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MULTIPART HANDRAIL FOR MOVING STAIRWAYS

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Fig. 1.

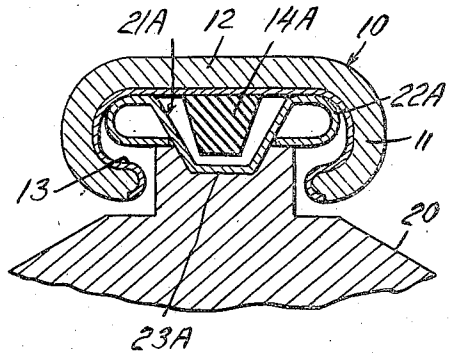
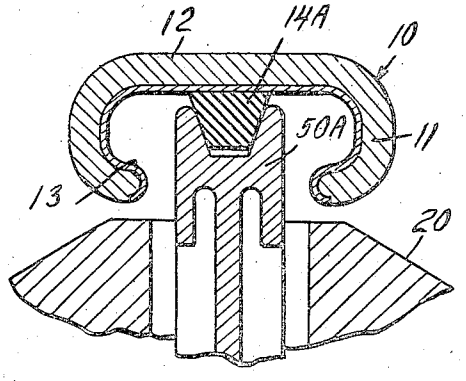


Fig. 2.



INVENTOR
Harold W. Shonnard
BY
Marshall & Hawley
ATTORNEYS

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MULTIPART HANDRAIL FOR MOVING STAIRWAYS

Harold W. Shonnard, Montclair, N. J.

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3 Claims. (Cl. 198—16)

This invention relates to improvements in multi-part hand rails for moving stairways.

Its object is to provide a flexible multi-part movable hand rail, one of its parts being constructed to form surfaces which are slidable on guides, and another of its parts forming a driving member separably secured to the first mentioned part between such slidable surfaces and adapted to be propelled to impart motion to the hand rail. The purpose of this invention is to provide a hand rail body portion having the usual characteristics of those in common use, of being stretchable and to a large extent elastic, together with a driving member having these same characteristics, separably attached to the body portion by a binder which is also stretchable.

By means of the improvement herein disclosed the life of the hand rail is lengthened as the parts thereof which are subjected to wear may be renewed from time to time.

Referring to the drawing,

Fig. 1 is a cross section of a hand rail which embodies this invention, together with a similar section of its guide rail and of a bannister upon which the latter is supported;

Fig. 2 is a similar cross section showing a hand rail of the same construction, and a portion of a driving member, in this case a grooved pulley.

10 designates a hand rail or rubber or other flexible material of a flattened C cross sectional shape having substantially semi-circular ends 11 and a substantially flat intermediate part 12. This is the usual shape of hand rails of this character and forms no part of my invention, except that a valuable feature of the invention is that no material change in the usual shape of such hand rails is necessary. The inner surface of the hand rail is a layer 13 of a flexible material, such as canvas. Intermediate the curved ends of the rail is a driving member 14A in the form of a beveled edge belt. This is of a flexible material, such for example, as rubber. This driving member 14A, and in fact all of the parts so far described, may be continuous and endless. The driving member 14A is separably affixed to the hand rail by means of a binder having low tensile strength such as a flexible cement or vulcanized rubber gum.

20 designates a bannister upon which is supported the upper run of a track or guide 21A. The ends of this track are bent to form transversely curved portions 22A upon which the hand rail is supported and over which it slides. Intermediate these curved ends is a flat portion 23A which rests upon and is secured to the bannister 20. This intermediate portion is depressed to form a clearance for the driving member 14A. It is understood that the lower or return run of the hand rail is supported upon a rail of the same or similar character.

The section in Fig. 2 is taken vertically through the center of a driving pulley 50A which extends through the bannister 20 which is slotted to form a clearance for the pulley. The driving member 14A rests upon the periphery of the pulley 50A in driving engagement therewith. The driving pulley has its periphery grooved to cooperate with the driving member 14A.

By means of the construction herein set forth, the life of the hand rail may be greatly prolonged by replacing a worn-out or defective driving member. The fact that the driving member has substantially the same stretchable and elastic characteristics as those of the hand rail itself, results in these parts having no substantial relative movement between them. The stretchable binder which connects these parts permits them to be stretched together without becoming loosened. This has an obvious advantage over metallic connections which have a decided tendency to injure the hand rail during operation. Metal rivets or studs embedded in the hand rail are objectionable as they become loose, unservicable and even destructive. It is, of course, well known that the driving members are much more subjected to wear than are the hand rails themselves and that the hand rails are quite expensive.

The invention relates to a driving element which can be affixed to a hand rail and separated therefrom without injury to the hand rail so that a new driving element can replace a worn one. I intend no limitations other than those imposed by the appended claims.

What I claim is:

1. A multi-part hand rail for moving stairways comprising a deformable body having a central portion and channel-shaped sides adapted to slide on guides and a deformable non-metallic driving member separably affixed to the central portion of the body, whereby said driving member may be readily removed when worn for the purpose of affixing a new driving member to said body.

2. A multi-part hand rail for moving stairways comprising a deformable body having a substantially flat central portion and channel-shaped sides, a lining affixed to the inner surfaces of said central portion and of said sides adapted to slide on guides and a deformable non-metallic driving member having a plurality of sides, said

member being adapted to be propelled by at least one of its surfaces and being separably affixed to the lining between said sides by a deformable binder between another of its surfaces and the lining, whereby the driving member may be readily removed when worn for the purpose of affixing a new driving member to the lining.

3. A multi-part hand rail for moving stairways comprising a deformable body having a central portion and channel-shaped sides adapted to slide on guides and a deformable driving member having a base and inclined traction surfaces at the sides of said base, said member being separably affixed to the central portion of the body by a deformable binder between its base and the inner surfaces of the central portion of the body, whereby the driving member may be readily removed when worn for the purpose of affixing a new driving member to the body.

HAROLD W. SHONNARD.