Sept. 19, 1933. W. A. BLUME 1,927,012

FRICTION BRAKE

Filed June 28, 1930

Fig. 1

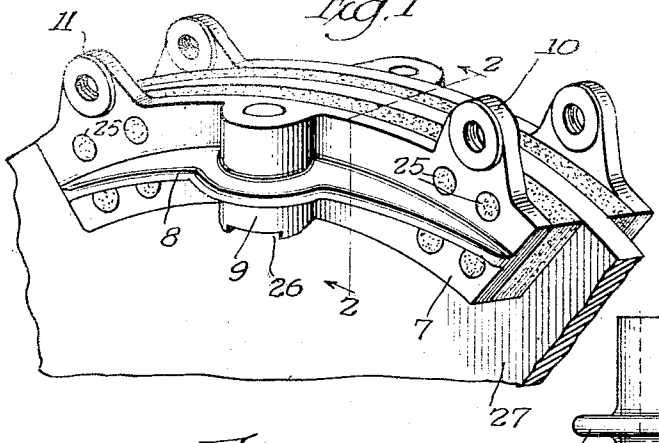


Fig. 2

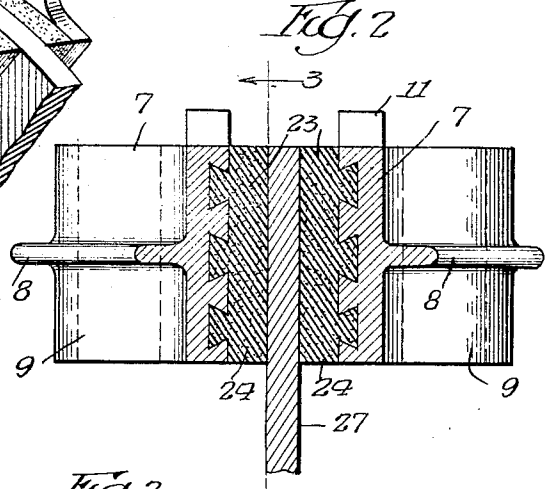


Fig. 4

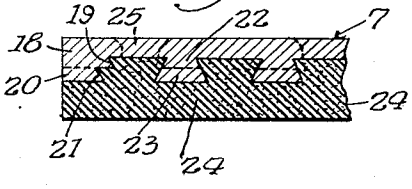


Fig. 3

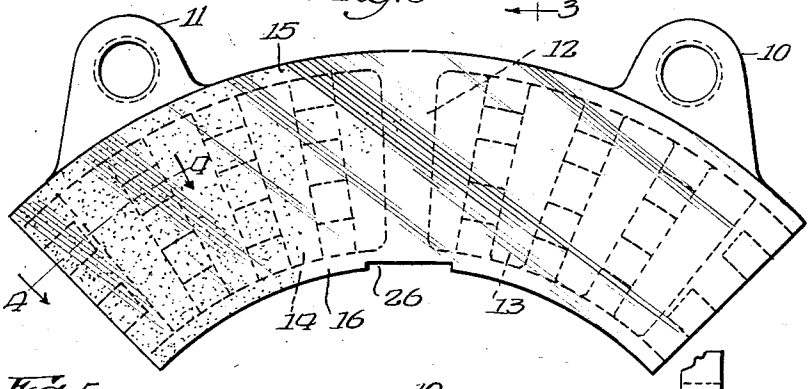


Fig. 5

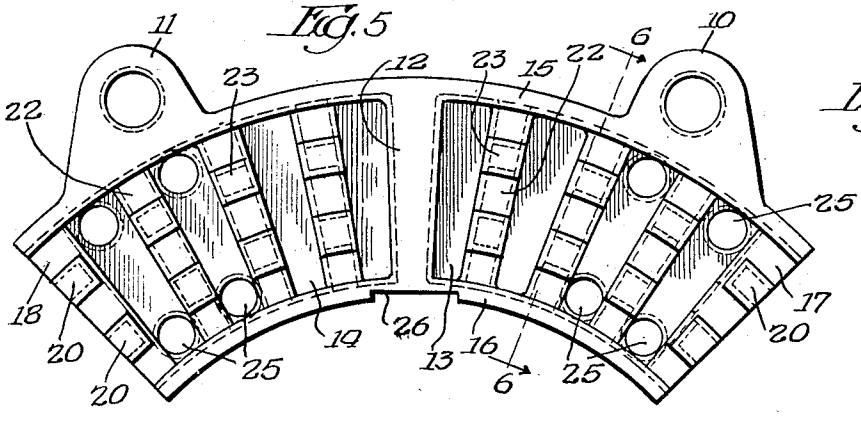
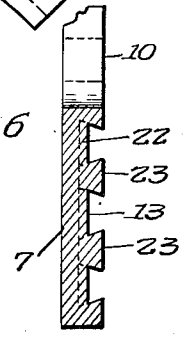


Fig. 6



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UNITED STATES PATENT OFFICE

1,927,012

FRICTION BRAKE

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Application June 28, 1930. Serial No. 464,634

7 Claims. (Cl. 188—242)

This invention relates to friction brakes and more particularly to that which embodies a slipper adapted for use with a rotating disk.

The objects of the invention are to provide a novel slipper which may be readily installed in position and replaced whenever desired, and which comprises a composition friction body securely united with the shoe.

A selected embodiment of the invention is illustrated in the accompanying drawing and, therein,

Fig. 1 is a perspective view illustrating my invention in association with a rotatable disk that is fragmentally shown;

Fig. 2 is a transverse sectional view taken substantially on the line 2—2 of Fig. 1;

Fig. 3 is an elevational view taken substantially on the line 3—3 of Fig. 2;

Fig. 4 is a sectional detail view taken substantially on the line 4—4 of Fig. 3;

Fig. 5 is an elevational view of the shoe; and

Fig. 6 is a sectional view taken substantially on the line 6—6 of Fig. 5.

Referring to the drawing showing my novel slipper, 7 is the shoe which, in the present instance, embodies a segmental body portion having a longitudinal rib 8 extending outwardly from one face thereof intermediate the side edges. The outer edge of the segment is preferably congruent to the edge of the periphery of the disk with which it is to be used. Substantially midway between the ends of the shoe 7 is a bearing portion 9 and the operating and supporting means are connected in this bearing in a suitable manner. On the upper edge of the shoe adjacent the ends are lugs 10 and 11 having openings therein to which operating and supporting means are connected, these last operating means cooperating with the operating means connected in the bearing 9. On the face of the shoe 7, opposite the rib 8, at the medial portion thereof, a rib 12 is defined by providing recesses 13 and 14 in this face, ribs 15 and 16 extending along the upper and lower side edges of the shoe providing in co-operation with the center rib 12 rims about the recesses 13 and 14. Extending between the ribs 15 and 16, at the ends of the shoe, are ribs 17 and 18 of less height than the ribs 15 and 16. As best illustrated in Fig. 4, the inwardly disposed edges of the ribs 17 and 18 are tapered as indicated at 19. At spaced points on the upper surface of the ribs 17 and 18 anchors 20 are provided, the outer edges of these anchors being continuations of the edge of the shoe, while the inner edges thereof are spaced from the inner edges of the ribs 17 and 18, these inner edges being tapered as indicated at 21. The transverse edges of the lugs 20 are are also tapered and thus the upper faces of both of the ribs 17 and 18 and the anchors 20 are of greater area than the base portions by reason of the tapering of the edges. Intermediate the center rib 12 and the ribs 17 and 18 are ribs 22 which have the side edges thereof tapered in the same manner as the edges 19 of the ribs 17 and 18, these ribs 22 being of a height substantially equal to the height of the ribs 17 and 18. The inwardly disposed edges of the ribs 15 and 16 and the center rib 12 are also tapered. On the ribs 22, in transverse alinement with each other and with the anchors 20, are anchors 23, and all the edges of these anchors 23 are tapered. The flat braking surface is provided by a block 24 of composition friction material that is pressed, molded, or otherwise mounted on the recessed face of the shoe 7. This material 24 is disposed about the ribs 22, anchors 23 and 20, and over all the area of the shoe to the outer edges of the ribs 17 and 18 and the ribs 15 and 16. By reason of the various tapers provided, this material will be securely joined and united with the shoe 7 to prevent displacement thereof from the shoe. In order to insure uniting of the material with the shoe, openings such as 25 are provided in the shoe intermediate certain of the ribs. The ends of these openings in the face having the rib 8 thereon are countersunk and, therefore, the material that enters these openings is anchored therein. It is manifest from the foregoing description that the composition friction material is firmly united with the shoe. A clearance recess 26 is provided in the lower edge of the slipper at the medial portion thereof in alinement with and extended across the bearing portion 9.

In the present instance, a disk indicated by 27 is arranged for rotation in a vertical plane, and slippers of the above described character are arranged in opposition on each side of the disk with the blocks thereon disposed toward the disk. When these slippers are moved into engagement with the disk 27 and pressure is applied a braking action results to retard rotation of the disk which may be, if desired, the disk of a so-called disk brake.

While I have illustrated and described a preferred form of my invention, it is to be understood that this is capable of variation and modification without departing from the purview thereof as set forth in the following claims.

I claim:

1. A slipper embodying a segmental shoe providing a flat face having enclosed recesses therein, said shoe having openings therein extending from said recesses, projections in said recesses, the edges of said recesses, projections, and openings being tapered, and a composition friction material on said flat face embedding said tapered edges and having portions extending into said openings, the embedding of said tapered edges and the extending of portions of said material through said openings firmly securing the material to the shoe to provide a unitary structure.

2. A slipper embodying a shoe providing a flat face having a recess therein enclosed by ribs extending along the longitudinal edges of the shoe and other ribs extending transversely across the shoe, said ribs having the edges thereof in said recess tapered, and a composition friction material on the flat face of said shoe and embedding the tapered edges of said ribs to interlock said composition material to said shoe to provide a unitary structure.

3. A slipper embodying a shoe providing a flat face having recesses therein enclosed by ribs extending along the longitudinal edges of the shoe and other ribs extending transversely across the shoe at the ends thereof and a rib extending transversely of the shoe medially thereof, said medial rib spacing the recesses from each other, said ribs having the edges thereof in said recesses tapered, and a composition friction material on the flat face of said shoe and embedding the tapered edges of said ribs to interlock said composition material to said shoe to provide a unitary structure.

4. A slipper embodying a shoe providing a flat face having recesses therein enclosed by ribs extending along the longitudinal edges of the shoe and other ribs extending transversely across the shoe at the ends thereof and a rib extending transversely of the shoe medially thereof, said medial rib spacing the recesses from each other, said ribs having the edges thereof in said recesses tapered, projections in said recesses having the edges thereof tapered, and a composition friction material on the flat face of said shoe and embedding all of said tapered edges to interlock said composition material to said shoe to provide a unitary structure.

5. A slipper embodying a shoe providing a flat face having recesses therein enclosed by ribs extending along the longitudinal edges of the shoe and other ribs extending transversely across the shoe at the ends thereof and a rib extending transversely of the shoe medially thereof, said medial rib spacing the recesses from each other, said ribs having the edges thereof in said recesses tapered, other ribs extending across said recesses and having the edges thereof tapered, and a composition friction material on the flat face of said shoe and embedding the tapered edges of said ribs to interlock said composition material to said shoe to provide a unitary structure.

6. A slipper embodying a shoe providing a flat face having recesses therein enclosed by ribs extending along the longitudinal edges of the shoe and other ribs extending transversely across the shoe at the ends thereof and a rib extending transversely of the shoe medially thereof, said medial rib spacing the recesses from each other, said ribs having the edges thereof in said recesses tapered, other ribs extending across said recesses and having the edges thereof tapered, projections on said other ribs and having the edges thereof tapered, and a composition friction material on the flat face of said shoe and embedding all of said tapered edges to interlock said composition material to said shoe to provide a unitary structure.

7. A slipper embodying a segmental shoe having a flat face, composition friction material on said flat face providing a braking surface, means on said flat face for anchoring the composition material, a medially positioned transversely extending bearing on the face of said shoe opposite said flat face, and a longitudinally extending reenforcing rib on said shoe opposite said flat face and extending from end to end medially of the edges thereof and about said bearing, said bearing and rib reenforcing said shoe to maintain the braking surface in contact with the face of the member engaged thereby.

WILLIAM A. BLUME.