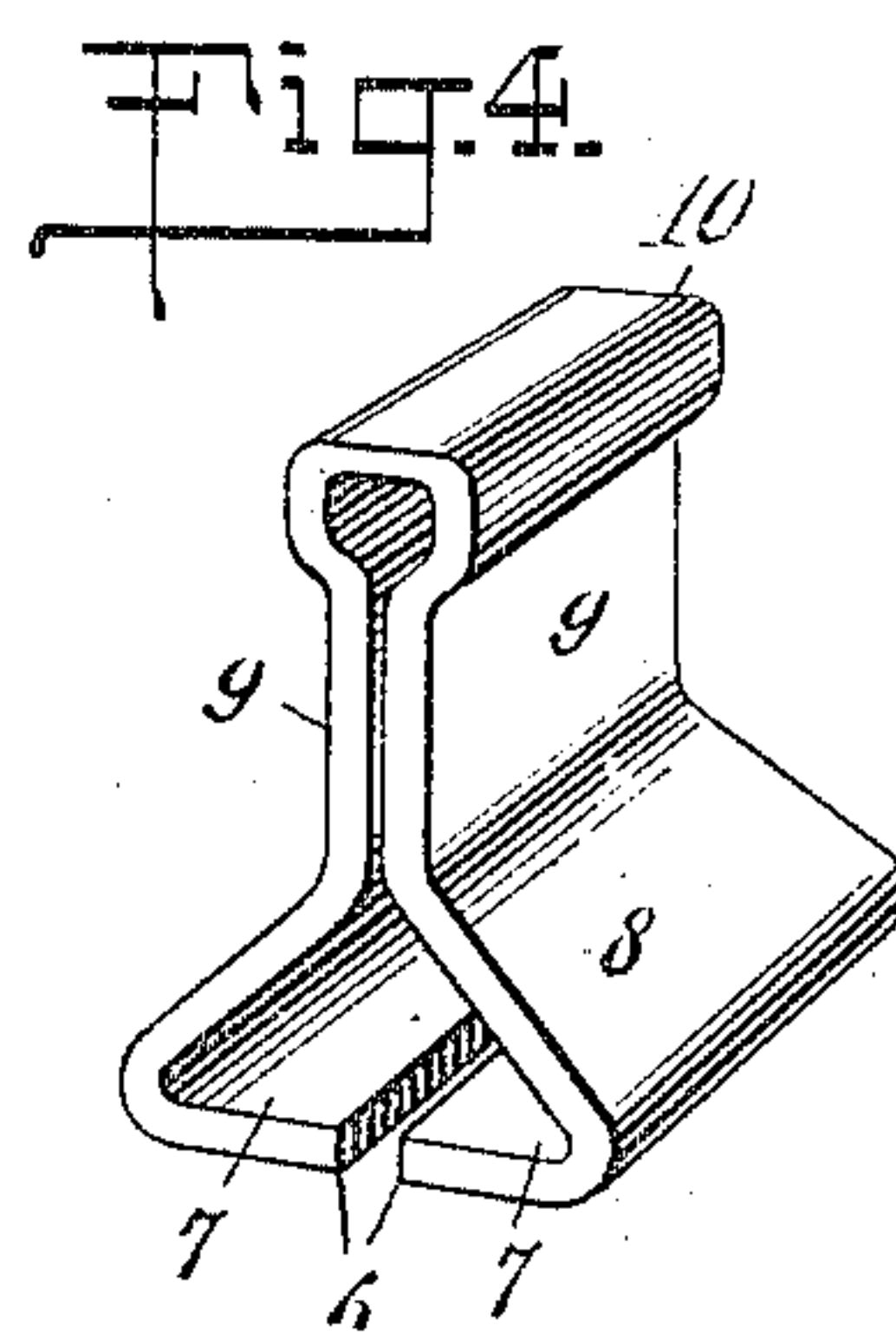
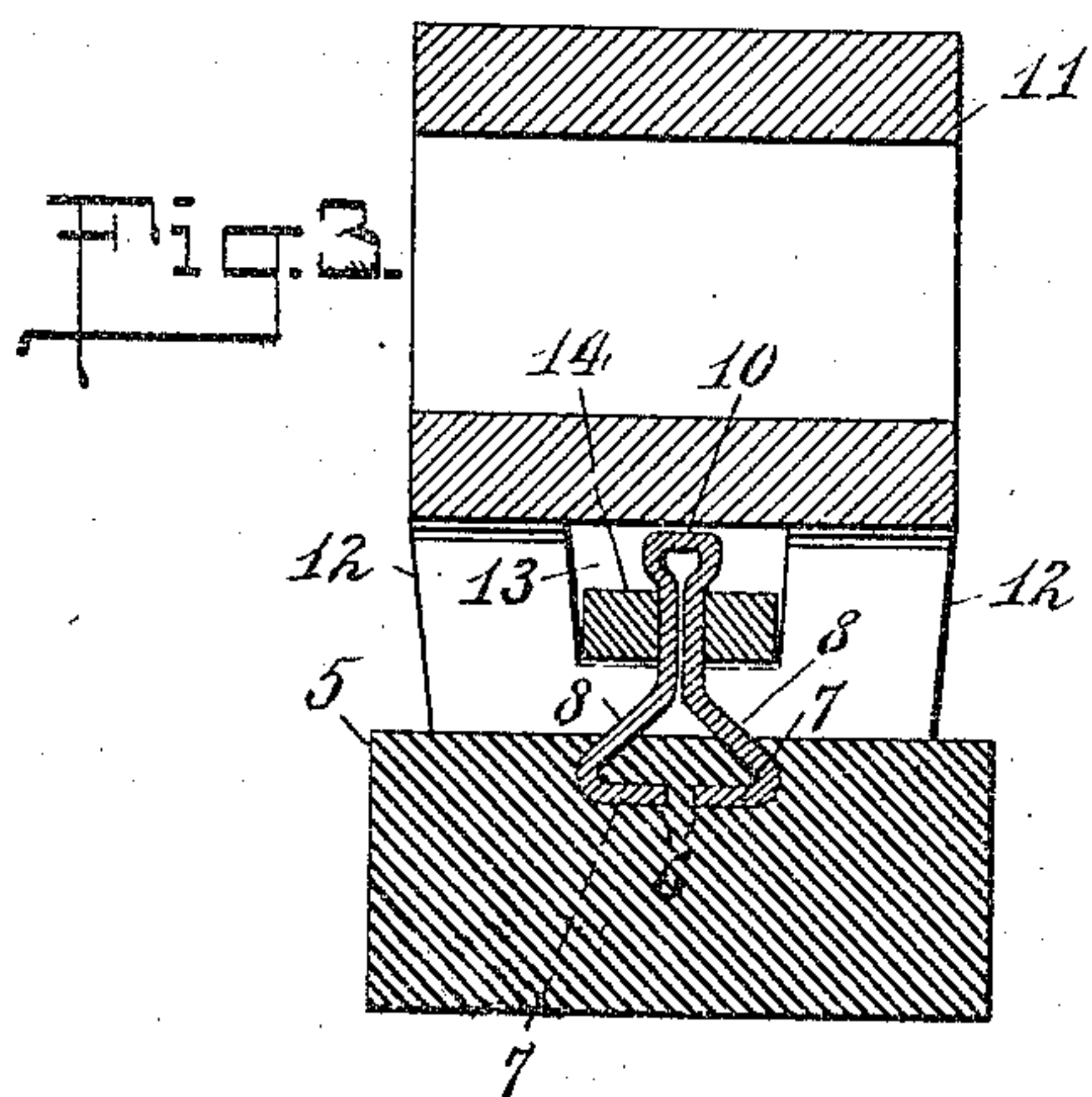
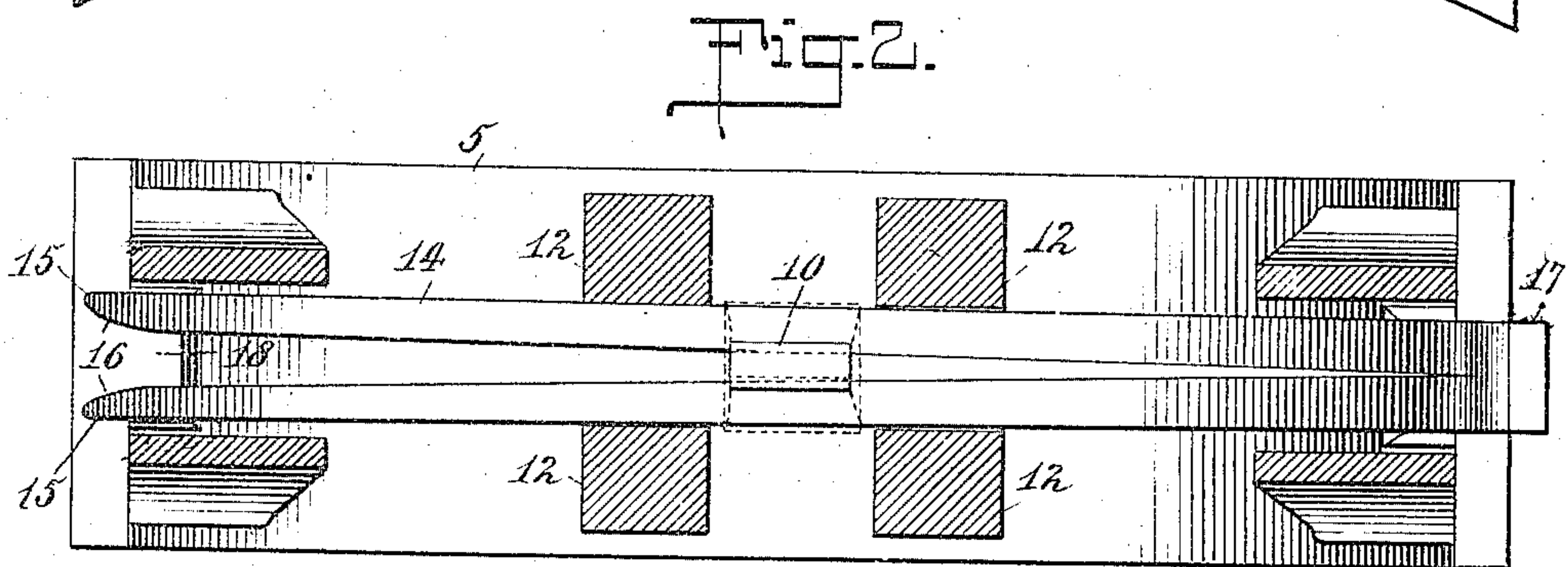
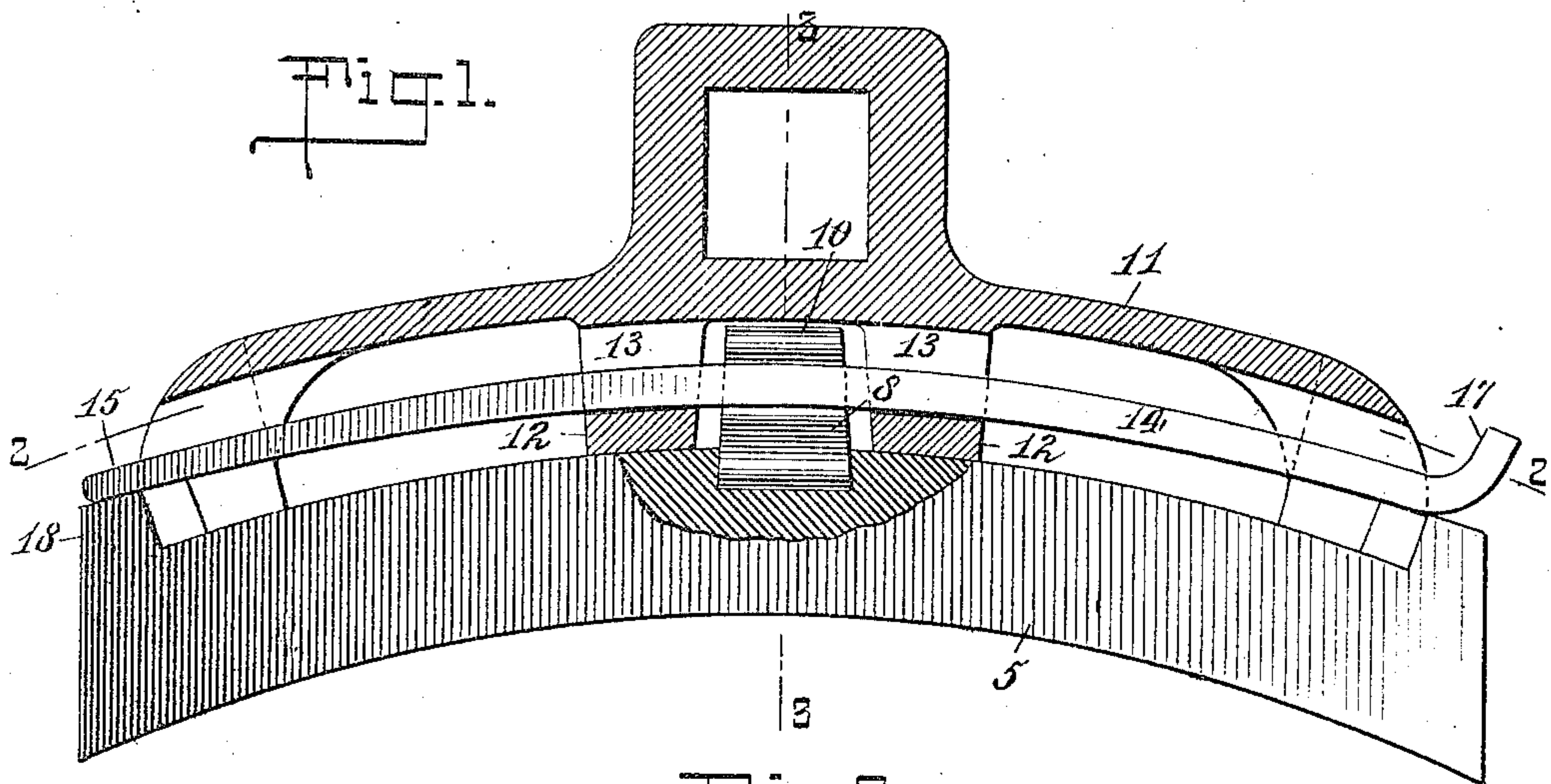


H. JONES.  
BRAKE SHOE.  
APPLICATION FILED FEB. 11, 1910.

963,771.

Patented July 12, 1910.



WITNESSES:  
A. V. Walsh  
[Signature]

INVENTOR  
Harry Jones,  
BY George E. [Signature]  
ATTORNEY



# UNITED STATES PATENT OFFICE.

HARRY JONES, OF SUFFERN, NEW YORK, ASSIGNOR TO EDWARD H. FALLOWS, OF  
NEW YORK, N. Y.

## BRAKE-SHOE.

963,771.

Specification of Letters Patent. Patented July 12, 1910.

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### *To all whom it may concern:*

Be it known that I, HARRY JONES, a citizen of the United States, and a resident of Suffern, in the county of Rockland and State of New York, have made and invented certain new and useful Improvements in Brake-Shoes, of which the following is a specification.

My invention relates to an improvement in brake shoes, such, for instance, as are used on the wheels of locomotives, or on the wheels of freight or passenger railroad or railway cars, and more particularly to means for locking the shoe to the brake head whereby the same may be removably and securely held in place against accidental disengagement from the brake head.

A further object of the invention is to so construct and assemble the parts that all shaking and rattling of the shoe against the head will be obviated.

With these and other ends in view, the invention consists of certain novel features of construction and combinations of parts as will be hereinafter fully described and pointed out in the claims.

In the accompanying drawings I have illustrated a plain cast iron shoe with an M. C. B. standard type of head attached thereto, the shoe being an unflanged one and such as is ordinarily used on the wheels of passenger and freight cars. It will be understood, however, that my invention is equally applicable to flanged shoes, such as are used on the driving wheels of a locomotive, and also to composite shoes, such, for instance, as contain inserts either in the form of slugs of comparatively hard or soft metal, or in the shape of expanded metal, or wire mesh, extending from the wearing face of the shoe to or within a short distance of the back thereof, and also to shoes having a reinforcing back of such expanded metal or wire mesh. In fact, I have constructed shoes containing my invention, having such wire mesh back and an insert of wire mesh or expanded metal.

In these drawings, Figure 1 is a view partly in elevation and partly in section, of a brake shoe containing my improvements. Fig. 2 is a sectional view taken on the line 2-2 of Fig. 1. Fig. 3 is a sectional view taken on the line 3-3 of Fig. 1. Fig. 4 is a view in perspective of the detached fastening lug.

Referring to the drawings, 5 represents the body of a brake shoe made of any desirable metal and which, as before stated, may consist of a common gray iron casting, or may be provided with any of the well known forms of inserts or reinforcements. In the metal of which the body 5 is formed is partially embedded the fastening lug, preferably constructed as illustrated in Fig. 4, that is, of a single piece of wrought or malleable metal, or mild steel, although it will of course be understood without further illustration that this lug may be made of two or more sections. In the preferred form illustrated, however, it is made of a single piece of metal, the edges 6 thereof being slightly separated or spaced apart in order to permit of the molten metal passing up between the same in order to securely anchor the lug in the cast metal body. The metal is so bent as to form the strips or base plates 7, and the inclined sides 8. The metal is then bent into the vertical sides or wall 9 and the shouldered portion 10, the whole having somewhat the shape or contour of a hollow railroad rail, the widened or enlarged base of the lug affording ample means or material for safe anchorage in the body metal. In assembling this lug with the body it is placed in the mold and the body metal poured around it in a way similar to the methods now in general use for securing the ordinary form of strap lug or loop to the body of the shoe. In this instance, as clearly illustrated in Fig. 3, the molten metal will pass up between the edges 6 of the lug and fill or partially fill the hollow base of the lug, thereby safely and firmly anchoring or locking the lug in position.

With this shoe is used any desired form of head 11, that illustrated in drawing being of the M. C. B. standard type, and comprising in part the lugs 12 spaced apart to straddle the fastening lug of the shoe and provided with the openings 13 for the passage of the key through the same whereby to lock the head and shoe together.

In the ordinary type of shoe lug, the fastening key passes through the lug formed on the body of the shoe and through the lugs on the brake head, but by reference to the several figures of the drawings, it will be seen that in my improved construction of shoe I employ the split key 14, which instead of passing through the shoe lug, re-



ceives between the two sections or members thereof the web 9 of the lug, and striking the shouldered portion 10 of the lug serves to tightly hold the shoe to the head without danger of accidental disengagement of said lug from the key. The key 14, as clearly illustrated in Fig. 2 of the drawing, is slitted or split practically its entire length, two of its ends 15 being free and provided with inner rounded or beveled edges 16 to facilitate the entrance of the lug between the same, the opposite ends of the key being joined together as illustrated at 17.

After the shoe has been placed in proper position on the brake head, the split key 14 is passed through one of the lugs 12 on the head and driven through the same until the attaching lug of the shoe enters between the two members of said key. The key is then driven through the other of the two lugs 12 formed on the head 11, the driving of the key being continued until such time as the two members thereof are so separated or spread apart by the fastening lug of the shoe as to strike or impinge against the sides of the openings 13 formed in the lugs 12, the free ends 15 of the key at this time bearing or resting upon the end stop or lug 18 of the shoe 5, as illustrated in Fig. 2 of the drawing. By these means I am enabled to tightly bind and hold the several parts together, that is, the shoe, the key, and the brake head, and overcome all danger of the shaking or rattling of the parts which has been the case when the attaching lug of the shoe was made in the form of a loop. Furthermore, by means of the construction as above described, I secure a stronger fastening, and a lug which is less liable to be bent or distorted during the loading, unloading or transportation of the shoes, as the web 9 of the lug consists of two thicknesses of metal, whereas the ordinary form of strap lug consists of but one thickness of metal throughout.

Having fully described my invention, what I claim is:

1. The combination with a brake shoe provided with an attaching lug, of a brake head fitting thereon, and an attaching key formed with a slot in which fits said lug.

2. The combination with a brake shoe formed with an attaching lug, of a brake head fitting thereon, and a key formed of two members joined at one end, said lug adapted to fit between said members.

3. The combination with a brake shoe provided with an attaching lug, of a brake head fitting thereon and provided with

openings, and an attaching key adapted to pass through the openings in said brake head and straddle the lug on said shoe.

4. The combination with a brake shoe provided with an attaching lug, of a brake head fitting thereon and provided with attaching lugs, and a key adapted to pass through the lugs in said head and to straddle the lug on said shoe.

5. The combination with a brake shoe provided with an attaching lug, of a brake head provided with lugs having an opening therein, and a key straddling said lug on the shoe and passing through and impinging against the walls of the openings in the lugs in said head.

6. The combination with a brake shoe, of a brake head, and an attaching key, said key being formed of two members free at one end and joined at the other, the free ends of said key passing through said brake head.

7. A brake shoe provided with an attaching lug, in combination with a key, said lug adapted to be straddled by said key.

8. A brake shoe provided with an attaching lug, said lug being formed with a vertical wall, and an attaching key adapted to straddle said wall.

9. A brake shoe provided with an attaching lug, said lug being formed with a vertical wall provided with a shoulder in combination with a key adapted to straddle said wall and engage said shoulder.

10. A brake shoe provided with an attaching lug, said lug being anchored in said shoe and formed with a shouldered vertical wall.

11. A brake shoe provided with an attaching lug, said lug comprising a base, a vertical wall, and a shouldered upper portion.

12. A brake shoe provided with an attaching lug, said lug being formed with a hollow base for anchorage in the shoe, and a shouldered wall.

13. A brake shoe provided with an attaching lug, said lug being formed of a single piece of metal and comprising a base and a shouldered vertical wall.

Signed at New York borough of Manhattan in the county of New York and State of New York this 10<sup>th</sup> day of February A. D. 1910.

HARRY JONES.

Witnesses:

W. P. EDSON,  
A. V. WALSH.