

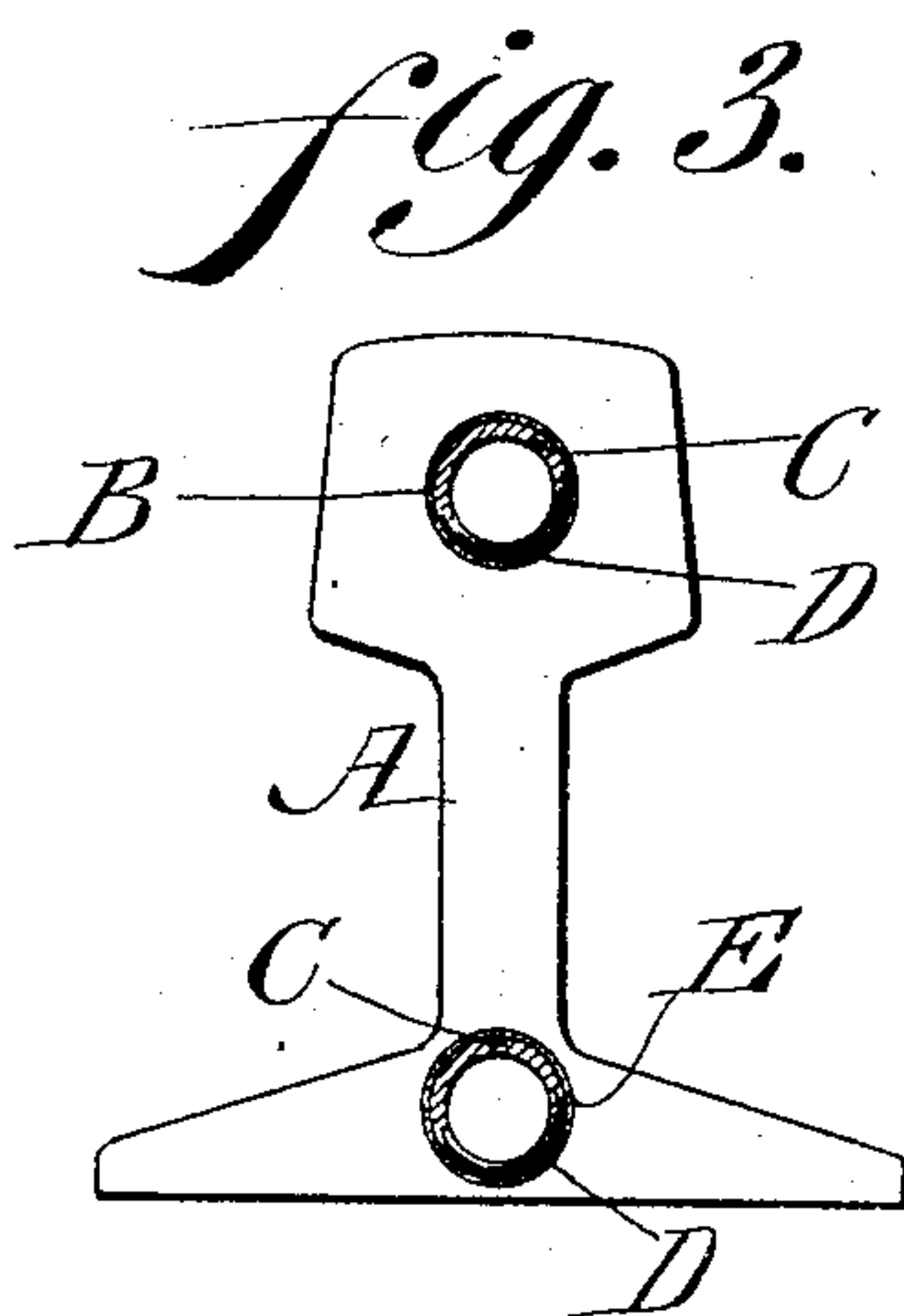
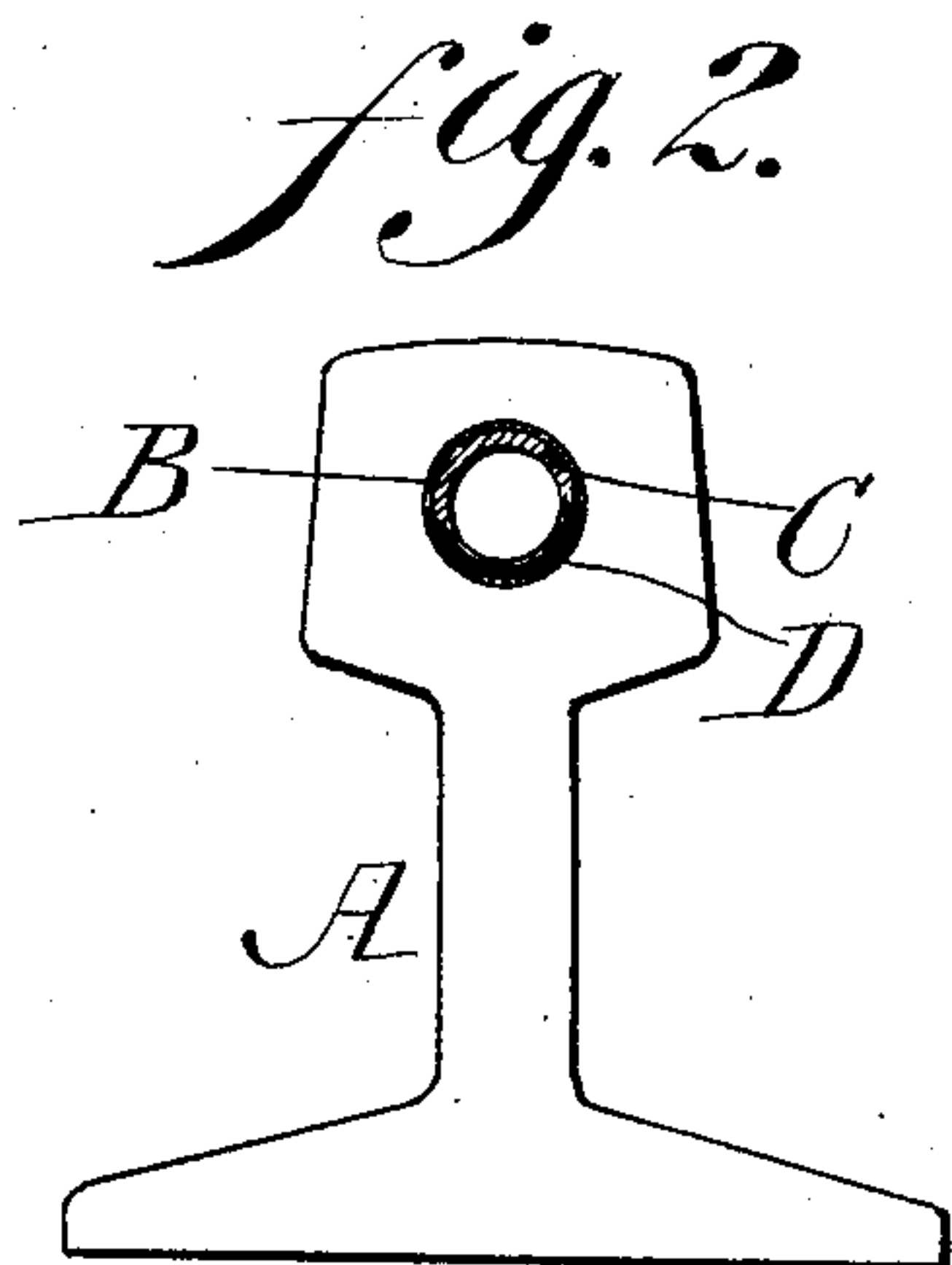
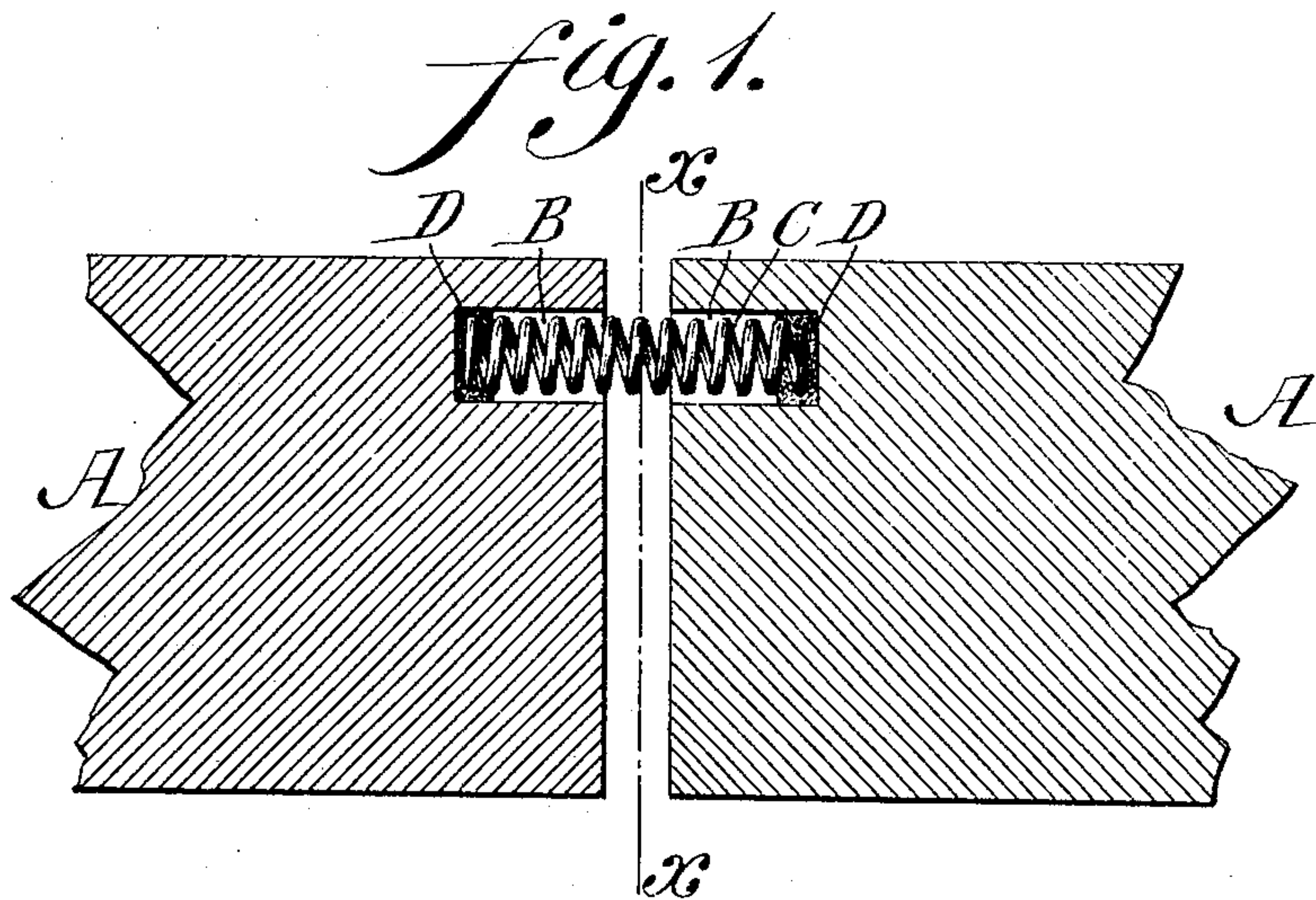
No. 778,002.

PATENTED DEC. 20, 1904.

H. M. BELLOWS.  
RAILROAD BOND.

APPLICATION FILED AUG. 29, 1904.

NO MODEL.



Witnesses

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# UNITED STATES PATENT OFFICE.

HORACE M. BELLOWS, OF HUNTINGDON VALLEY, PENNSYLVANIA.

## RAILROAD-BOND.

SPECIFICATION forming part of Letters Patent No. 778,002, dated December 20, 1904.

Application filed August 29, 1904. Serial No. 222,495.

*To all whom it may concern:*

Be it known that I, HORACE M. BELLOWS, a citizen of the United States, residing at Huntingdon Valley, in the county of Montgomery, State of Pennsylvania, have invented a new and useful Improvement in Railroad-Bonds, of which the following is a specification.

My invention consists of an improvement in a railroad-bond for which Letters Patent of the United States No. 737,896 were granted to me on the 1st day of September, 1903, the same embodying means for securing the ends of the spring employed in the sockets which they occupy, improving the electroconductivity of the spring, and, furthermore, preventing corrosion of the contacting surfaces.

Figure 1 represents a longitudinal section of adjacent railroad-rails having a bond embodying my invention applied thereto. Fig. 2 represents a section on line *xx*, Fig. 1. Fig. 3 represents an end view of a modification.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings, A designates adjacent portions of railroad-rails in the ends of the heads of which are the openings or sockets B. C designates a spring of helical or spiral nature, the same partly occupying said sockets, the end convolutions of the spring being embedded in the material D of adhering and electroconducting nature, said material contacting with the walls of the sockets, the spring serving as a continuity of the rails, and so forming an effective and reliable electrical bond for the same, it being apparent that during the expansion and contraction of the rails the spring conforms to the same, and as its ends are fixed to the walls of the sockets by the material D the electrical contact of the spring and rails is preserved. If desired, the sockets may be formed in the bases or other parts of the rails to receive the spring, or a plurality of bonds may be employed, in which case they may be applied in

sockets in both the heads and bases of the rails, as in Fig. 3, or any other proper part of the rails. It will also be noticed that while the material D secures or fixes the ends of the spring in the openings or sockets B it also improves the electroconductivity of the spring and prevents corrosion of the ends and sides of the spring and adjacent portions of the socket, as said ends and sides are slightly removed from contact with the sockets, owing to the material D in which they are embedded. One of the materials that I may use is an amalgam of mercury, tin, zinc, &c.

Various changes may be made in the details of construction shown without departing from the general spirit of my invention, and I do not, therefore, desire to be limited in each case to the exact construction herein shown and described.

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

1. An electric connection comprising rails having coacting recesses in their adjacent ends and a longitudinally-expansible spring movable in said recesses and material of adhering and electroconducting nature on the end portions of said spring and recesses.

2. An electric connection comprising rails having coacting recesses in their adjacent ends, a compressed coiled spring movable in said recesses and material of adhering and electroconducting nature on the end portions of said spring and recesses.

3. In an electric connection for rails, a longitudinally-expansible spring partly occupying recesses in the adjacent ends of the rails and material of adhering and conducting nature embedding the end portions of said spring and recesses.

HORACE M. BELLOWS.

Witnesses:

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