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(54) **A brake for skates, particularly in-line roller skates and a skate equipped with the brake**

(57) The brake (1) for in-line roller skates described comprises a brake pad (6), a load-bearing structure (5) on which the pad (6) is mounted, and a shock-absorbing

element (15) interposed between the structure (5) and the pad (6).

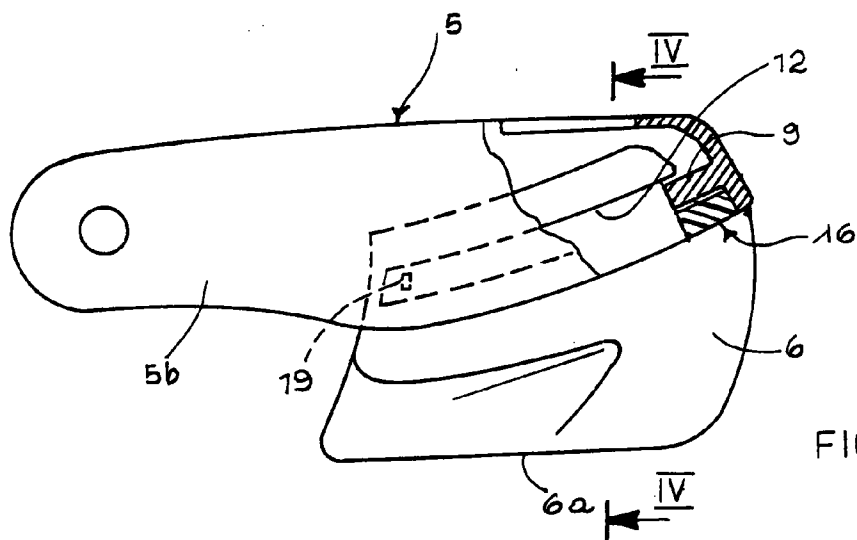


FIG. 3

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Description

The present invention relates to a brake for skates, particularly designed for in-line roller skates, according to the preamble to the main claim.

In the specific technical field, pad brakes both of the type with a load-bearing structure fixed to the wheel-carrier of the skate, and of the type with a structure pivoting on the carrier are known. One of the disadvantages encountered with these brakes lies in the undesirable vibrations generated on the pad during braking of the skate, due mainly to the unevenness of the braking surface of the pad, which is urged against the ground during braking and is gradually worn with use. These vibrations are transmitted through the pad to the load-bearing structure and from there to the skater's leg and are therefore quite troublesome.

The problem upon which the present invention is based is that of providing a brake for skates which is designed to overcome all of the disadvantages complained of with reference to the prior art mentioned.

This problem is solved by the invention by means of a brake formed in accordance with the following claims.

The characteristics and advantages of the invention will become clearer from the following detailed description of a preferred embodiment thereof, illustrated by way of non-limiting example with reference to the appended drawings, in which:

Figure 1 is a side elevational view of a brake formed in accordance with the present invention, mounted on a skate, shown only partially,

Figure 2 is an exploded, partially-sectioned, perspective view of a detail of the brake of Figure 1,

Figure 3 is a partially-sectioned, side elevational view of the detail of Figure 2,

Figure 4 is a section taken on the line IV-IV of Figure 3.

In Figure 1, a brake, generally indicated 1, is mounted on a wheel carrier 2 of an in-line roller skate 3, shown only partially. Wheels 4, arranged in line and with parallel axes, are supported rotatably on the carrier 2.

The brake 1 comprises a load-bearing structure 5 on which a brake pad 6, having a surface 6a to be urged against the ground in order to brake the skate, is mounted in the manner described in detail below.

The load-bearing structure 5 is substantially U-shaped with two arms 5a, 5b disposed side by side and interconnected by a curved wall 5c. Each arm 5a, 5b is articulated by its free end to the carrier 2 about the axis of the rear wheel 4 and is fixed to the carrier 2 at a third point by means of an anchoring element 7. The brake 1 has a device of the type described in the Applicant's patent application No. PD96A000118 for adjusting the pivoting of the structure 5 relative to the carrier 2. This device comprises an adjustment strut having one end connected to the structure 5 and an opposite end screwed into a ring nut 8 which in turn is housed in the

anchoring element 7. A detailed description of the adjustment device is contained in the above-mentioned patent application.

The load-bearing structure 5 also comprises a lip 9, preferably formed integrally with the structure. The lip 9 is U-shaped and carries, at each of its free ends, a projection 10 the function of which will be described in detail below.

The pad 6 has an element 11 for attachment to the structure 5, including a pair of reflectively symmetrical channel-sectioned grooves 12, 13 for engagement by interlocking coupling with the juxtaposed arms of the lip 9 in order to connect the pad 6 removably to the load-bearing structure 5.

A shock-absorbing element, indicated 15, is interposed between the structure 5 and the pad 6. The shock-absorbing element 15 comprises a layer 16 with opposite surfaces 17a, 17b and is shaped like a horse-shoe with respective arms 18a, 18b.

Each arm 18a, 18b of the layer 16 is housed in the respective groove 12, 13 with the surfaces 17a, 17b bearing against the lip 9 and against the pad 6, respectively.

The grooves 12, 13, the lip 9, and the layer 16 have dimensions in section such that the pad 6 is mounted on the structure 5 by slight forcing with consequent resilient deformation of the layer 16. This ensures that the pad is clamped to the structure. The projections 10, which are engaged in corresponding recesses 19 of the grooves 12, 13 when the lip 9 is fully fitted on the pad 6, also cooperate in this clamping.

The shock-absorbing element 15 is made of elastomeric material with a modulus of elasticity greater than that of the pad. It therefore performs the function of absorbing or at least damping the vibrations generated on the pad 6 during braking, which are due mainly to the unevenness of the braking surface 6a which is worn progressively in use. The shock-absorbing element 15 may be formed by materials with different resilience characteristics, according to the user's specific requirements or to the nature of the running surface for which the skate is intended.

It will be noted that both the shock-absorbing element 15 and the pad 6 can be replaced quickly and easily, even by the user, by virtue of the provision of the interlocking coupling described above.

Claims

1. A brake for an in-line roller skate (3), comprising a brake pad (6) and a load-bearing structure (5) on which the pad is mounted, characterized in that it comprises a shock-absorbing element (15) interposed between the load-bearing structure (5) and the pad (6).
2. A brake according to Claim 1, in which the shock-absorbing element (15) is interposed removably between the load-bearing structure (5) and the pad

(6).

3. A brake according to Claim 1 or Claim 2, in which interlocking coupling means (9) and counter-means (12, 13) are provided on the load-bearing structure (5) and on the pad (6), respectively, for connecting the pad (6) removably to the structure (5), the interlocking coupling means and counter-means being mutually engaged substantially with a form fit by means of the shock-absorbing element (15). 5 10
4. A brake according to one or more of the preceding claims, in which the shock-absorbing element (15) has different resilience characteristics from those of the brake pad (6) and, preferably, a greater modulus of elasticity than the brake pad. 15
5. A brake according to one or more of the preceding claims, in which the shock-absorbing element (15) comprises a layer (16) of elastomeric material. 20
6. A brake according to Claim 5, in which the layer (16) is horse-shoe-shaped.
7. An in-line roller skate comprising a wheel-carrier (2) and a pad brake (6) associated with the carrier, in which the brake comprises a load-bearing structure (5) on which the pad is mounted, characterized in that it comprises a shock-absorbing element (15) interposed between the load-bearing structure (5) and the pad (6). 25 30
8. A skate according to Claim 7, in which the load-bearing structure (5) is fixed to the wheel carrier (2) in a non-pivoting manner. 35
9. A skate according to Claim 7 or Claim 8, comprising a brake with a shock-absorbing element (15) according to one or more of Claims 1 to 6. 40

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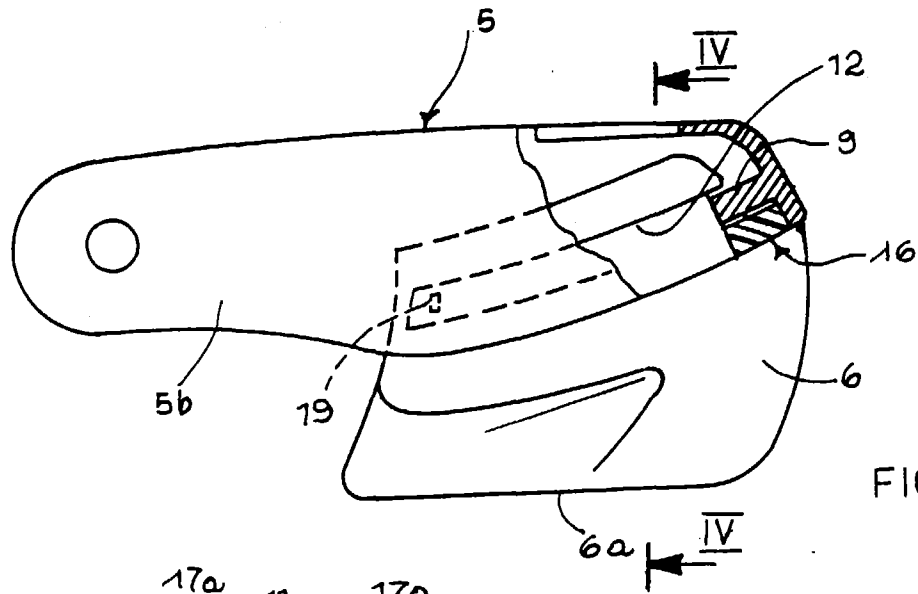


FIG. 3

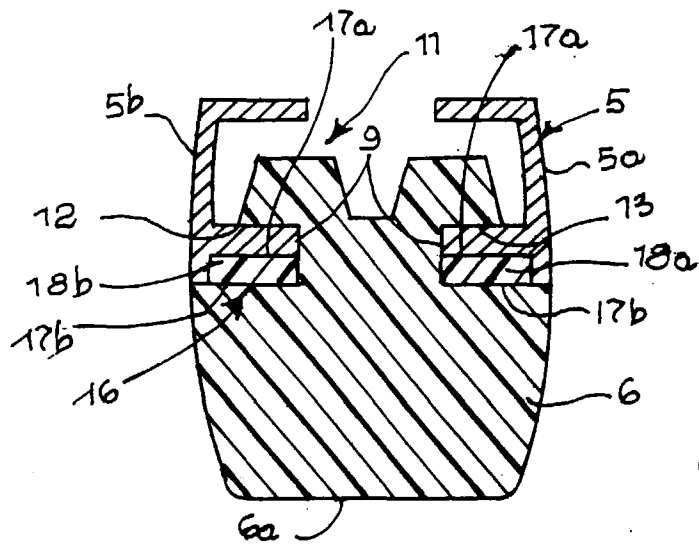


FIG. 4

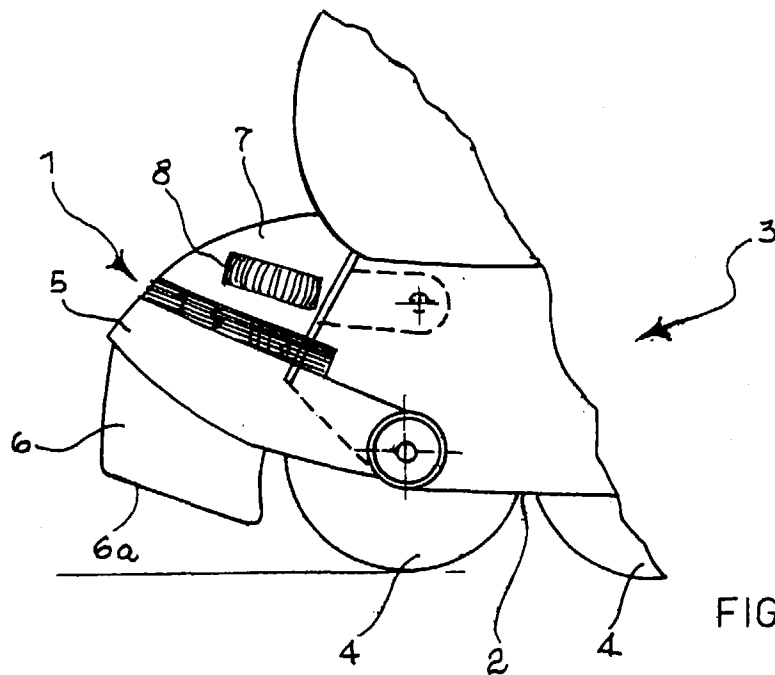


FIG. 1

