

No. 811,535.

PATENTED FEB. 6, 1906.

J. ANDERSON.  
MEANS FOR MUTING VIBRATIONS IN RAILWAY RAILS.  
APPLICATION FILED MAY 31, 1904.

Fig. 1.

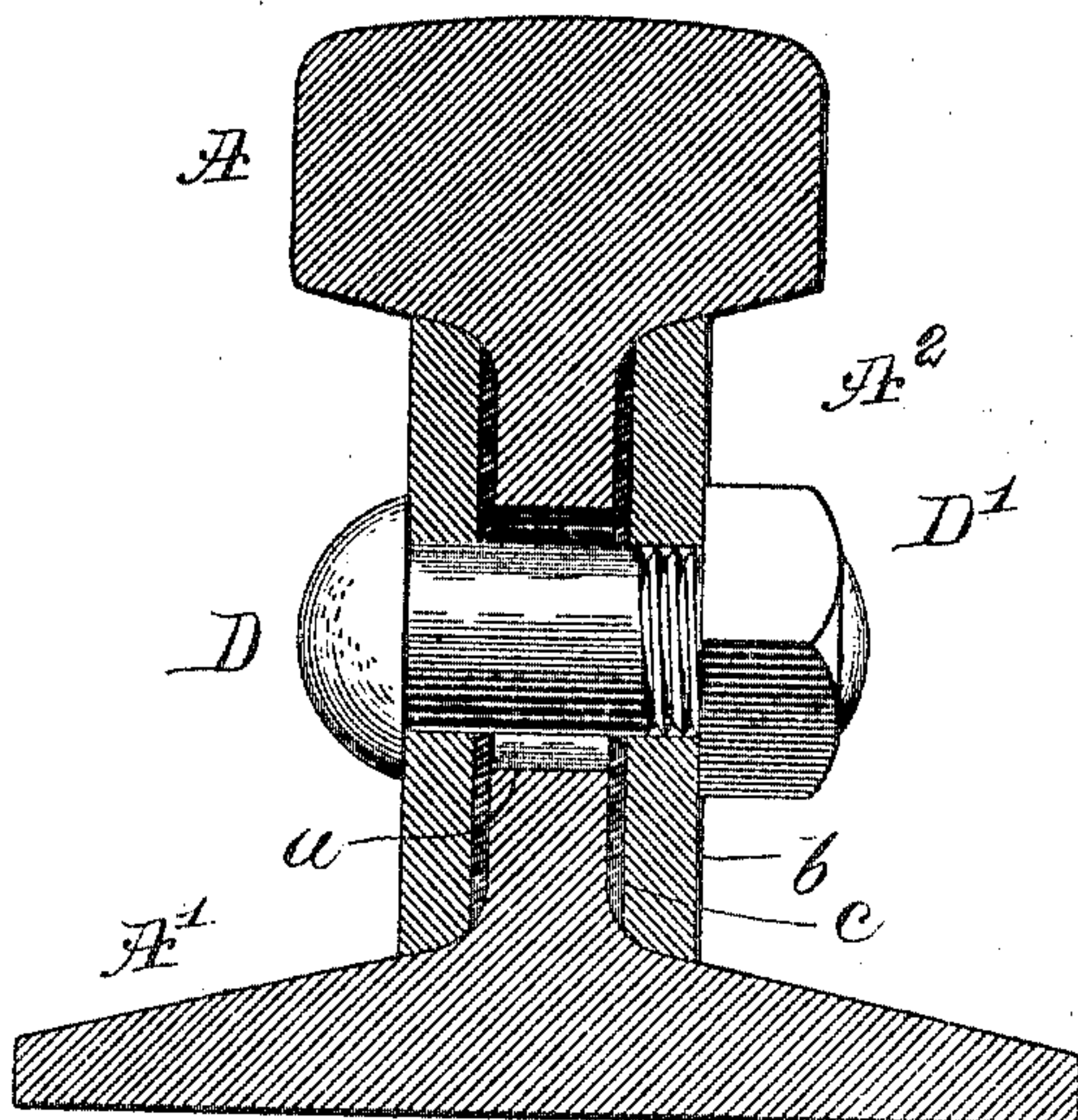


Fig. 2.

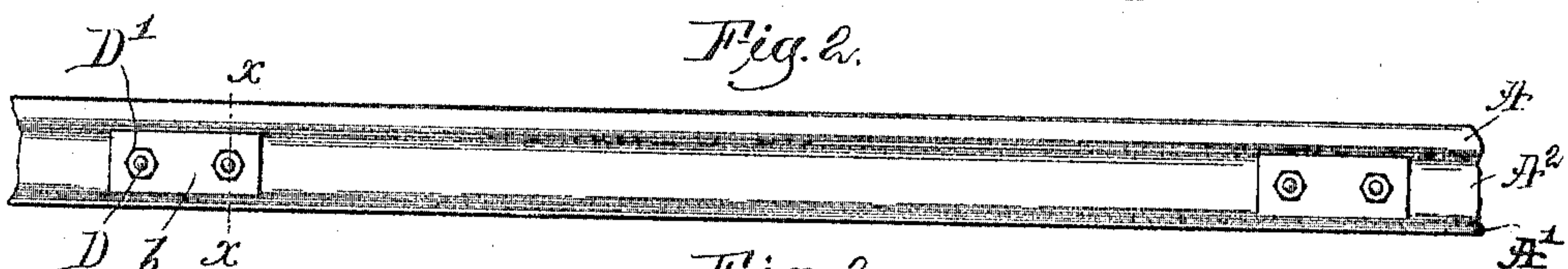
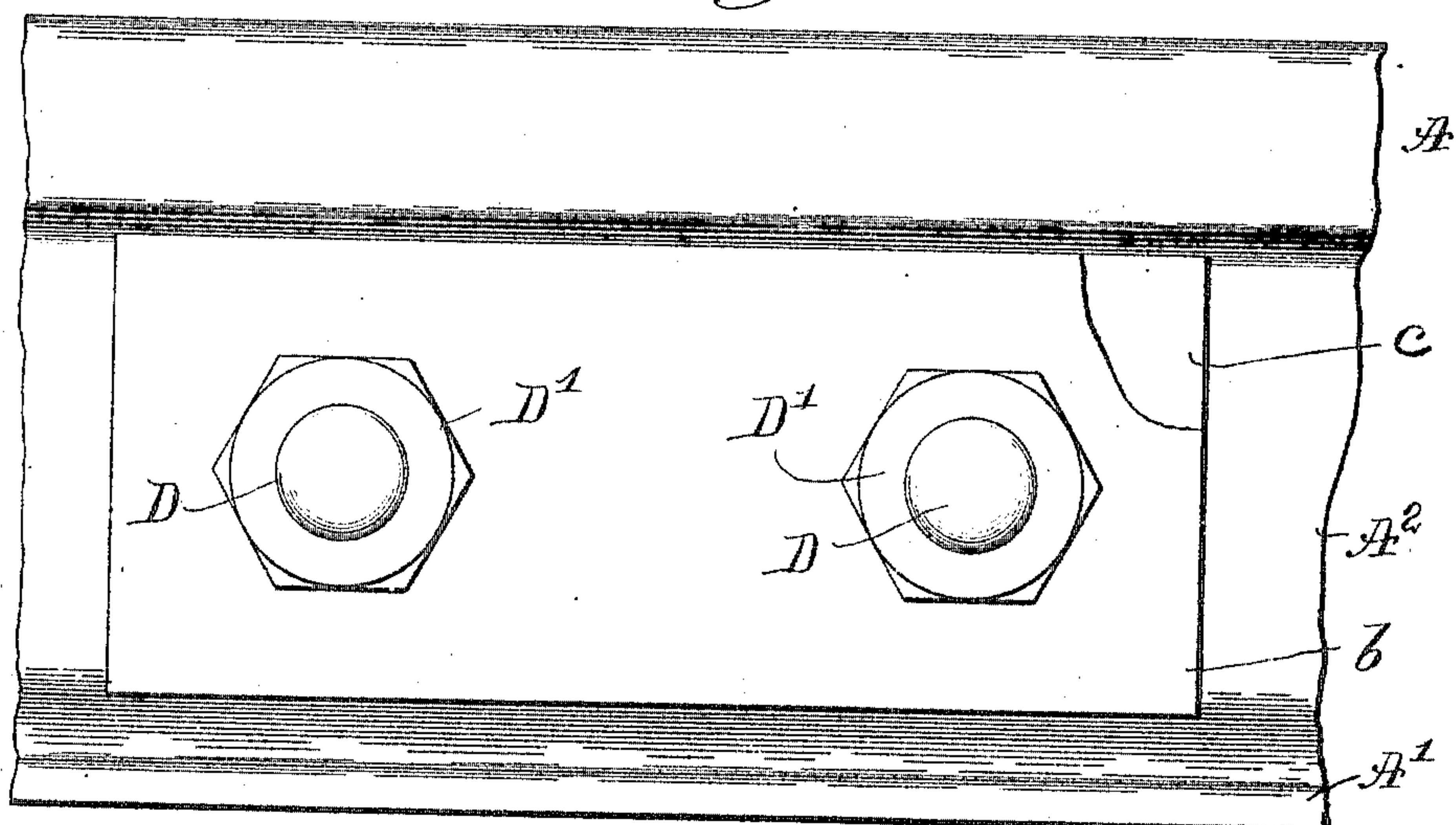


Fig. 3.



Witnesses.  
Thomas Drummond.  
S. Wm. Lutton.

Inventor.  
John Anderson,  
by Crosby & Gregory, Attys.



# UNITED STATES PATENT OFFICE.

JOHN ANDERSON, OF BOSTON, MASSACHUSETTS.

## MEANS FOR MUTING VIBRATIONS IN RAILWAY-RAILS.

No. 811,535.

Specification of Letters Patent.

Patented Feb. 6, 1906.

Application filed May 31, 1904. Serial No. 210,339.

*To all whom it may concern:*

Be it known that I, JOHN ANDERSON, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Means for Muting Vibrations in Railway-Rails, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

It is well known that railway-cars running on rails of an elevated structure make an excessive and disagreeable noise, far in excess of any made by cars running on rails on the street.

It is the aim of this invention to do away with or materially lessen the noise of cars running on rails of elevated structures. In my experiments I have devised means for "muting" the sound generated in the rail by the blow of the wheel in traversing the rail.

Figure 1 is a cross-section in the line of a rail with muting means applied thereto in one of the best forms now known to me. Fig. 2 is a side elevation of a portion of a rail with a series of muting devices applied thereto. Fig. 3 is an enlarged side elevation of Fig. 1.

Referring to the drawings, let A represent the tread-face, A' the base, and A<sup>2</sup> the web, of the rail. This rail may be made of any usual or suitable shape or size. The rail has bored through it at intervals a series of holes *a*, made in pairs. These pairs of holes may be made in the web of the rail at distances from five to ten or twelve feet apart.

The muting means or devices illustrated in the present embodiment of my invention comprise two non-metallic members, and the individual members are made up preferably of non-metallic materials differing in density or hardness. In one good form each muting device, as illustrated herein, comprises a piece of wood *b* and preferably a piece of india-rubber, felt, or other material *c* softer than wood. Maple constitutes a good wood from which to make the members *b* of the muting devices; but this invention is not limited to the use of the wood mentioned, and instead I may use any other class of wood or any other substance non-metallic which contains toughness and has not the quality of resonance to a high degree—as, for instance, I might use leather-board, vulcanite if it could be obtained at a practicable price, or any non-metallic material that would withstand cold, heat, and moisture and not materially

deteriorate. The muting means of whatever form and construction will be clamped upon the opposite sides of the rail at opposite points, and to effect this firm clamping of the muting means to the rail in this instance of my invention I provide the muting means with holes that receive bolts D, threaded at one end to receive a nut D'. The bolt is inserted through the muting means to be applied to one side of the web, thence through the hole in the web, which is or may be considerably larger in diameter than the diameter of the bolt, thence through the opposite or fellow muting means at the opposite side of the web when the nut D' is applied. The nut is turned up tightly, so as to firmly clamp the web of the rail and "mute" or "dampen," as it is called in music, the vibrations of the rail, so that the rail is prevented from emitting sound due to the vibration of the rail. In my experiment I have ascertained that clamping the rail vertically between its tread and base does not mute the sound, and of course it would not be practicable to clamp a rail in this way, because a car-wheel could not run over the rail.

In order to make my invention effective, each rail must have at its opposite sides a plurality of muting means firmly clamped to the web of the rail between each end, and, as stated, these muting devices may be applied to the web of the rail at more or less frequent intervals. The greater the number of muting means secured to the web of the rail the less the tendency of the rail to vibrate and emit sound.

I have illustrated the muting means as clamped to the webs of the rail by bolts extended through the muting means and the web; but it will be obvious that other devices than bolts might be employed to firmly and closely clamp the muting means upon the sides of the web of the rail. So, believing myself to be the first to apply to the web of a railway-rail muting means of any sort, I do not desire to limit this invention to the particular shape of the muting means nor to the particular way of clamping said means to the web of the rail, as this might be done in various ways within the skill of a mechanic without departing from my invention and without the exercise of invention.

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

1. In a device as described, a compound



wholly non-metallic detachable muting-block or damper for railway-rails.

2. In a device as described, a compound, wholly non-metallic detachable muting-block or damper for railway-rails, said muting-block or damper comprising members of different sound-transmitting powers.

3. In a device as described, a compound, wholly non-metallic detachable muting-block or damper for railway-rails, said muting-block or damper comprising separate members of different sound-transmitting powers.

4. In a device as described, a compound, wholly non-metallic mute or damper for railway-rails, said mute comprising separate members of different sound-transmitting powers, said separate members being held in contact with each other by the same clamping means which hold the mute as a whole in contact with the web of the rail.

5. In a means for muting the noise in railway-rails as described, a plurality of compound, wholly non-metallic members applied to the web of the rail, said members being placed on opposite sides of the rail-web and connected in pairs, the members of each pair being connected by two or more attaching means.

6. The combination with a web of a railroad-rail of non-metallic muting means of different degrees of density, and means to clamp said muting means to said rail.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN ANDERSON.

Witnesses:

GEO. W. GREGORY,  
G. PERCIVAL GREGORY.