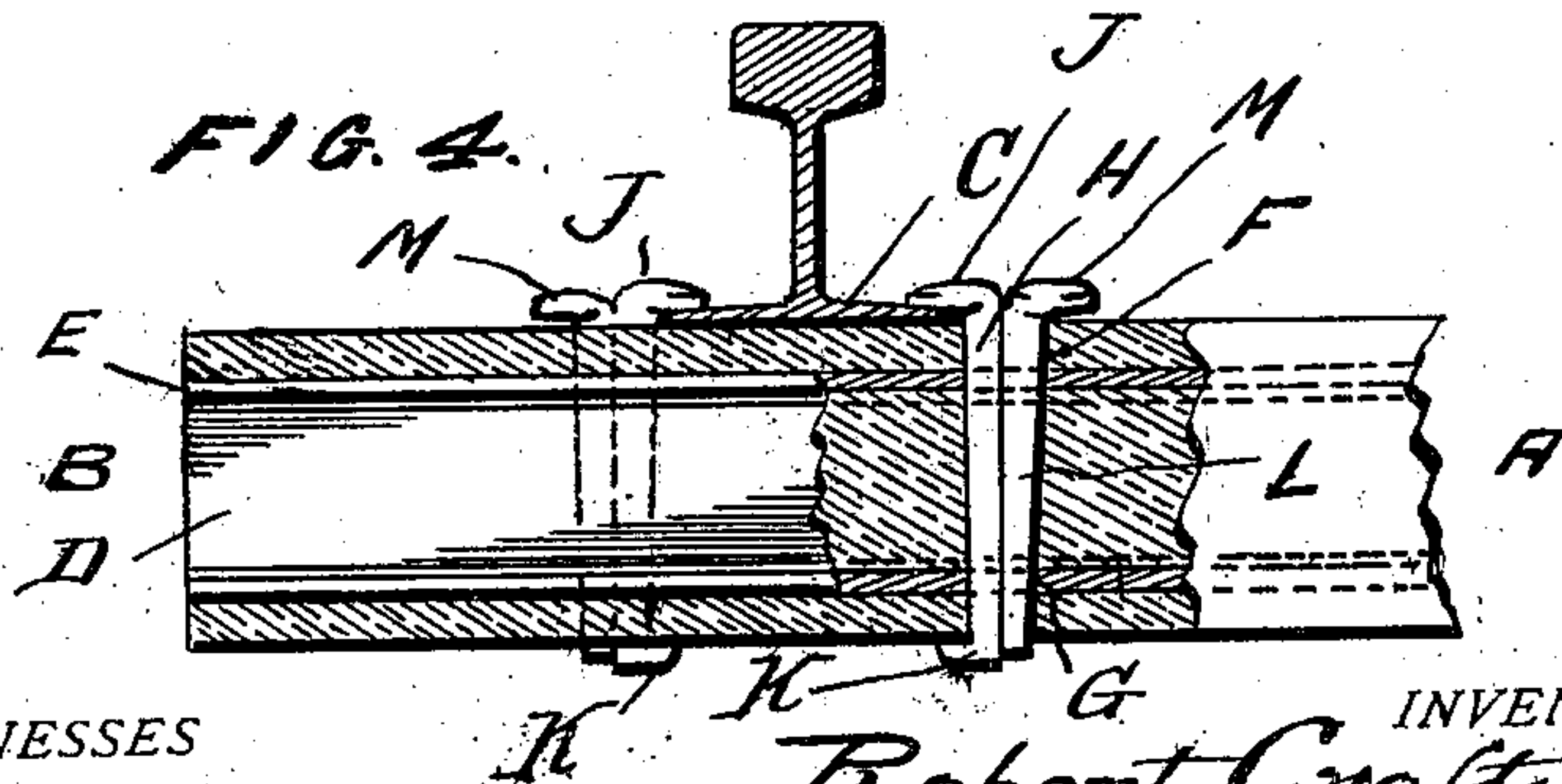
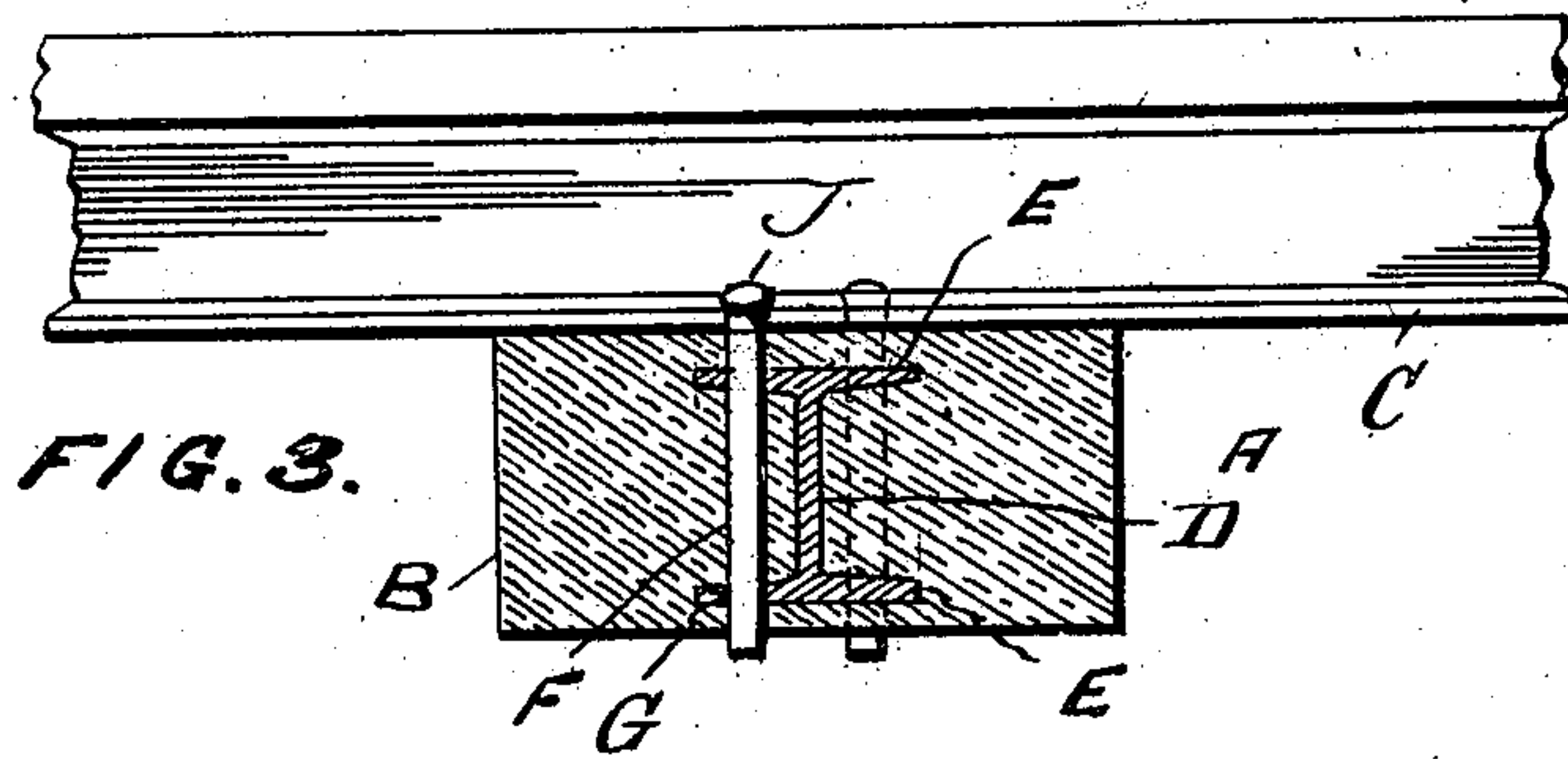
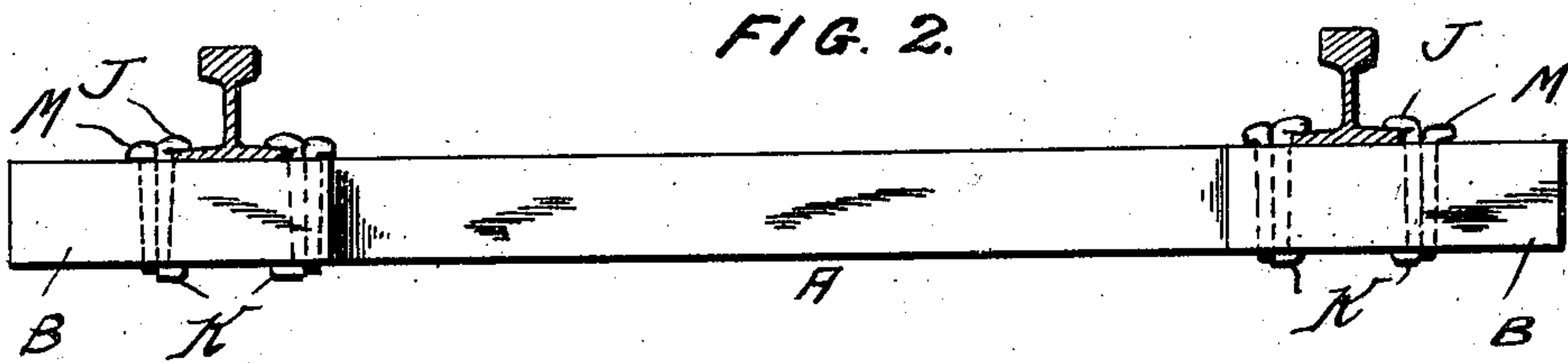
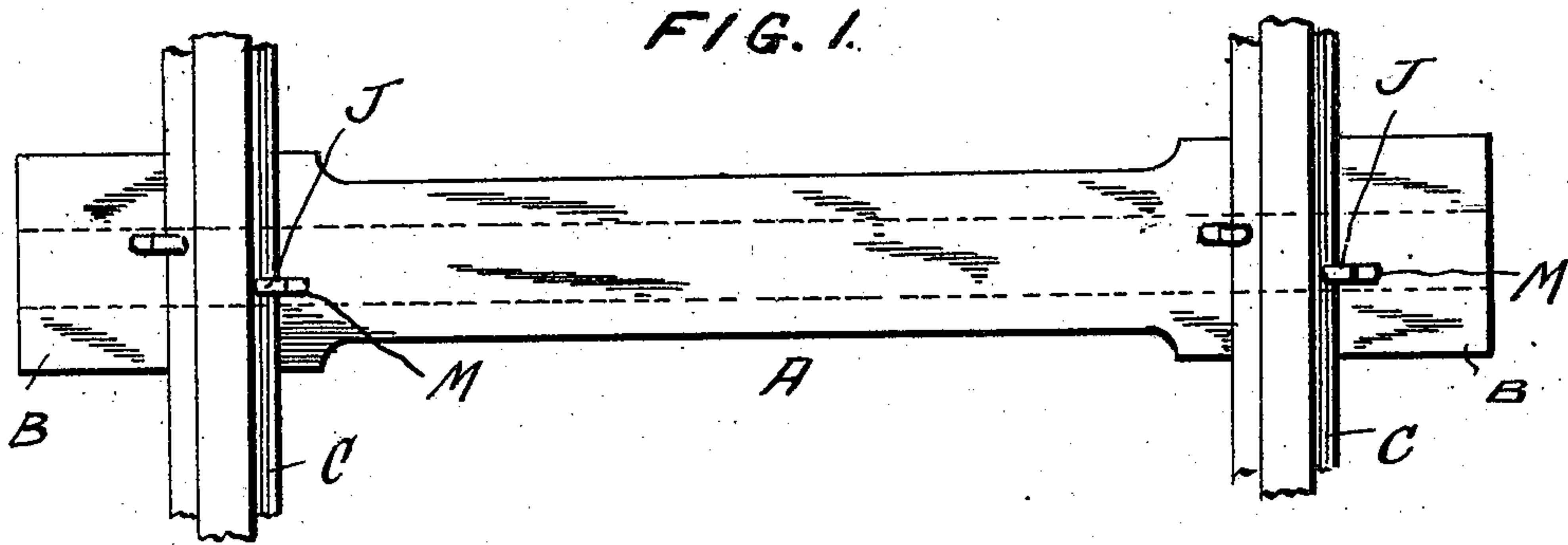


R. CROFT.
RAILROAD TIE.

APPLICATION FILED MAY 6, 1909. RENEWED NOV. 26, 1910.

983,690.

Patented Feb. 7, 1911.



WITNESSES

G. K. Davis.
M. E. Moore

INVENTOR

Robert Croft.

By *O. J. Moore*
Attorney.

UNITED STATES PATENT OFFICE.

ROBERT CROFT, OF SALT LAKE CITY, UTAH, ASSIGNOR OF ONE-FOURTH TO ROBERT CROFT, JR., ONE-FOURTH TO LE GRAND YOUNG, AND ONE-FOURTH TO CHARLES H. KRAFT, ALL OF SALT LAKE CITY, UTAH.

RAILROAD-TIE.

983,690.

Specification of Letters Patent.

Patented Feb. 7, 1911.

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To all whom it may concern:

Be it known that I, ROBERT CROFT, a citizen of the United States, residing at Salt Lake City, in the county of Salt Lake and State of Utah, have invented certain new and useful Improvements in Railroad-Ties, of which the following is a specification.

The main object of my invention is the production of a railroad tie made of asphalt and sand properly mixed (the combination of which insures positive cohesion) and reinforced by a steel I-beam passing longitudinally through the tie so as to form a perfect support for the rails and which will possess strength and durability as also elasticity, and at the same time resist high temperature.

Another object of my invention is in a railroad tie being wider at the ends than at the center and of rectangular shape for a certain distance from the end of the tie where the rectangular shape commences and which prevents the tie from sliding from the road-bed to either side.

Another object of my invention is the production of a tie which will have permanency as to its life because of non-decay or rot in being brought into contact with the earth, which is the case with wood.

Another object of my invention is the almost continuous bearing given the rails by the increased width of the tie at the ends over that of the tie in the center and which will have a tendency in a great measure to prevent breakage on the part of the rail between the ties which is of frequent occurrence.

Another object of my invention is the production of a railroad tie which will have means for reinforcing and strengthening the tie located in such manner as to receive the securing means for the rails.

Another object of my invention is the provision of a railroad tie which will possess great strength and durability, which will be of the simplest and cheapest possible construction and which will have novel reinforcing and fastening means, the whole insuring a practical and desirable railroad tie.

Another object of the making of the tie is that it will be so constructed for receiving the spike so as to do away with gaging when the track is being constructed.

Another object is that in case the tie by

any accident becomes injured the material comprising it can be used in the manufacture of a new one.

To accomplish the desired objects, my invention consists of a railroad tie embodying novel features of construction and combination of parts substantially disclosed herein.

Figure 1 represents a top plan view of a railroad tie constructed in accordance with my invention with the rails supported in position thereon. Fig. 2 represents a side elevation of the tie with the rails in section. Fig. 3 represents a transverse sectional view of the tie with the rail in elevation and fastened upon the tie, and Fig. 4 represents a longitudinal sectional view of one end of the tie with parts in elevation to clearly show details of construction.

Referring by letter to the drawings in which similar letters of reference denote corresponding parts in the several views: the letter "A" designates the tie which is made of a suitable composition and is of substantially rectangular form and is provided with the broad ends B, which form the supports for the foot of the rail C.

Embedded centrally in the tie and extending throughout the entire length of the tie, is the metal strengthening and reinforcing means consisting of an I-beam D. I also provide the tie with vertical openings or passages F, of oblong shape and which are arranged out of line from the center of the tie and when the foot of the rail is in position upon the tie, the openings are at each side of the foot of the rails, and the horizontal portions of the I-beam are also provided with openings G which aline with the openings in the tie. The openings in the tie and strengthening I-beams are of tapering form from the top to the bottom of the tie, and in said openings I place the fastening bolts or spikes H, which have the head J at their upper end for engaging the foot of the rail and at their lower end have the bend K, which engages the lower face of the tie and to secure the fastening in position and prevent improper detachment, I employ the securing wedges or keys L, having the head M, at their upper end.

From this construction, it will be understood that I provide a railroad tie which is properly reinforced by a steel I-beam as already described, also that the rails are prop-

erly supported and secured and which will prevent improper movement or detachment of the rails, but will allow for ready and rapid application or unfastening of the rails, which will also allow for expansion and contraction and which possesses all the requirements to render the tie practical in every particular.

I claim:

1. In a railroad tie, the combination with the tie and the rail supported thereon, of fastenings passing through the tie and engaging the under side thereof, keys for securing said fastenings, and a reinforcing means arranged in the tie and provided with openings in which are engaged said fastenings and keys.
2. In a railroad tie, the combination of asphalt and sand in the proper proportion, properly mixed and reinforced by a steel I-beam extending through the tie, said tie and the flanges of the beam having vertical openings formed therein, fastenings arranged in said openings and adapted to engage the under side of the tie and foot of

the rails and means for securing said fastenings.

3. A railroad tie having embedded therein; a metal I-beam formed with upper and lower horizontal portions said tie and horizontal portions being provided with alining openings, and fastenings fitted in said openings and extending therethrough and engaging the under side of the tie for securing the rails.

4. In a railroad tie, the combination with the tie, the metal reinforcing means therein, said tie reinforcing means having vertical openings arranged out of line transversely on each side of the foot of the rails, fastenings for securing the rail arranged in said openings and extending therethrough and engaging the under side of the tie and securing keys or wedges for the fastenings.

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

ROBERT CROFT.

Witnesses:

GEO. R. HANCOCK,
FRANK GODBE.