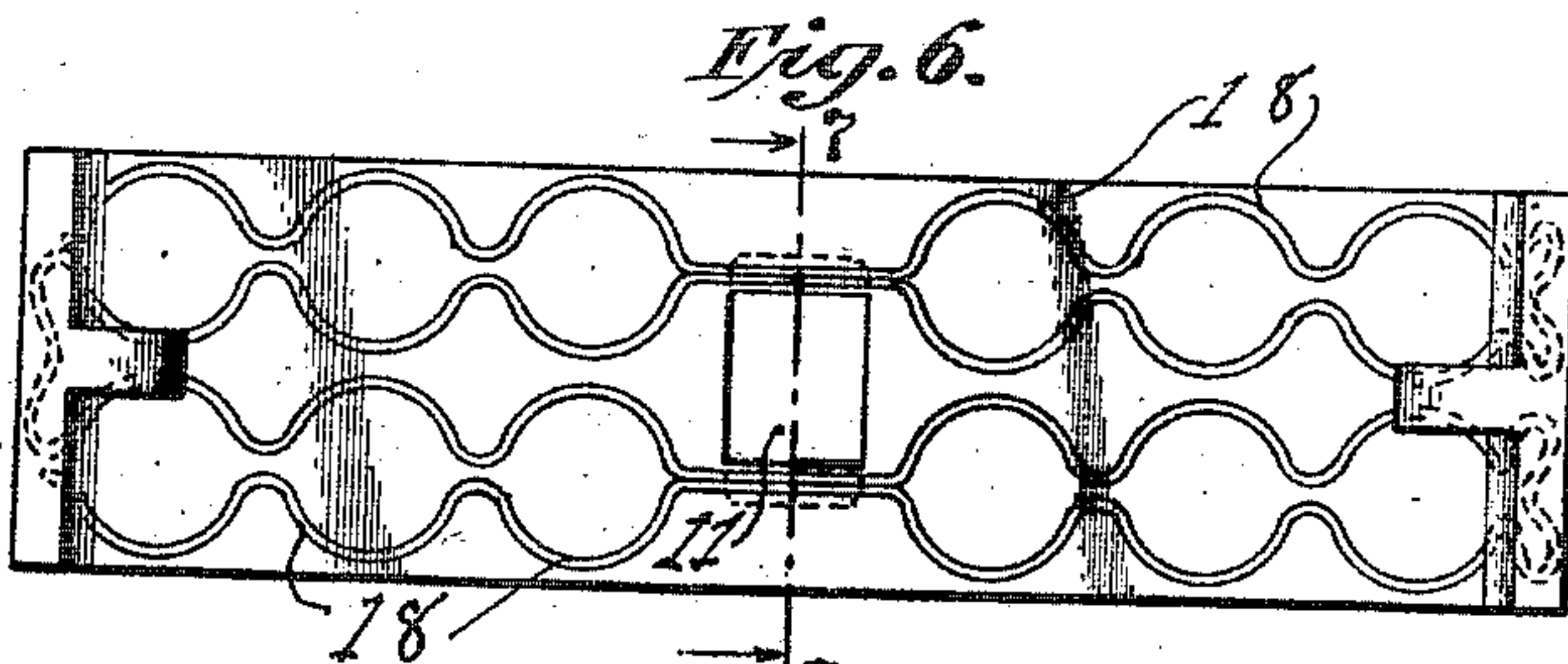
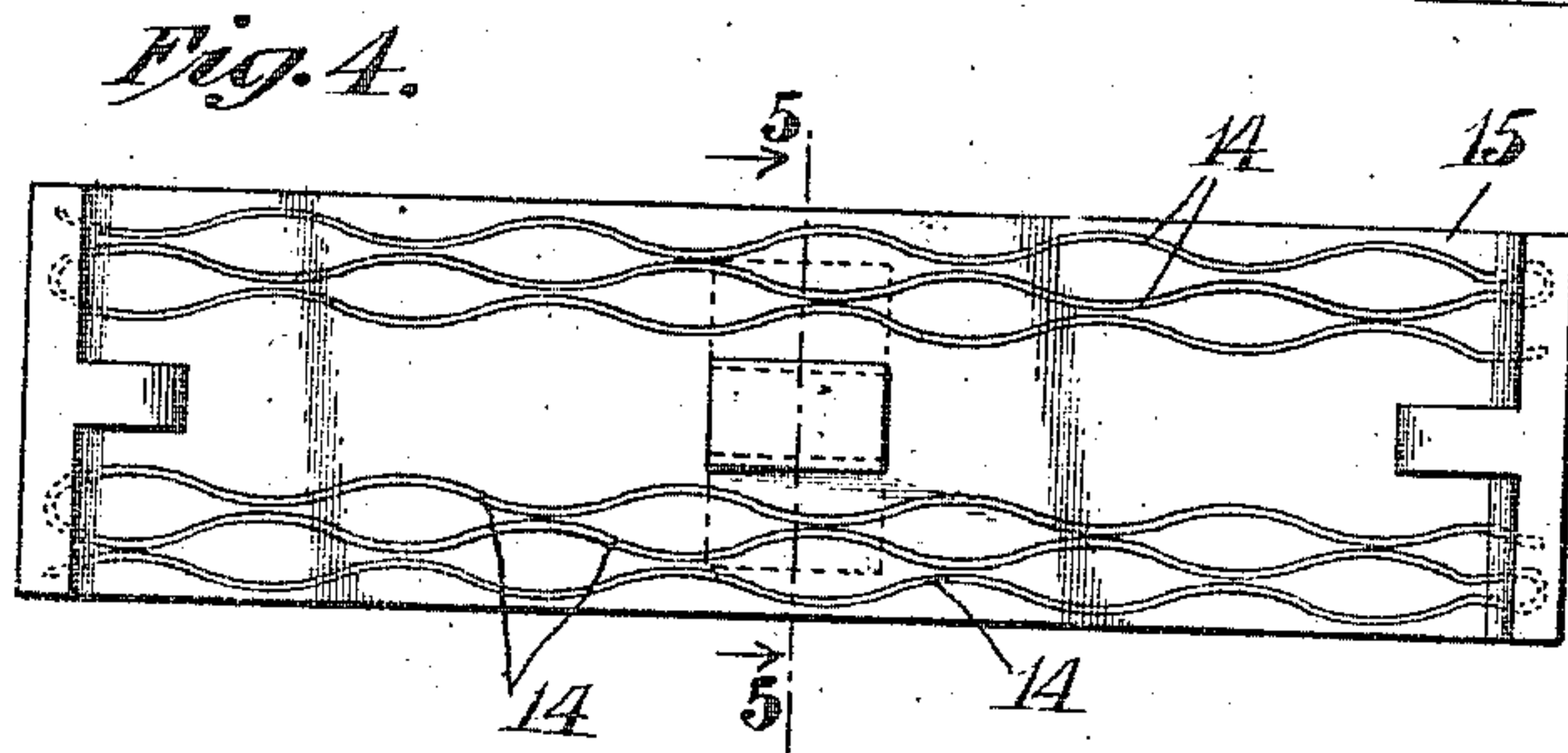
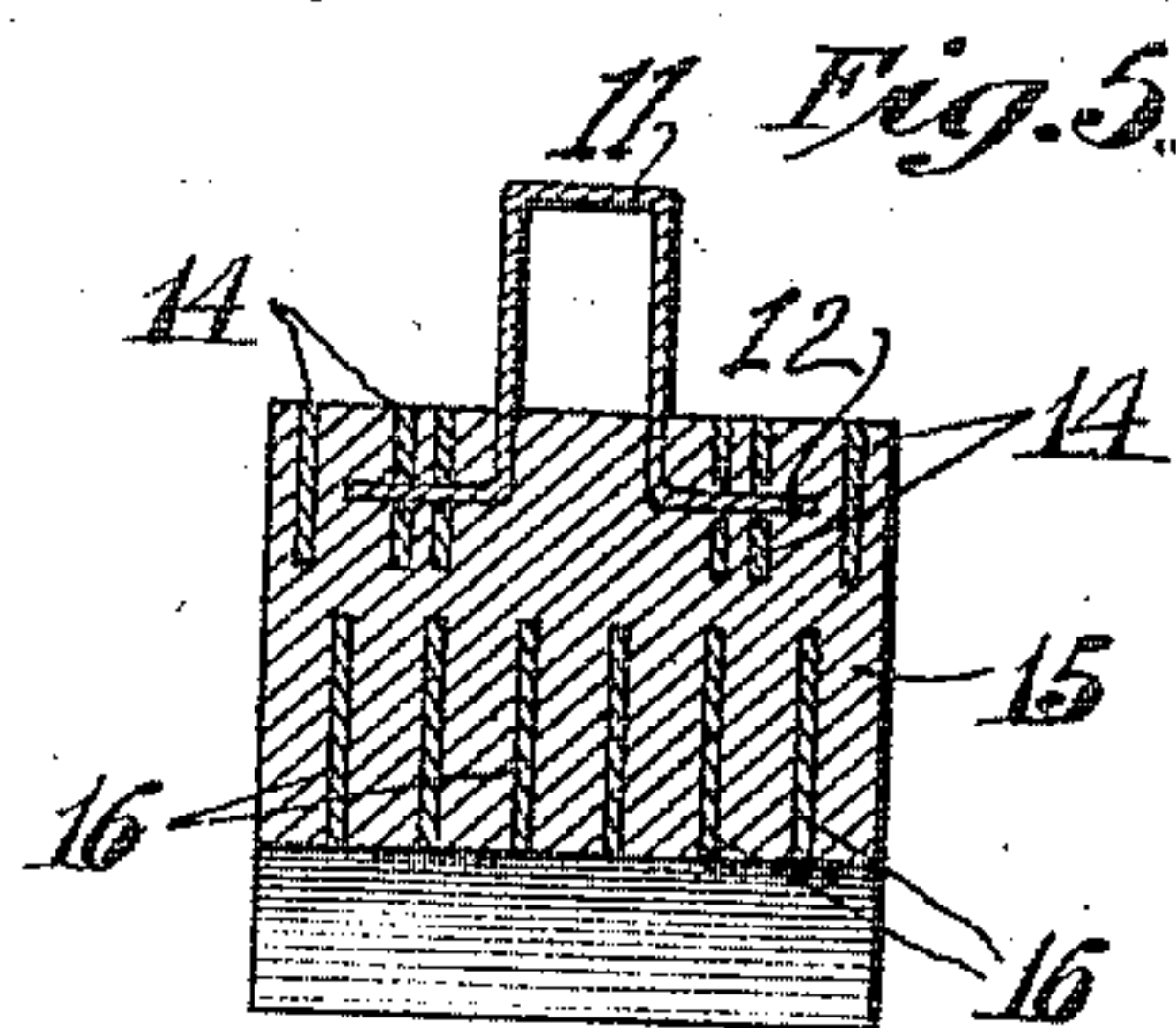
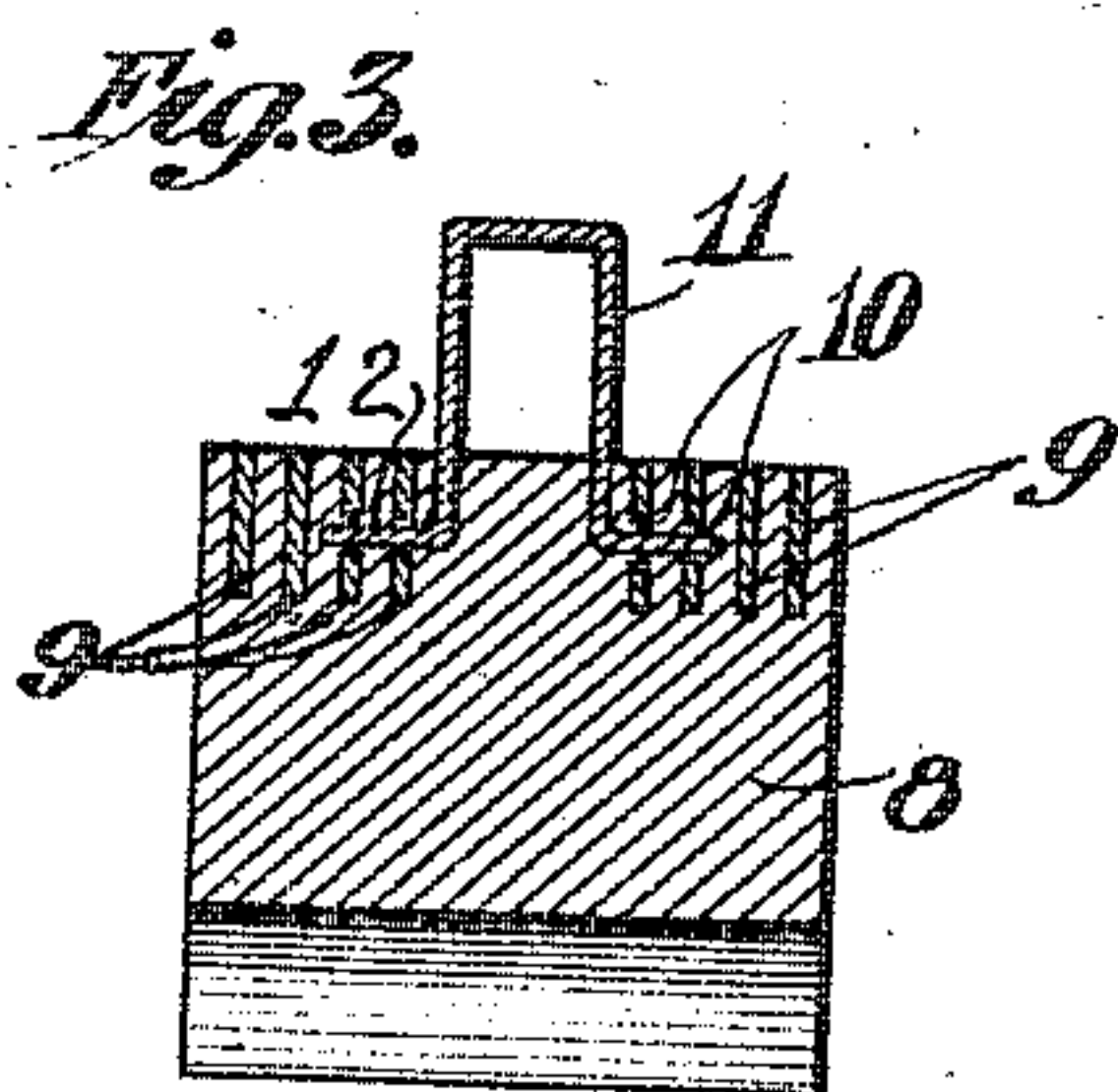
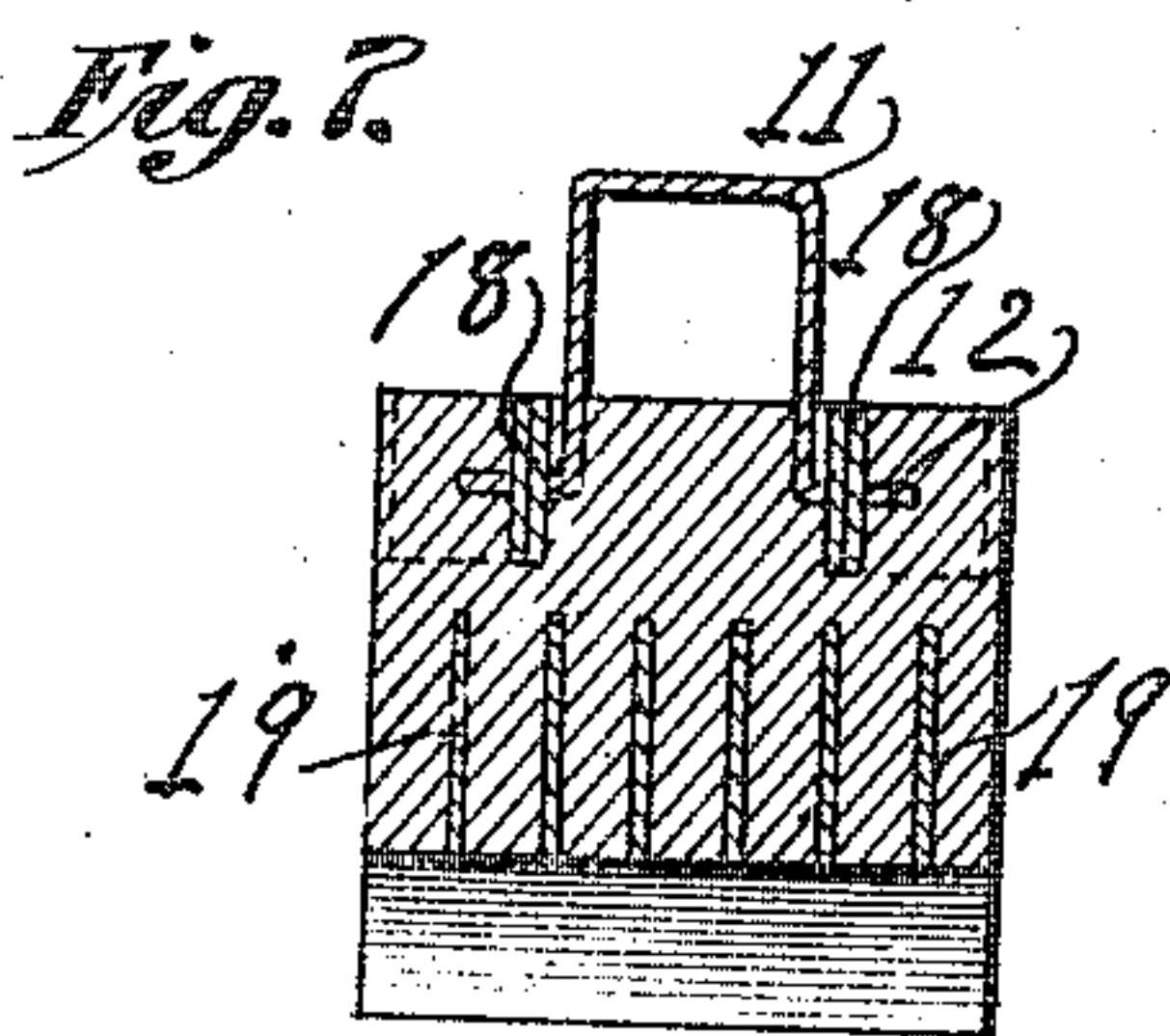
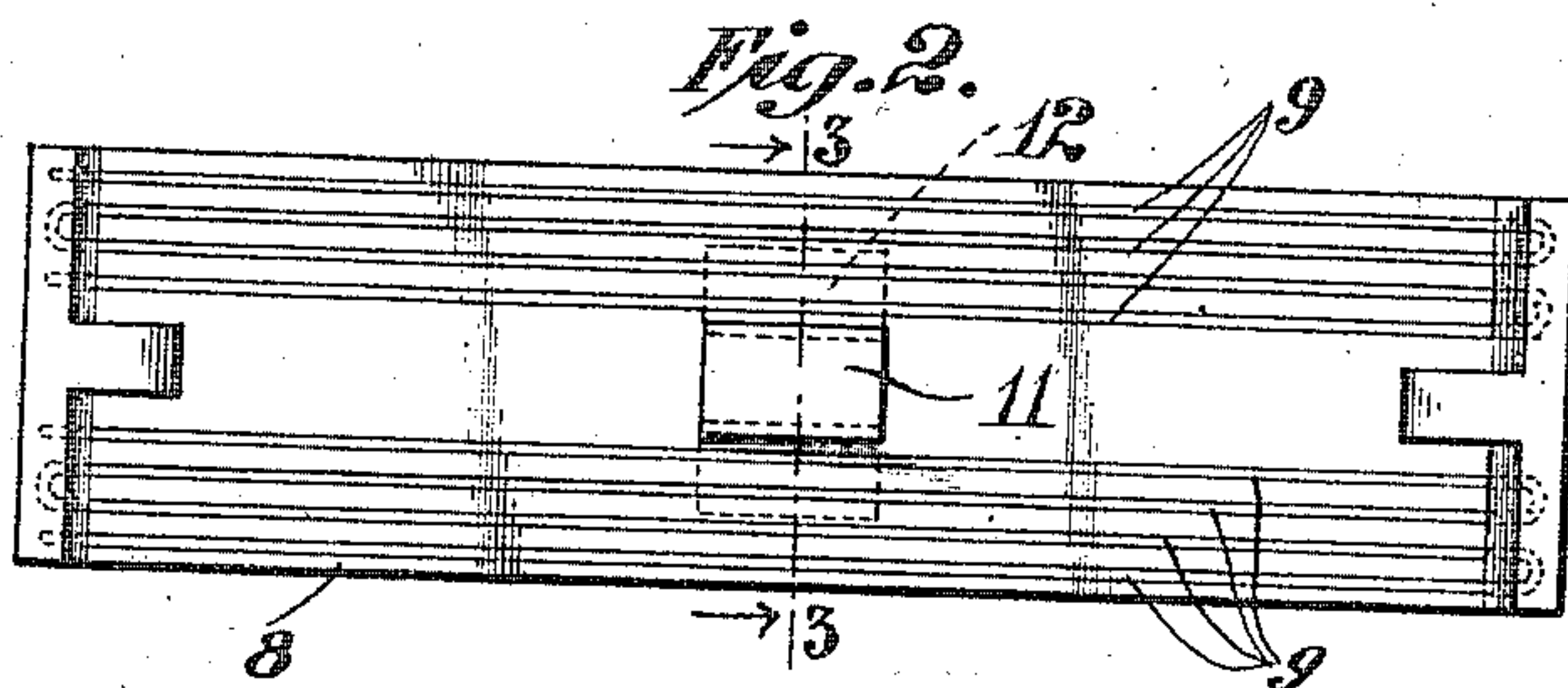
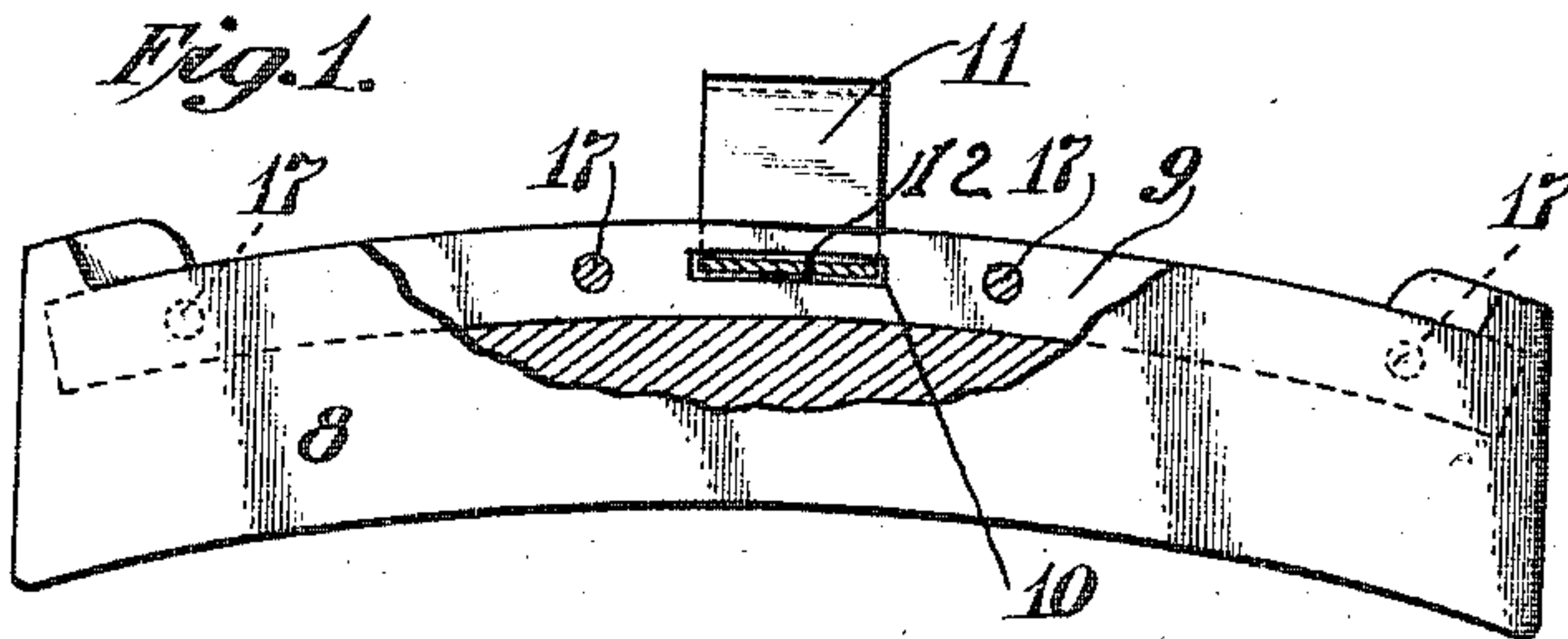


995,149.

H. JONES.
BRAKE SHOE.
APPLICATION FILED MAR. 9, 1911.

Patented June 13, 1911.



Attest:
Ed Mitchell
R. N. Flint.

by

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Atty

UNITED STATES PATENT OFFICE.

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

BRAKE-SHOE.

995,149.

Specification of Letters Patent. Patented June 13, 1911.

Application filed March 9, 1911. Serial No. 613,218.

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 brake shoes designed for use upon railway cars and of the type wherein a cast metal body portion is provided with a strengthening and stiffening back of wrought metal embedded in the body portion of the shoe, and the object thereof is to provide an improved form of back stiffening or strengthening element which will impart greater strength to the shoe than has commonly been attained in the use of prior forms of back strengtheners; to provide a back strengthener which will hold the parts of the shoe together should the same become broken in use more effectively than has commonly been the case; to provide a back strengthener which may be readily and cheaply manufactured from a common form of stock at a minimum of expense and effort; and to provide such other improvements in and relating to brake shoes of the type referred to as are hereinafter disclosed.

With the objects above enumerated in view, my invention consists in the improved brake shoe illustrated in the accompanying drawing, described in the following specification and particularly claimed in the clauses of the concluding claim, and in such modifications thereof as will be obvious to those skilled in the art to which my invention relates.

In the drawing accompanying and forming a part of this application; Figure 1 is a view showing my improved brake shoe in side elevation, a part of the body portion being broken away, to better show the stiffening member; Fig. 2 is a view showing the shoe in plan, this view showing the rear surface or back of the shoe; Fig. 3 is a view showing a section upon a transverse plane indicated by the line 3, 3, Fig. 2; Fig. 4 is a view similar to Fig. 2 but showing a modified form of back stiffening element; Fig. 5 is a view taken upon a transverse plane indicated by the line 5, 5, Fig. 4; Fig. 6 is a view similar to Fig. 2 but showing another form of back stiffening element; and Fig. 7 is a view showing a section upon a transverse plane indicated by the line 7, 7, Fig. 6.

In the drawing, 8 represents the body portion of the shoe, the same being formed preferably from cast iron, the composition of which will be such as to obtain maximum efficiency of the shoe when in use, and 9, 9 are wrought metal back stiffening or strengthening members embedded in the cast metal body portion and extending from the back of the shoe about one third of the way through the same toward the front or wearing face of the shoe; said stiffening members being formed preferably from a mild steel or wrought iron bar or ribbon bent or doubled upon itself as shown, so as to extend a plurality of times lengthwise of the shoe, thus providing a plurality of separate segments extending parallel with one another and arranged edgewise with reference to the rear surface or back of the shoe; the said stiffening members being curved longitudinally so as to conform, approximately, with an arc of the same curvature as the wheel with which the shoe is to be used. I preferably provide two such strengthening members as are above described, the same being located side by side in the rear portion of the finished shoe, as shown in Figs. 2 and 3. These stiffening members are provided with openings 10 at their middle portions, the openings in the separate segments being in line when the stiffening member is bent and caused to assume its final form; and 11 is a lug through which the brake shoe may be secured to a brake head, said lug being formed from wrought metal and being of inverted U form with outwardly bent portions 12 at its lower end which extend through the openings 10 aforesaid in one or more of the separate segments of the stiffening members 9.

In making my improved brake shoe the stiffening members 9 and the securing lug 11 are properly assembled and placed in the mold in which the shoe is to be formed, after which the molten cast metal of the body portion is poured thereinto, whereupon the back strengthening members 9 and the securing lug 11 become embedded in the body portion of the shoe; and, in order to more effectively secure the said strengthening members in place and unite the portions of the body lying upon opposite sides of the separate segments of the strengthening member, holes 17, as many as may be found necessary, are provided in the stiffening member through which the molten metal of the body portion

flows, thus securing a strong and permanent union between the strengthening member and the cast metal body portion of the shoe.

In Fig. 4, I have illustrated the use of a 5 corrugated bar or ribbon of wrought metal to form back stiffening members 14, the same being embedded in the cast metal body portion 15 of the shoe in the same manner as hereinbefore disclosed. This form of 10 strengthening back while somewhat more difficult to form than the form first disclosed, is in some respects to be preferred, as the metal of the strengthening member is distributed over a somewhat greater area of 15 the back of the shoe and parallel joints of considerable length between the body portion and the strengthening member are avoided.

The body portion 8 or 15 of my improved 20 brake shoe may or not be provided with a wrought metal insert to be worn away simultaneously with the body portion. Figs. 1 to 3 show a shoe without such an insert; while Figs. 4 and 5 show a ribbon 16 of wrought 25 metal bent or doubled upon itself in a way similar to the back stiffening members 9 and embedded in the body portion as the shoe is poured, the ribbon and body portion being simultaneously worn away as the shoe is 30 used.

In Figs. 6 and 7 I have illustrated a back stiffening member 18 formed in a single piece and extending throughout the entire area of the shoe. The said member is cor- 35 rugated in a way differing somewhat from the corrugated strip shown in Fig. 4, and said member 18 is provided with registering openings to receive the ends 12 of the securing lugs 11, the same as in the forms of my 40 brake shoe hereinbefore described. This form of my improved brake shoe is provided with an insert 19 of any form as above referred to.

The back stiffening member 9 being ar- 45 ranged edgewise with reference to the rear surface or back of the shoe imparts great strength thereto; and, because of the fact that the back stiffener extends into the body portion of the shoe much farther than has 50 usually been the case with back stiffeners heretofore in use, a shoe is provided in which should the same become broken in use the parts will be held together more effectively than if a comparatively thin stiffener, 55 and one extending but slightly into the body portion of the shoe were used.

Having thus described my invention, I claim and desire to secure by Letters Patent:

60 1. A brake shoe comprising a cast metal body portion; a back embedded therein and comprising a flat strip of metal bent or

doubled upon itself and extending a plurality of times longitudinally of the shoe and arranged edgewise with reference to the rear surface of the shoe; and means independent 65 of said strip, and in engagement therewith, whereby the brake shoe may be secured to a brake head.

2. A brake shoe comprising a cast metal body portion; a back embedded therein and 70 comprising a flat strip of metal bent or doubled upon itself and extending a plurality of times longitudinally of the shoe and arranged edgewise with reference to the rear surface of the shoe; and a lug independent 75 of said strip and in engagement therewith whereby the brake shoe may be secured to a brake head.

3. A brake shoe comprising a cast metal body portion; a wrought metal back em- 80 bedded therein and comprising a strip of metal bent or doubled upon itself and extending a plurality of times longitudinally of the shoe and arranged edgewise with reference to the rear surface of the shoe; said 85 strip being provided with an opening; and a lug the inner portion of which is embedded in the body portion of the shoe and which portion extends through the opening in said strip. 90

4. A brake shoe comprising a cast metal body portion; a back embedded therein and comprising two strips of metal each bent or 95 doubled upon itself and each extending a plurality of times longitudinally of the shoe, said strips after having been bent as aforesaid being arranged side by side and edgewise with reference to the rear surface of the shoe; and a lug engaging both said strips and whereby the shoe may be secured to a 100 brake head.

5. A brake shoe comprising a cast metal body portion; a back embedded therein and comprising two strips of metal each bent or 105 doubled upon itself and each extending a plurality of times longitudinally of the shoe, said strips being arranged side by side and edgewise with reference to the rear surface of the shoe, each of said strips being pro- 110 vided with a plurality of openings which register after the strips are bent; and a lug the inner portion of which is embedded in the body of the shoe and which portion extends through the registering openings 115 aforesaid in said strip.

Signed at Suffern, in the county of Rock- land and State of New York, this 27th day of February, A. D., 1911.

HARRY JONES.

Witnesses:

EUGENE M. GREEN,
C. C. MORGAN.