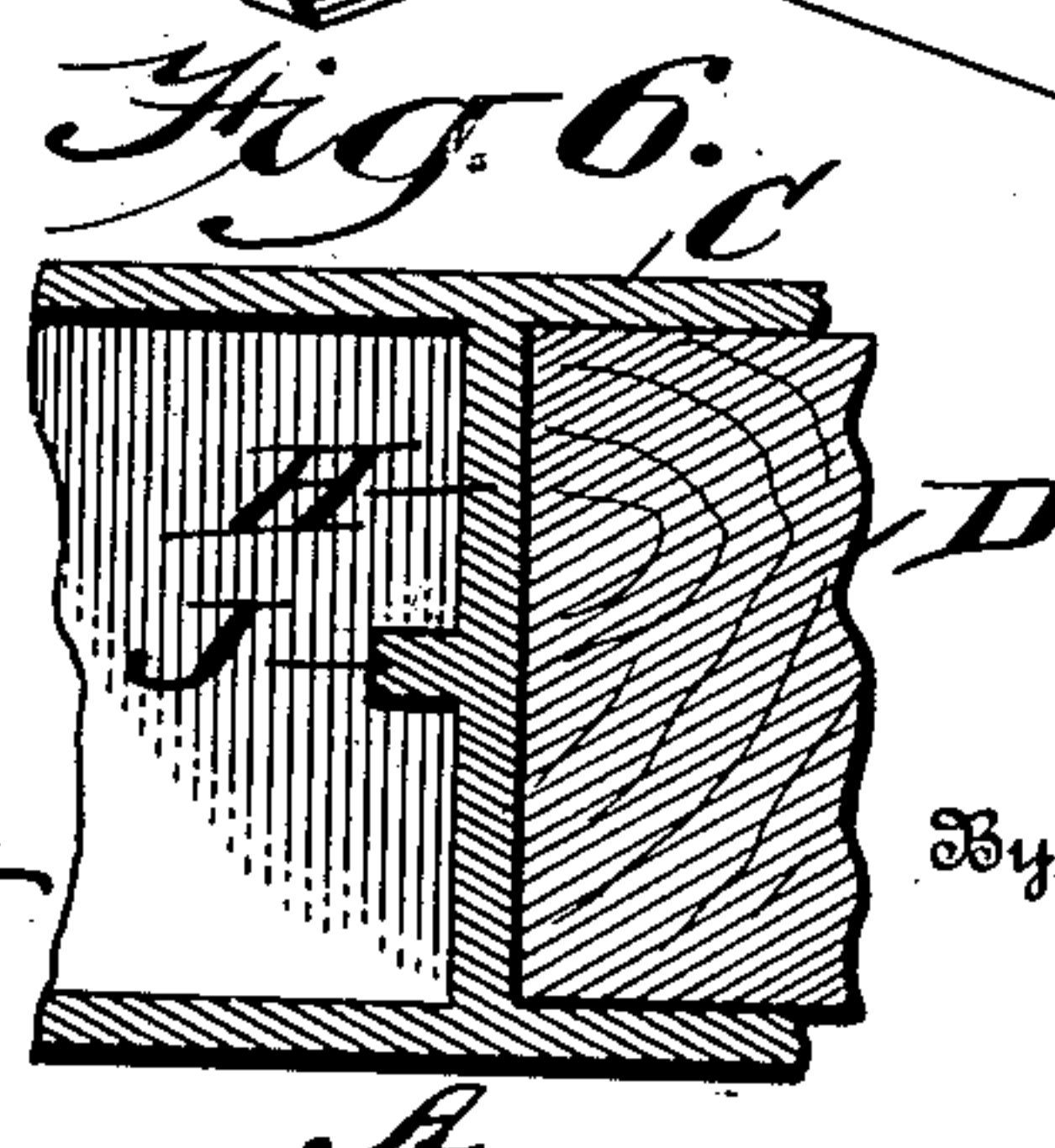
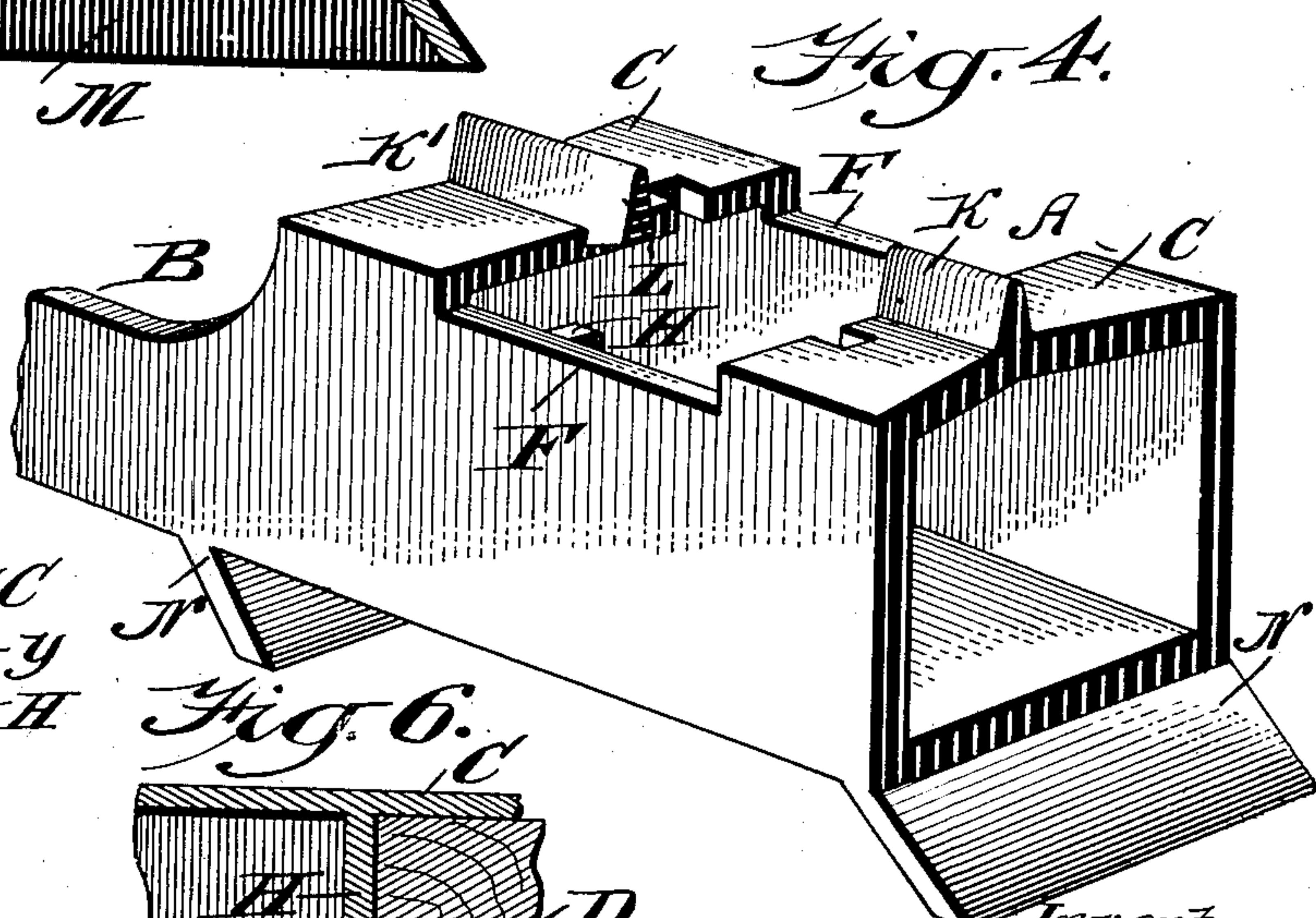
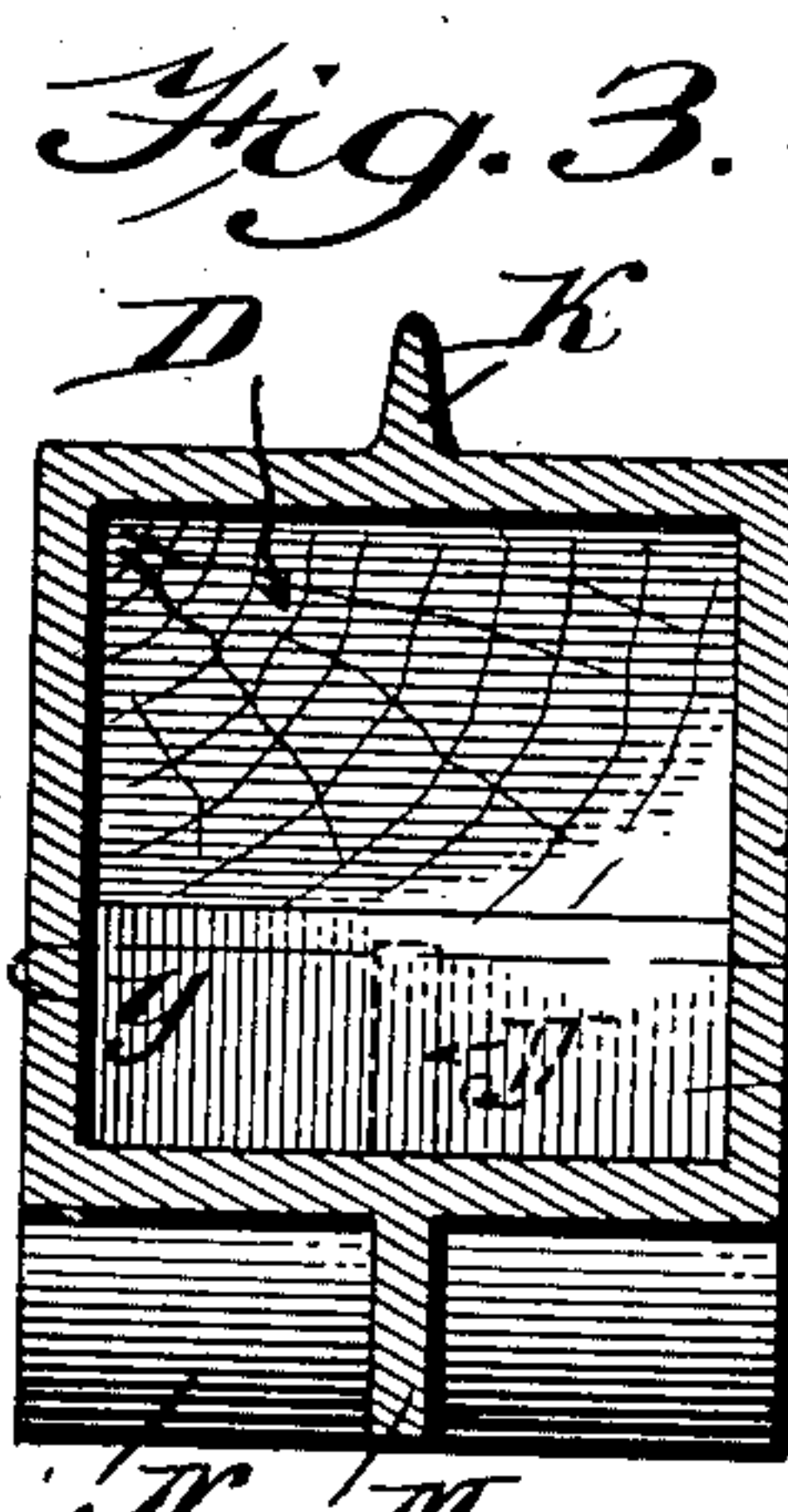
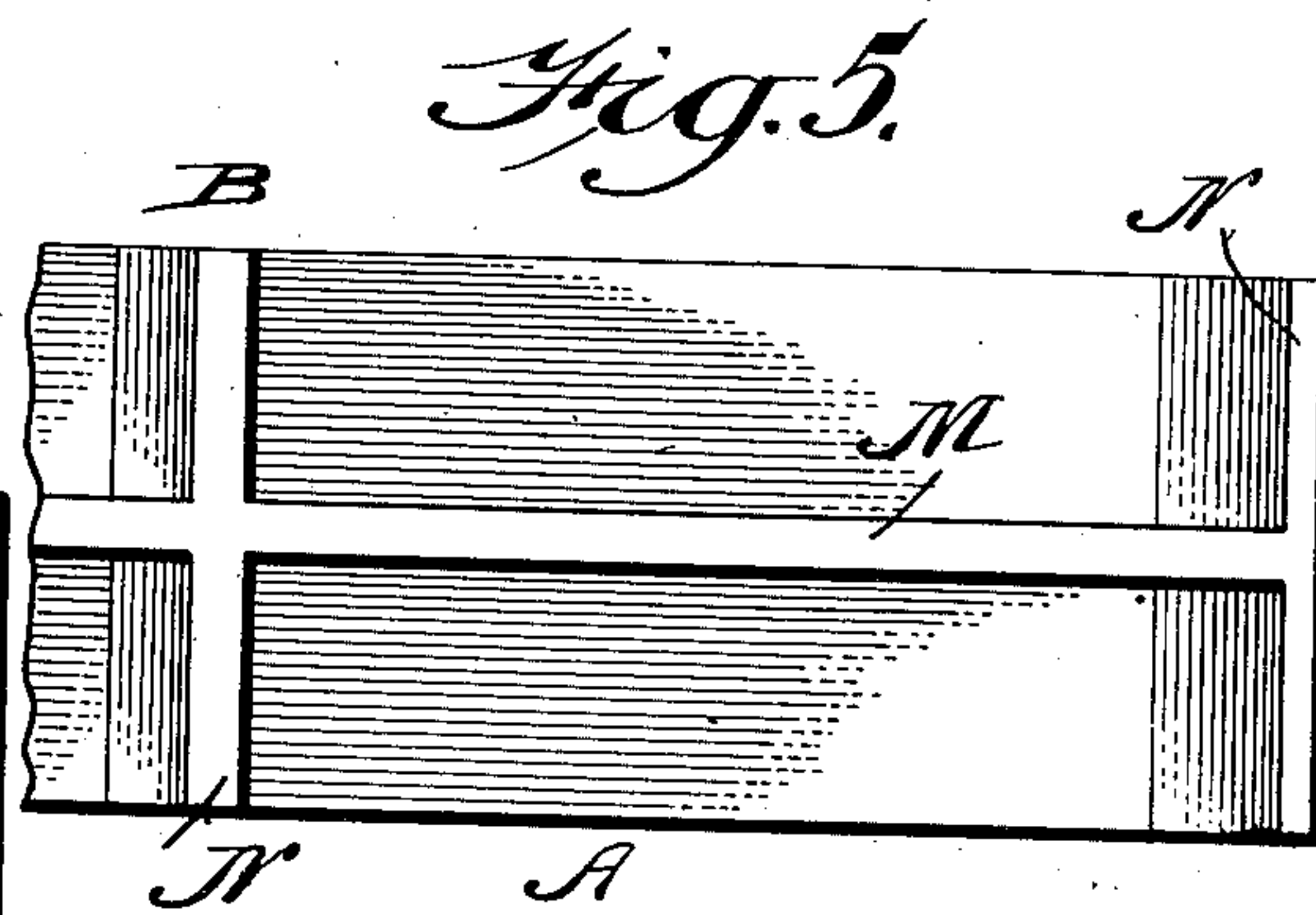
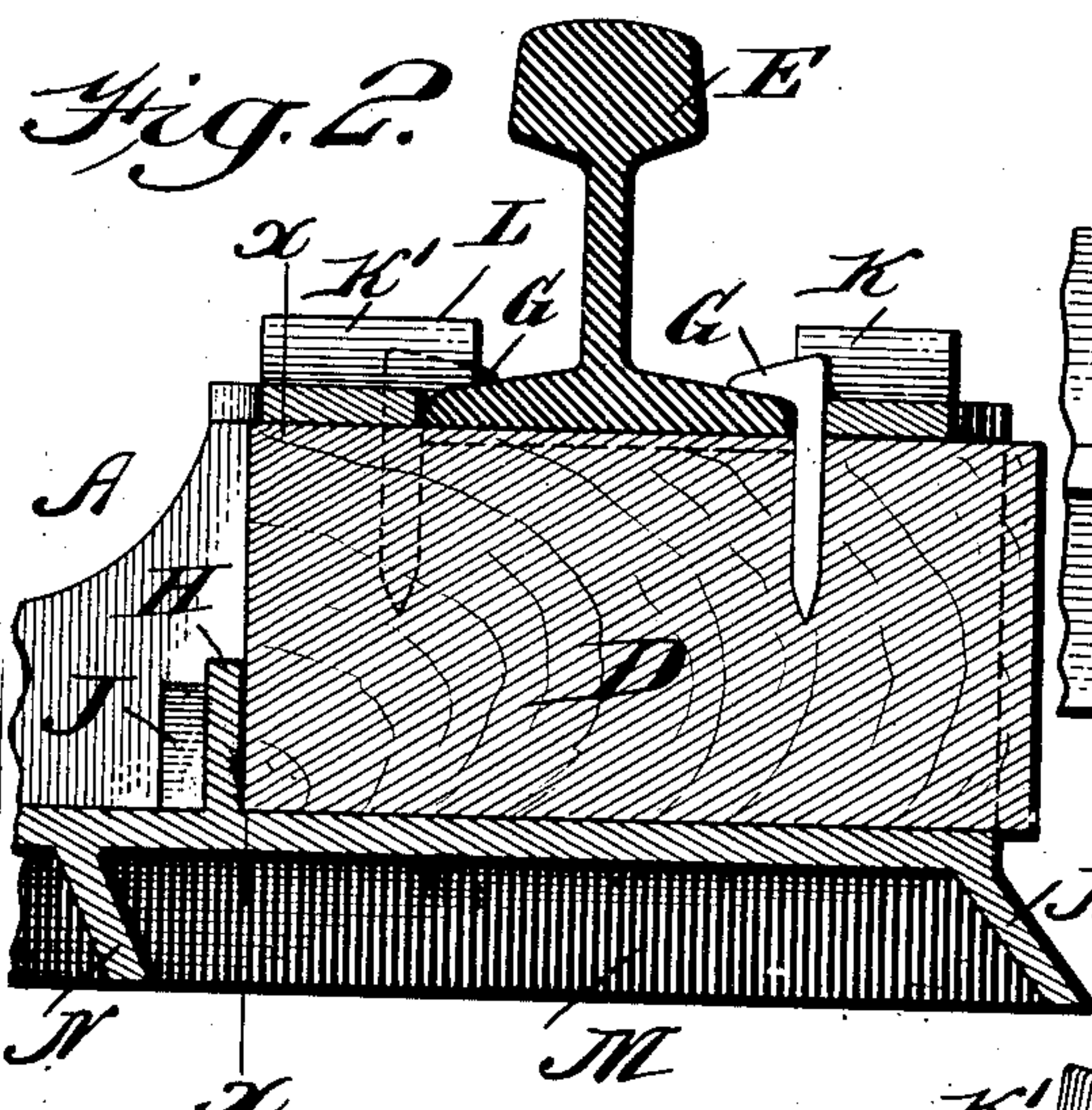
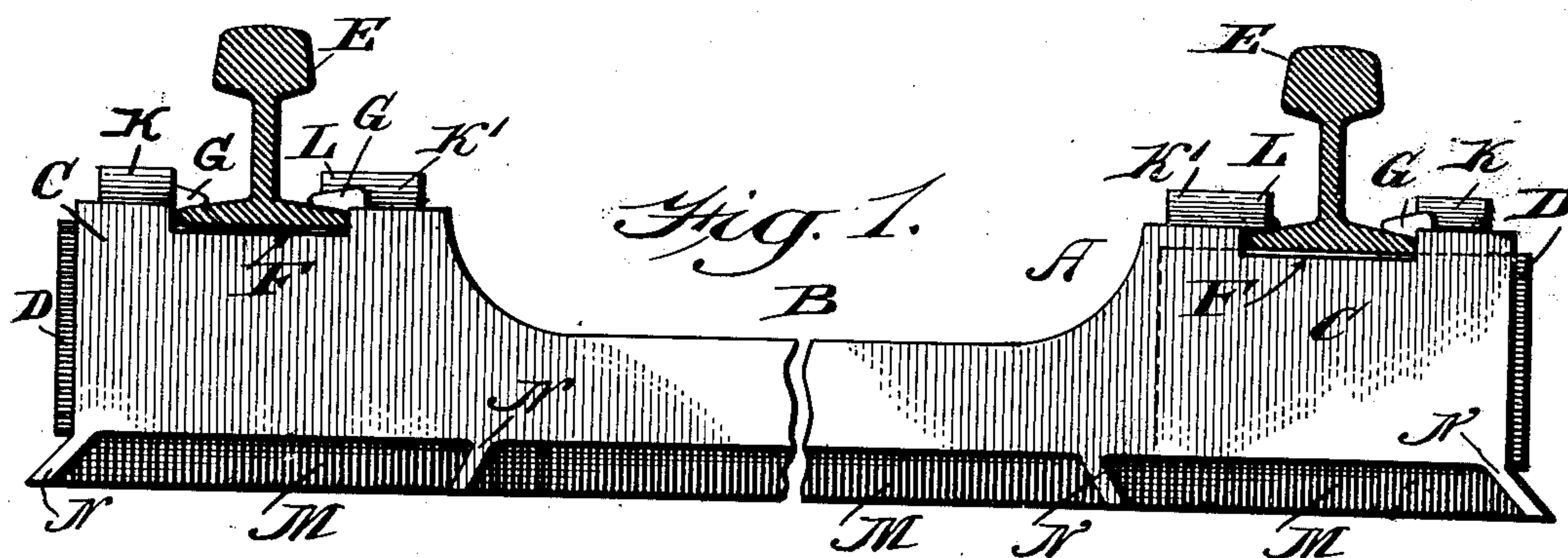


E. H. JOHNSTON.
RAILROAD TIE AND CUSHION.
APPLICATION FILED APR. 24, 1909.

935,307.

Patented Sept. 28, 1909.



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EDWARD H. JOHNSTON, OF PHILADELPHIA, PENNSYLVANIA.

RAILROAD TIE AND CUSHION.

935,307.

Specification of Letters Patent.

Patented Sept. 28, 1909.

Application filed April 24, 1909. Serial No. 491,999.

To all whom it may concern:

Be it known that I, EDWARD H. JOHNSTON, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Railroad Tie and Cushion, of which the following is a specification.

My invention consists of a railroad tie and cushion embodying a tie of metal and a cushion of wood, thus combining the advantages of both in the device.

It consists also of novel means for retaining a rail in position on the cushion and tie.

It consists further of novel means for anchoring the tie in a road-bed.

For the purpose of explaining the invention, the accompanying drawing illustrates a satisfactory reduction of the same to practice, but the important instrumentalities thereof may be varied, and so it is to be understood that the invention is not limited to the specific arrangement and organization shown and described.

Figure 1 represents a side elevation of a railroad tie and cushion embodying my invention. Fig. 2 represents a longitudinal vertical section of an end portion on an enlarged scale. Fig. 3 represents a transverse section on line $x-x$, Fig. 2. Fig. 4 represents a perspective view of an end portion. Fig. 5 represents a bottom plan view of an end portion. Fig. 6 represents a horizontal section on line $y-y$, Fig. 3.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawing:—A designates a tie formed with a metal body comprising the centrally channeled portion B and the boxes C at the ends thereof, said portion being open at the top and said boxes being open in their ends. In the boxes are blocks or cushions D of wood comprising the direct supports for the rails E, the tops of the boxes being cut away forming channels F to receive the rails and permit them to rest upon the blocks, said tops being notched or recessed for the spikes G, which are driven through the same into the blocks, thus firmly connecting the rails with the latter, while the side walls of said channels F embrace the flanges of the rails and prevent spreading thereof, it being evident that the blocks D provide elastic supports for the rails, while avoiding the expensiveness of ties made entirely of wood, and there is durability in the body in that it is formed of

metal. In order to set the blocks true in the boxes, there rise from the bottom of the tie at or about the inner terminals of said boxes, the partitions H, against which the blocks are adapted to abut as stops, the effect of which is evident, said partitions being reinforced by the brace J which is formed with said partition and the bottom of the tie. On the tops of the boxes are ribs K, K', which rise therefrom and strengthen the same, the ribs K' on the inner sides being extended outwardly forming cheek pieces L, which overhang the adjacent sides of the bases of the rails and serve to prevent rising of the rails when the latter are in use, it being evident that when the spikes are extracted, the rails may be turned laterally and so withdrawn from under said cheek pieces L.

Depending from the bottom of the tie are longitudinally and transversely downwardly extending ribs M, N, the transverse ribs N being inclined outwardly in opposite directions at the ends of the tie, the several ribs acting as anchors which enter the road-bed and interlock therewith, and so serve to prevent creeping of the tie in either direction, while also strengthening the base of the tie.

Attention is directed to the fact that the tops of the cushions D are above the bases of the channels F, whereby the rails rest directly on the cushions and so are subject to the yielding nature of the latter.

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

1. A metallic railroad tie composed of a body having a box on an end thereof, said box being formed with longitudinally disposed ribs rising substantially centrally therefrom, the rib on the inner side being extended outwardly forming a cheek piece to overhang the adjacent side of the base of a rail, and a partition rising from the base of the box adjacent the inner terminal of said box.

2. A metallic railroad tie composed of a body having a box on an end thereof, said box being formed with longitudinally disposed ribs rising substantially centrally therefrom, the rib on the inner side being extended outwardly forming a cheek piece to overhang the adjacent side of the base of a rail, a partition rising from the base of the box adjacent the inner terminal of said box, and a reinforcing brace for said parti-

tion formed integral with said partition and the bottom of the tie outside of the box.

3. A metallic railroad tie composed of a body having a hollow box on each end thereof, said box formed with an opening in its top and with longitudinally-disposed ribs rising substantially centrally therefrom, the rib on the inner side being extended outwardly forming a cheek piece overhanging the adjacent wall of said opening to engage the adjacent side of the base of a rail said body formed at its bottom with longitudinal and transverse downwardly extended ribs.

4. A railroad tie comprising a metallic body and a box on an end thereof, said box having in its top a channel, and vertically disposed ribs rising from said top and extending longitudinally of the tie, the inner rib being extended inwardly to engage over the top of the base of a rail, and a partition

rising from the base of the box at the inner terminal of the latter, and a brace outside of the box joining said partition and the bottom of the tie.

5. A railroad tie comprising a metallic body and a box on an end thereof, said box having in its top a channel, and vertically disposed ribs rising from said top and extending longitudinally of the tie, the inner rib being extended inwardly to engage over the top of the base of a rail, the bottom of the tie being formed with transverse and longitudinal downwardly extending ribs, those at the ends extending outward beyond the plane of the ends of the tie.

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