

No. 817,893.

PATENTED APR. 17, 1906.

C. W. ARMBRUST.  
BRAKE SHOE.  
APPLICATION FILED NOV. 13, 1905.

Fig. 1.

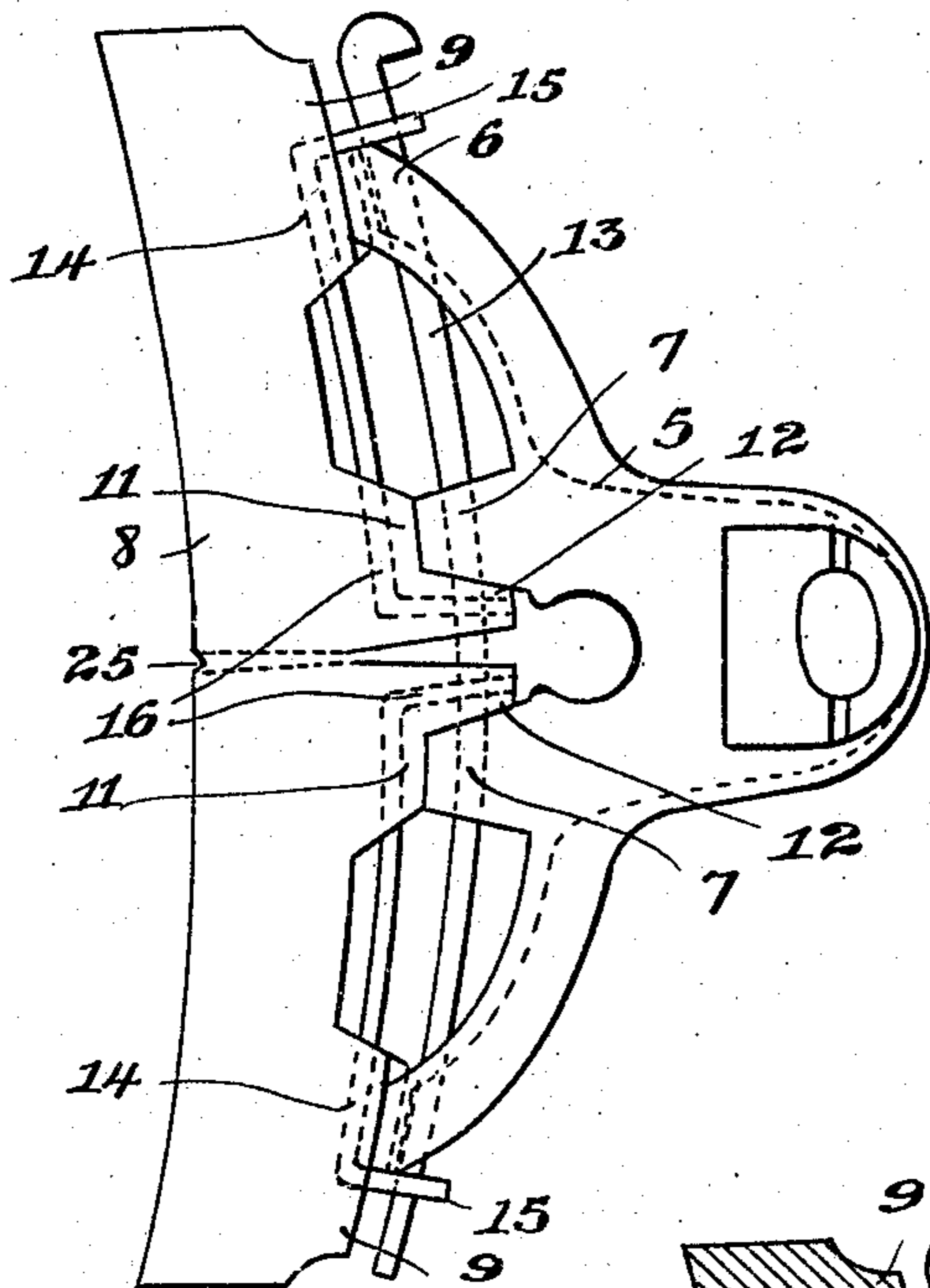


Fig. 2.

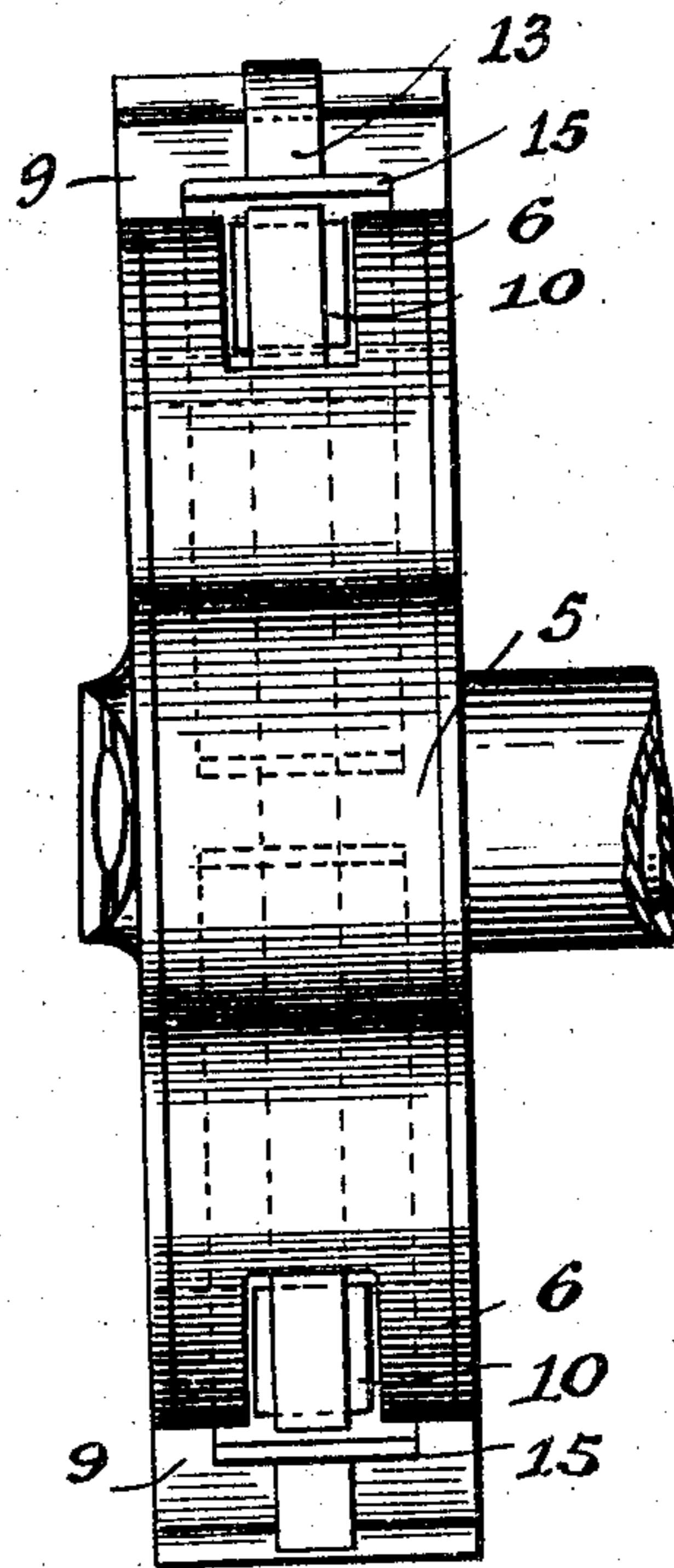
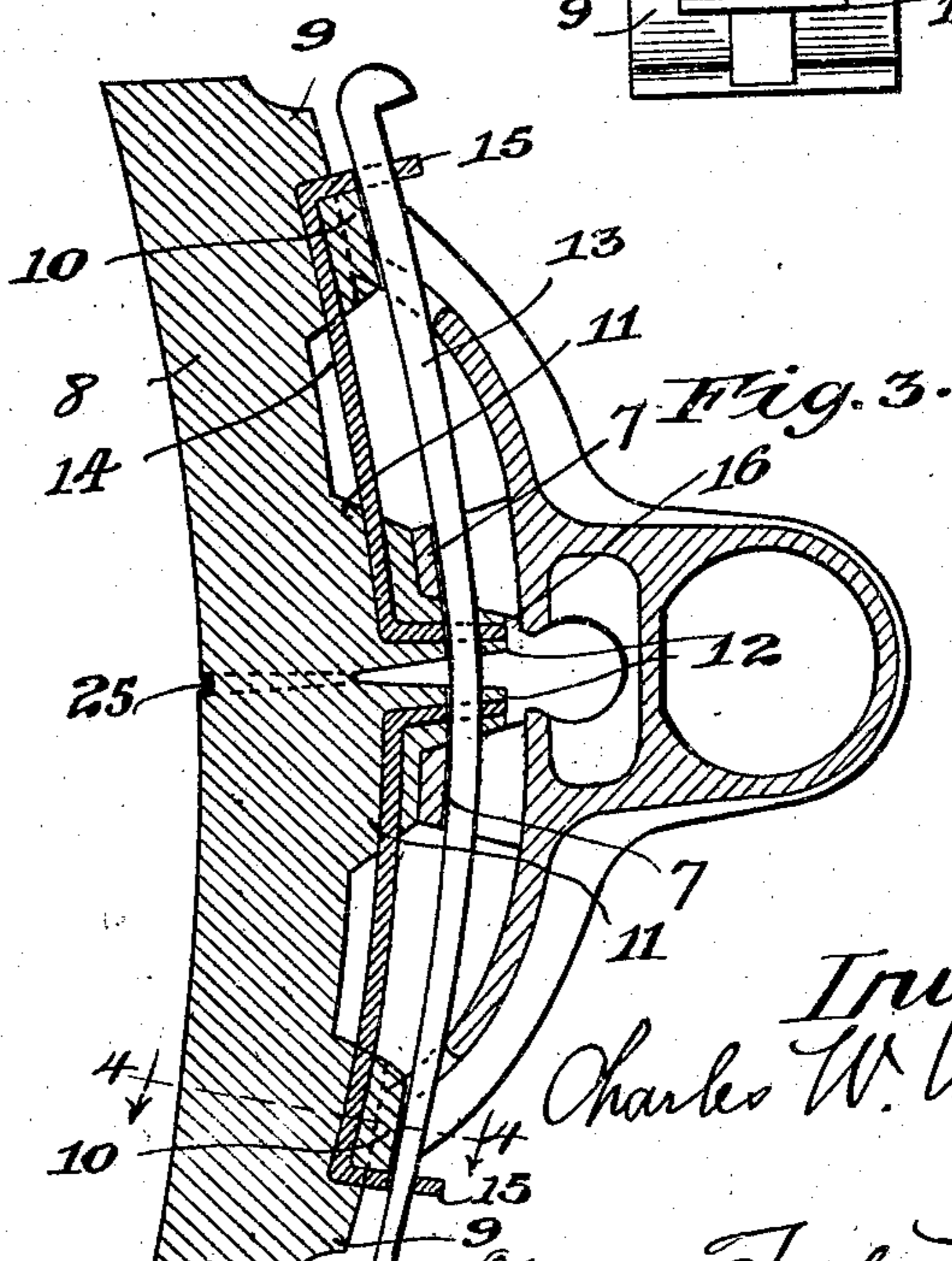
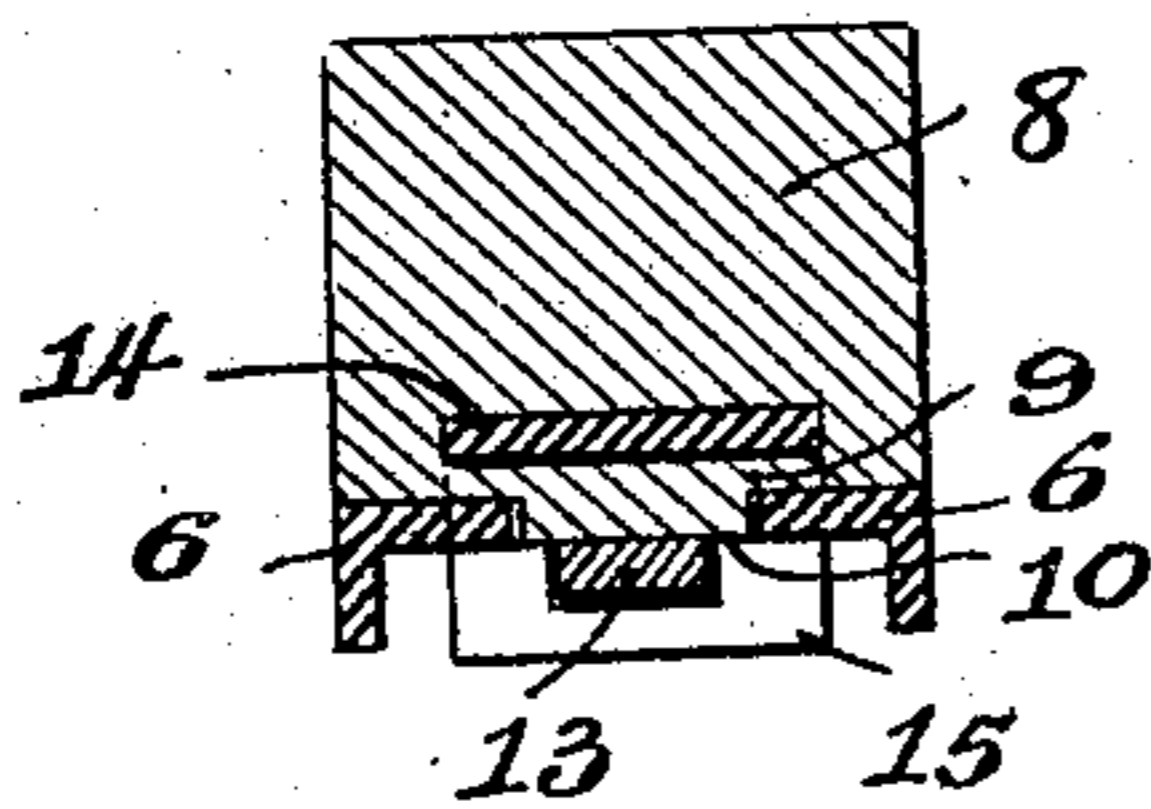


Fig. 4.



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# UNITED STATES PATENT OFFICE.

CHARLES W. ARMBRUST, OF CHICAGO, ILLINOIS.

## BRAKE-SHOE.

No. 817,893.

Specification of Letters Patent.

Patented April 17, 1906.

Application filed November 13, 1905. Serial No. 287,060.

*To all whom it may concern:*

Be it known that I, CHARLES W. ARMBRUST, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Brake-Shoes, of which the following is a specification.

This invention relates to brake-shoes of that type in which the shoe proper is separably or detachably connected to its supporting or carrying member, commonly known as the "head."

In an application executed by me on the 6th day of November, 1905, and filed in the Patent Office on the 9th day of November, 1905, Serial No. 286,571, I have disclosed and claimed a brake-shoe construction characterized chiefly by the provision of filling and spacing members between the back of the shoe proper and the head in order to enable substantially the entire body of the shoe to be worn up without danger of injuring the head even under uneven wear of the shoe.

My present improvements are based upon the improved form of shoe forming the subject-matter of the aforesaid application, and consist, essentially, in the provision of novel means carried by the shoe for separably connecting the shoe to the head, such means comprising a member or members cast in the filling and spacing lugs on the back of the shoe, said members having projecting portions apertured to receive the key that connects the shoe to the head, these apertured portions in part taking the place of integral apertured lugs or keepers shown in the application aforesaid. These inserted fastening means in their preferred form and as herein shown also serve the additional function in case of breakage of the shoe of holding the parts together and retaining them connected to the head, so that they can continue in service until worn out without danger of falling to the track, with the consequent liability to wrecks, and also of holding the spacing-lugs against falling to the track when the shoe proper has been worn out.

My invention in a preferred form is illustrated in the accompanying drawings, wherein—

Figure 1 is a side elevational view of a complete shoe and head embodying my improvements. Fig. 2 is an edge elevational view of the same looking toward the head.

Fig. 3 is a longitudinal sectional view, and Fig. 4 is a cross-sectional view on the line 4 4 of Fig. 3.

Referring to the drawings, 5 may designate the brake-head in the usual standard form, having the forked ends 6 and the intermediate inner apertured lugs 7.

8 designates the tread or body portion of the shoe. On the back of the shoe-body 8 are cast integrally therewith a series of members designed to cooperate with the head in guiding and holding the shoe relatively to the head and also in spacing the shoe from the head, so that the former may be entirely used up and worn out without danger of wearing or injuring the head. Referring to these members more particularly, 9 designates each of a pair of filling and spacing lugs on the opposite ends of the outer side of the shoe, on which lugs are cast guide-lugs 10, lying between the forked ends 6 of the head, thus preventing relative lateral displacement between the head and shoe. On the intermediate part of the outer side of the shoe is cast a pair of filling and spacing lugs 11, on which rest the inner ends of the lugs 7 of the head, and also apertured holding lugs or keepers 12, through which the key 13 passes.

In casting the shoe I embed in the spacing and filling lugs 9 at the ends thereof relatively thin sheet iron or steel strips 14, the outer ends of which are caused to project beyond the faces of the filling and spacing lugs, as shown at 15, and are apertured to receive the ends of the key 13, whereby the end portions of the shoe are connected to the key. Preferably, and as herein shown, the embedded strips 14 are extended inwardly of the shoe between the lugs 9 and 11, their other ends being embedded in the lugs 11 and also projecting through and embedded in the fastening-lugs 12, as shown at 16, this construction in case the shoe breaks transversely at any point insuring the retention of the broken parts in service until worn out and preventing their falling to the track. This construction also retains the filling and spacing lugs in place and in service after the entire shoe-body has worn away and also prevents all possibility of wear falling upon parts of the head.

From the foregoing it will be seen that the inserted or embedded strips do not have the function of steel backs or brake-shoe rein-

5 forcements, nor do they engage the shoe-body proper at all, but rather serve as holding and attaching means which also prevent the falling away of the parts of the shoe in case of breakage or of the filling and spacing lugs when the shoe is worn out.

10 The shoe-body is shown as transversely weakened by scoring at its longitudinal center, as indicated at 25, in order to cause accidental breakage of the shoe to occur at a predetermined point, where such breakage is immaterial, thus lessening the likelihood of breakage at material points. This feature, however, forms, in part, the subject-matter of my companion application above referred to and is not claimed herein.

20 It is evident that variations and modifications in respect to the details of structure from the invention as described and shown may be made by those skilled in the art without departing from the principle of the invention or sacrificing any of the advantages thereof. Hence the invention is not limited to the particular embodiment thereof selected for purposes of illustration and description.

25 I claim—

30 1. A brake-shoe provided with filling and spacing lugs adapted to separate the same from the head sufficiently to allow the shoe-body to be entirely worn out without danger of wearing the head even under uneven wear of the shoe, and having embedded in said filling and spacing lugs means for attaching the same to the head, substantially as described.

35 2. A brake-shoe provided at its ends with filling and spacing lugs adapted to separate the same from the head sufficiently to allow the shoe-body to be entirely worn out without danger of wearing the head even under uneven wear of the shoe, and having embedded in said filling and spacing lugs apertured attaching-lugs adapted for engagement with the key by which the shoe is separably connected to the head, substantially as described.

40 3. A brake-shoe provided at its ends and intermediate portions with filling and spacing lugs adapted to separate the same from the head, and having embedded in said filling and spacing lugs metal strips, the outer ends of which project from the end filling and spacing lugs in the form of apertured lugs adapted for engagement with the key by which the

shoe is separably connected to the head, substantially as described.

4. The combination with a head having 55 apertured internal attaching-lugs, of a brake-shoe having on its back integral filling and spacing lugs adapted to separate the same from the head, metal strips embedded in the end filling and spacing lugs and projecting 60 from the latter in the form of apertured attaching-lugs, and a key passing through the latter and the internal attaching-lugs of the head, substantially as described.

5. The combination with a head having 65 apertured internal attaching-lugs, of a brake-shoe having on its back integral end and intermediate filling and spacing lugs adapted to separate the same from the head, metal strips embedded in the end and intermediate 70 filling and spacing lugs on each longitudinal half of the shoe and projecting from the end lugs in the form of apertured attaching-lugs, and a key passing through the latter and the internal attaching-lugs of the head, substantially 75 as described.

6. The combination with a head having apertured internal attaching-lugs, of a brake-shoe having on its back integral end and intermediate filling and spacing lugs adapted 80 to separate the same from the head and intermediate integral attaching-lugs on said intermediate filling and spacing lugs, metal strips embedded in the end and intermediate filling 85 and spacing lugs and the intermediate attaching-lugs on both longitudinal halves of the shoe, respectively, and projecting from the end filling and spacing lugs in the form of apertured attaching-lugs, and a key passing 90 through the latter and the apertured attaching-lugs of the shoe and head, substantially as described.

7. A brake-shoe provided on the back thereof with filling and spacing means of sufficient thickness to allow the shoe-body to be 95 entirely worn out without danger of wearing the head even under uneven wear of the shoe, and having embedded in said filling and spacing means attaching-strips separated from the shoe-body proper, substantially as described. 10

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