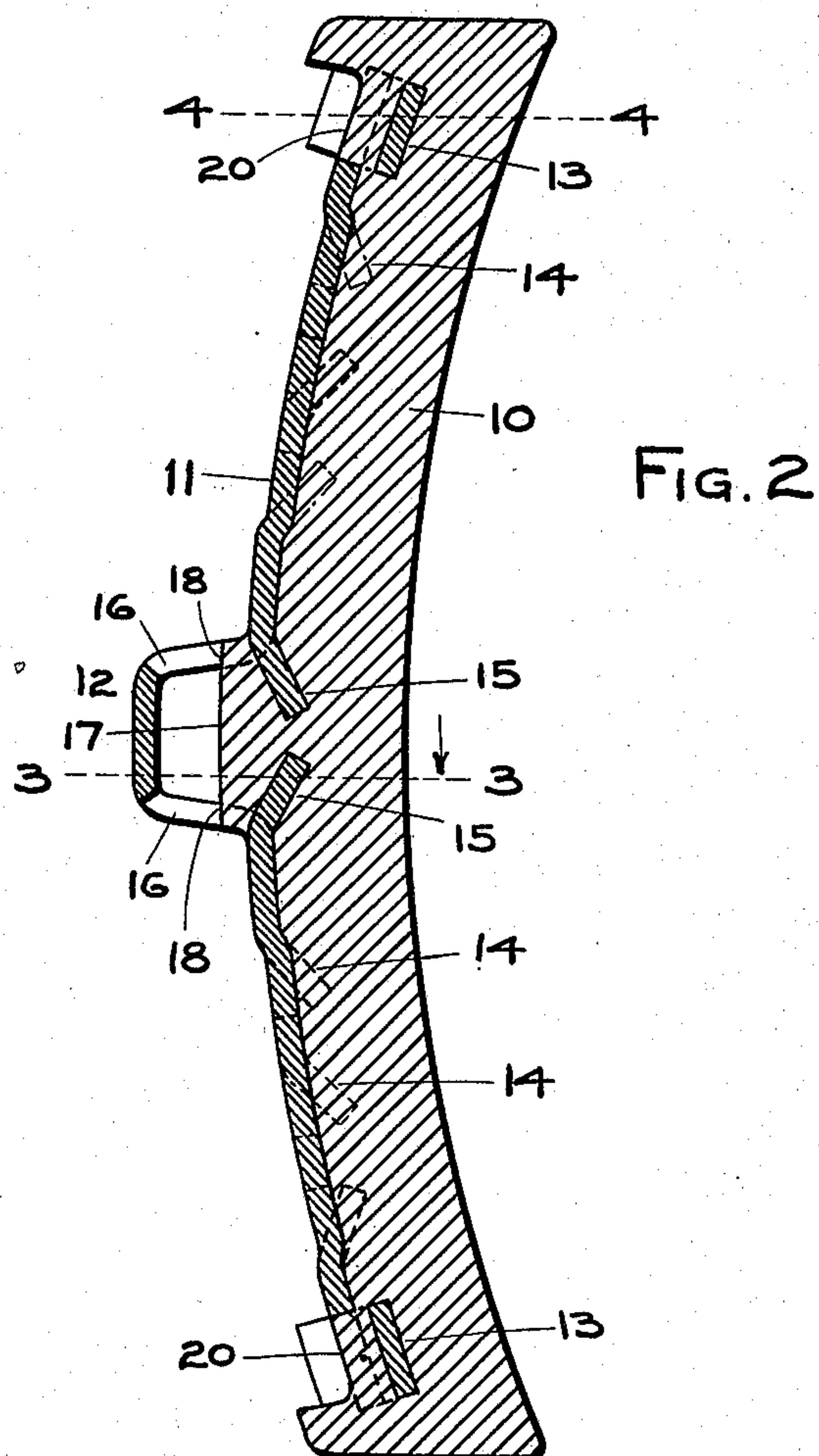
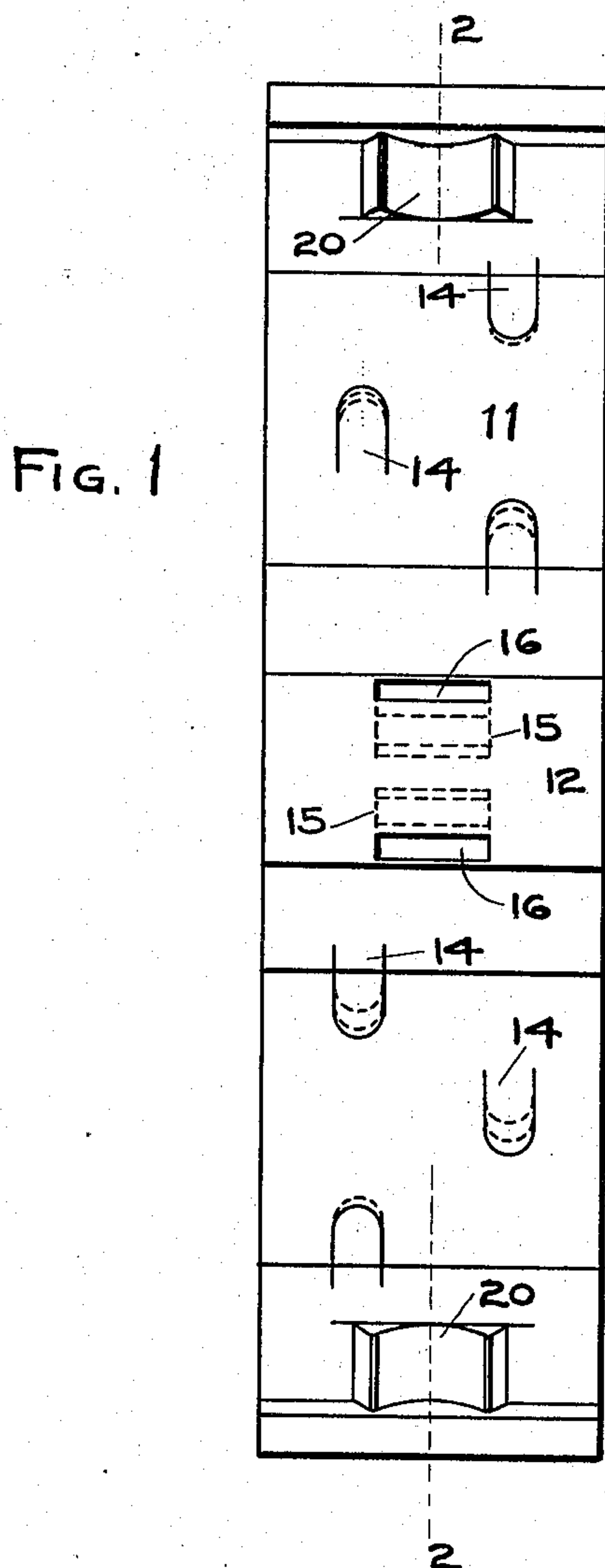
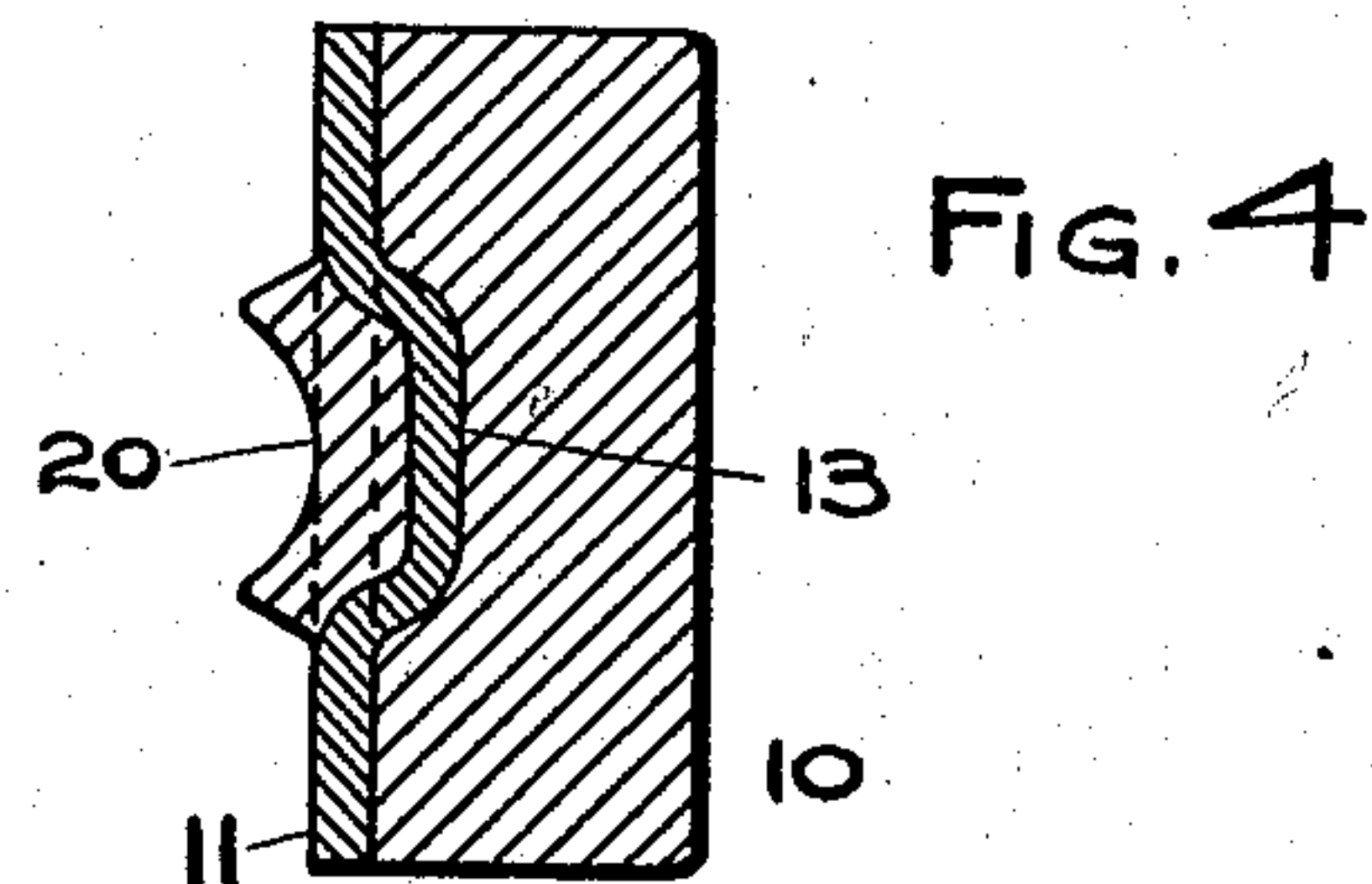
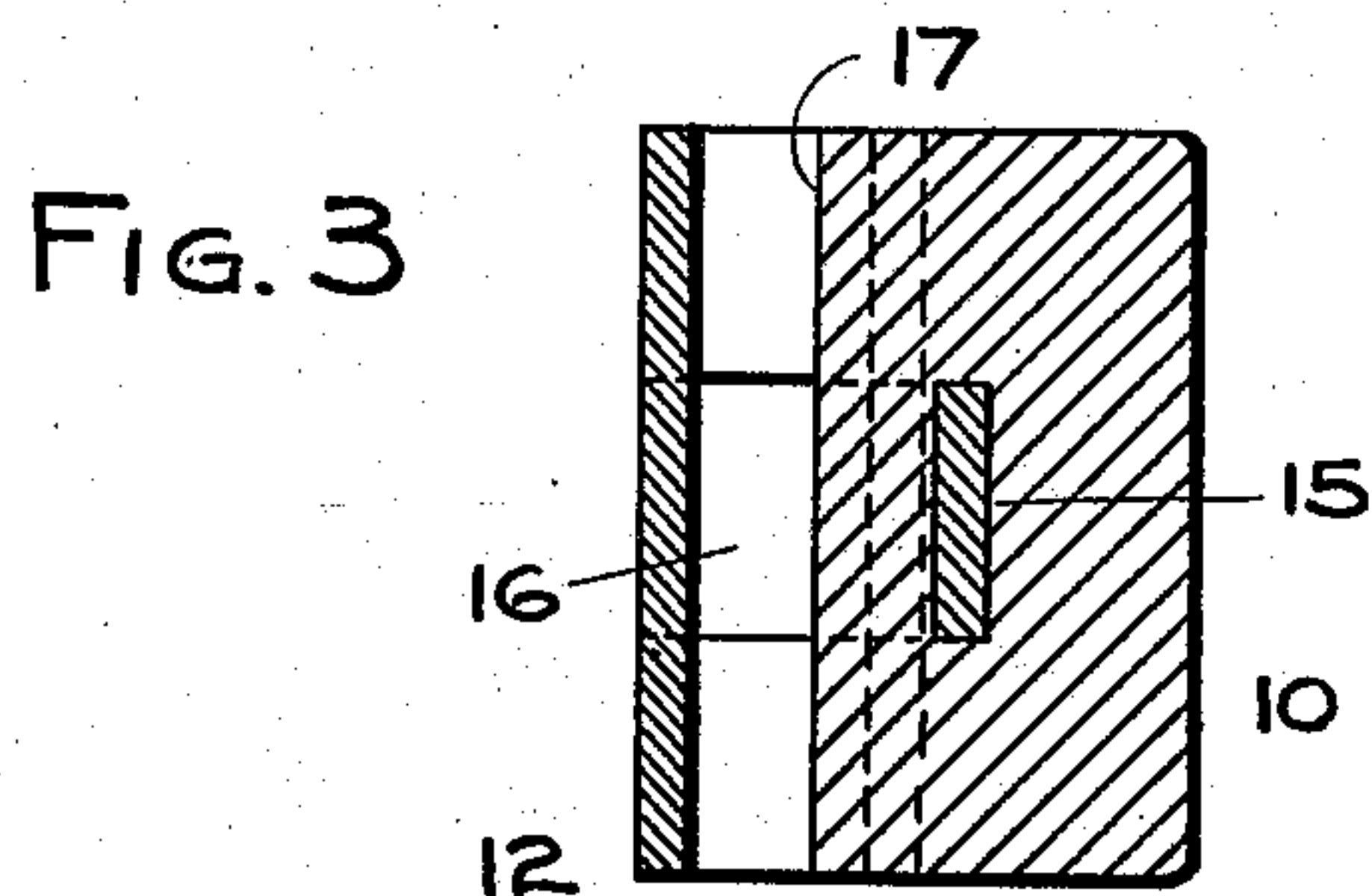


No. 854,985.

PATENTED MAY 28, 1907.

S. A. CRONE.
BRAKE SHOE.

APPLIOATION FILED FEB. 21, 1907.



WITNESSES:

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SETH A. CRONE, OF NEW YORK, N. Y.

BRAKE-SHOE.

No. 854,985.

Specification of Letters Patent.

Patented May 28, 1907.

Application filed February 21, 1907. Serial No. 358,629.

To all whom it may concern:

Be it known that I, SETH A. CRONE, a citizen of the United States, and a resident of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Brake-Shoes, of which the following is a specification.

The invention relates to improvements in brake-shoes, and it consists in the novel features hereinafter described, and particularly pointed out in the claims.

The brake-shoe of my invention comprises a cast metal body and a steel or forged metal back-plate, the two parts being permanently connected together by the casting of the metal of the body upon portions of the metal of the back. Brake-shoes consisting of a cast metal body and a steel or forged metal back are well known, and my invention pertains more particularly to a novel construction of the back-plate and a novel union of the cast metal body thereto, whereby an improved and more durable, safe and efficient structure is produced.

The invention will be fully understood from the detailed description hereinafter presented, reference being had to the accompanying drawings, in which:

Figure 1 is a back elevation of a brake-shoe constructed in accordance with and embodying the invention; Fig. 2 is a central vertical section of same on the dotted line 2—2 of Fig. 1; Fig. 3 is a transverse section of same on the dotted line 3—3 of Fig. 2, and Fig. 4 is a transverse section of the same on the dotted line 4—4 of Fig. 2.

In the drawings, 10 designates the body-portion of the shoe and 11 the back-plate, said body being, as usual, of cast metal and the back-plate 11 of steel or forged metal and the two parts being rigidly united by the casting of the cast-metal upon portions of the forged-metal back. The back 11 is in one integral plate extending nearly the entire length of the body 10 and preferably being of the same width as said body. The back 11 is formed at its transverse central portion with a box loop 12 and at its end portions with inwardly extending integral transverse loops 13, while intermediate the box loop 12 and the loops 13 the plate 11 is formed at various convenient points with inwardly extending inclined integral lips 14 slit and bent from the plate 11 and embedded within the body 10. The lips 14 are familiar

features in this art and therefore require no special description.

The novel features of my invention pertain more particularly to the constructions at the middle and end portions of the shoe, and in carrying out my invention I slit the plate 11, at each side of its transverse central portion, along three sides to form the lips 15, which I bend inwardly so that they incline in opposite directions, as shown in Fig. 2, for the purpose of creating the openings 16 for the passage of the usual securing-key through the box loop 12 and also to enable the cast-metal to flow around and over the said lips 15 and create a seat 17 within the box-loop, the cast-metal fully embedding the lips 15 and extending across the inner portion of the space formed within the loop 12 and between the opposite side walls of the openings 16 in said loop. The cast-metal thus, as at 18, covers over the outer surfaces of the lips 15 up to the lines at which said lips join the main body of the plate 11 and start to bend inwardly, and the structure thus formed at the transverse middle portion of the shoe is of very great advantage in securing a rigid union of the body and back-plate and a very durable and efficient shoe. The metal of the body 10 by entering the space within the loop 12 and filling in between the opposite sides of the openings 16 in said loop, not only aids in creating a durable union between the body and the back plate at a point at which it is highly desirable that such union be effected, but materially adds to the rigidity and efficiency of the structure as a whole. The box loop 12 extends entirely across the full width of the back plate 11 and the keyway openings 16 are at the center of the upper and lower sides of said loop.

The loops 13 at the end portions of the back-plate 11 are formed by transversely slitting the plate partly across its width near its ends and depressing the slit portions inwardly beyond the general plane of the body of the plate, thereby forming the loops 13 which, during the casting of the body 10 upon the plate, become covered over, as shown in Figs. 2 and 4, by the cast-metal, the cast-metal where it covers the loops 13 being numbered 20 and, opposite to the end portions of the loops 13, carried outwardly to form concave guides for the usual securing key and guides for the ends of the brake-head. The cast metal portions 20 may be of adequate thickness due to the depression of

the loops 13, and, as may be observed, this portion of the cast metal covers over the ends of the loops 13 where they join the body of the plate, whereby the end portions of the plate 11 not only become rigidly connected with the body 10 but the entire end portions of the shoe are rendered extremely strong and durable.

What I claim as my invention and desire to secure by Letters Patent, is:

1. A brake-shoe having a cast-metal body and plate back, said back being a plate which extends across the width of said body and is formed with a transverse box-loop containing in its upper and lower sides openings for a key, and said cast-metal being entered within the inner portion of said loop and between the side walls and over the inner edge walls of said openings; substantially as set forth.

2. A brake-shoe having a cast-metal body and plate back, said back having a box-loop containing key-way openings formed by slitting the metal at three sides to form lips and bending said lips inwardly; substantially as set forth.

3. A brake-shoe having a cast-metal body and plate back, said back having a box-loop containing key-way openings formed by slitting the metal at three sides to form lips and bending said lips inwardly, and said cast metal being entered within the inner portion of said loop and between the side walls of said openings; substantially as set forth.

4. A brake-shoe having a cast-metal body and plate back, said back having at its end portion a transverse inwardly depressed integral loop over which the cast metal extends; substantially as set forth.

5. A brake-shoe having a cast metal body and plate back, said back having at its end portion a transverse inwardly depressed integral loop over which the cast metal extends and said cast metal over said loop forming projecting guides; substantially as set forth.

6. A brake-shoe having a cast-metal body and plate back, said back having at its opposite end portions transverse inwardly depressed integral loops over which the cast metal extends and said cast metal over said loops forming projecting guides; substantially as set forth.

7. A brake-shoe having a cast-metal body

and plate back, said back having its inner transverse end portions depressed inwardly beyond the general plane of the back and said cast metal being extended over said portions, and said transversely depressed inner end portions of said back being integral at both their ends with said back; substantially as set forth.

8. A brake-shoe having a cast-metal body and plate back, said back having its inner transverse end portions depressed inwardly beyond the general plane of the back and said cast metal being extended over said portions, and thereat forming projecting guides, and said transversely depressed inner end portions of said back being integral at both their ends with said back; substantially as set forth.

9. A brake-shoe having a cast-metal body and plate back which throughout is of substantially the full width of said body and secured thereto by the body-metal being cast over lips cut from said back and pushed inwardly, said body-metal covering over said lips and filling the openings made in said back by the formation of said lips but not covering over the general surface of said back, and said back being formed at its transverse middle portion with a box-loop of the full width of the plate and having in its upper and lower sides openings for the key-way, substantially as set forth.

10. A brake-shoe having a cast-metal body and plate back which is of substantially the full width of said body and secured thereto by the body metal being cast over portions of said back, said back being formed at its transverse middle portion with a box-loop of the full width of the plate and having at the center of its upper and lower sides openings for the key-way, and said openings being formed by slitting the metal on three sides and bending the lips thus formed inwardly on converging lines to become embedded in the cast metal; substantially as set forth.

Signed at New York city, in the county of New York and State of New York, this 20th day of February A. D. 1907.

SETH A. CRONE.

Witnesses:

ARTHUR MARION,
CHAS. C. GILL.