July 26, 1932. H. W. SHONNARD 1,868,771

ESCALATOR HAND RAIL

Filed July 11, 1930

Fig. 1.

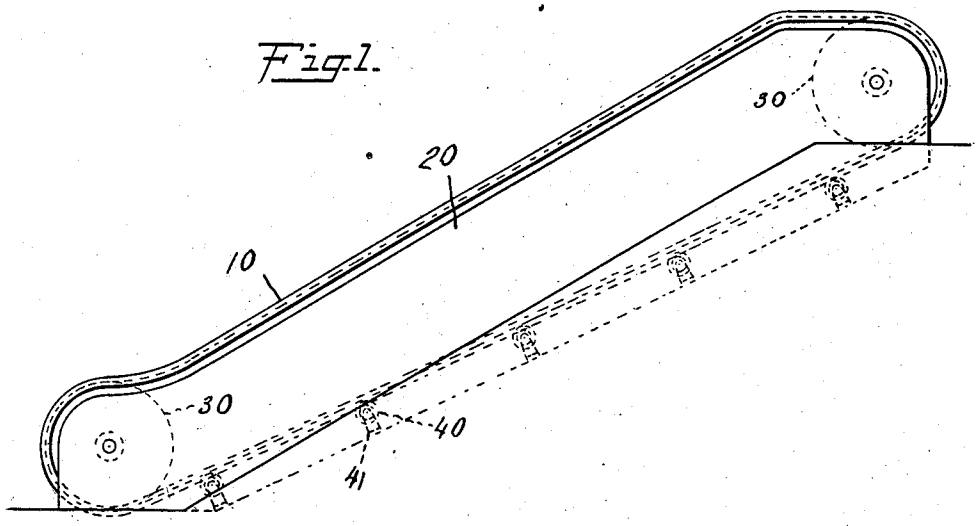


Fig. 3.

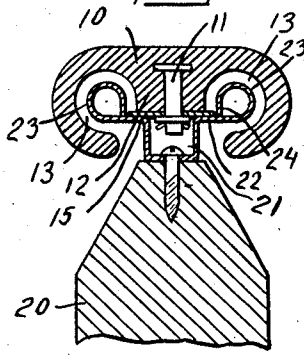


Fig. 2.

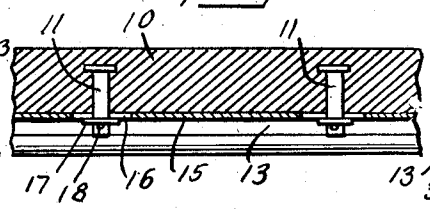


Fig. 4.

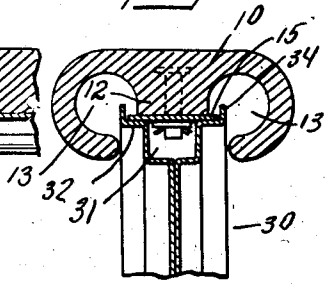


Fig. 5.

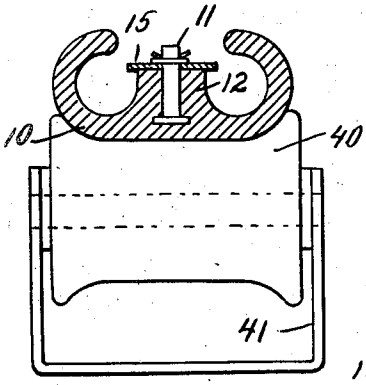


Fig. 7.

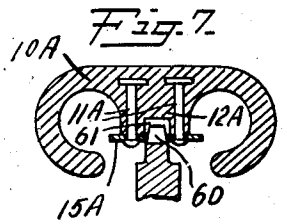


Fig. 8.

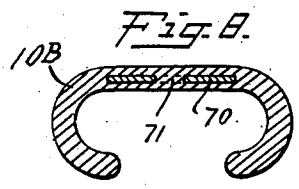
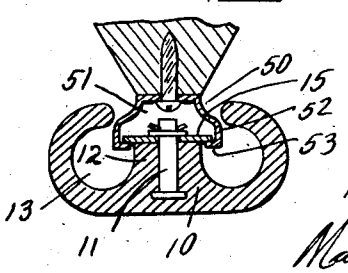


Fig. 6.



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UNITED STATES PATENT OFFICE

HAROLD W. SHONNARD, OF MONTCLAIR, NEW JERSEY

ESCALATOR HAND RAIL

Application filed July 11, 1930. Serial No. 467,322.

This invention relates to improvements in escalator hand rails.

Its object is to provide a flexible, movable hand rail of simple construction which will not stretch, and to provide an improved support and guide therefor.

Other objects of the invention will appear in the following specification.

Referring to the drawing,

Fig. 1 is a side elevation of a structure which embodies this invention;

Fig. 2 is a sectional elevation on a larger scale, of a portion of the improved hand rail;

Fig. 3 is a transverse sectional elevation of the hand rail shown in Fig. 2, together with the support and guide for its upper run;

Fig. 4 is a transverse sectional elevation of the rail shown in the preceding figures, together with a part of one of the end sheaves.

Fig. 5 is a section similar to Fig. 3 showing the support for the lower run of the rail;

Fig. 6 is a transverse sectional elevation of the rail and of a modified form of support for its lower run;

Fig. 7 is a transverse sectional elevation of a rail of modified construction with a part of a sprocket wheel for supporting and driving it; and

Fig. 8 is a transverse sectional elevation of a simple form of hand rail which also embodies this invention.

The rail comprises an endless band 10 of rubber or similar material, the outer portion of which is constructed to form a convenient hand grip. Embedded in this band 10 are a plurality of spaced studs 11 which project through the inner flat surface of a central body portion 12. At either side of this body portion 12 the rail is hollowed out, as shown at 13, 13, to form clearance spaces. 15 is a flat metallic band which is constructed with slots 16 through which the studs 11 project. This band is connected to the rail by means of washers 17 and pins 18.

The support for the upper run for this belt comprises a balustrade 20 and a metallic track of the form shown in Fig. 3, affixed to the upper edge thereof. This track comprises a channel-shaped portion 21 of sufficient width to form a clearance for the studs, washers and pins, and outwardly projecting flanges 22 upon which the band 15 runs. The ends of these flanges are curved, as shown at 23, and bent downwardly to form portions 24 which guide the edges of the band 15.

At the ends of the hand rail are sheaves 30, a portion of one of which is shown in Fig. 4. The periphery of these sheaves is constructed to form a channel-shaped portion 31 with projecting flanges 32 which engage the band 15 and outwardly projecting rims 34 for guiding the edges of the band.

The under run of the hand rail may be supported on rollers 40, pivotally mounted on brackets 41, as shown in Fig. 5. Or, if desired, the under run of the rail may be supported by such a structure as that shown in Fig. 6. This comprises a metallic rail 50, a part of which is constructed to form a clearance channel 51 for the studs 11 and which is extended, as at 52, to embrace the edges of the band 15 and has inturned lips 53 under the band 15 to support it.

In the construction shown in Fig. 7 the rail 10A has studs 11A embedded therein by means of which a band 15A is connected to the rail. This band has equally spaced perforations therein into which the teeth 60 of sprocket wheels project. The body of the hand rail is grooved, as shown at 61, to clear the sprocket teeth 60.

In Fig. 8 a hand rail 10B of ordinary shape, in cross section, is shown. In this is embedded a metallic band 70 which is provided with perforations 71 through which the material of the hand rail 10B extends causing a firmer adherence between the materials of the hand rail and of the band.

The invention described herein is capable of being embodied in different structures, several modifications of which have been described, and I intend no limitations other than those imposed by the appended claims.

What I claim is:

1. A movable endless body of flexible resilient material adapted to run on a guide, the inner part of the body being recessed to

overlap the guide and its outer portion shaped to form a hand grip, and a continuous flexible metallic strip affixed to said body, having direct engagement with said guide to slidably support said body thereon.

2. A movable endless body of flexible resilient material adapted to run on a guide, the inner part of the body being recessed to overlap the guide and having an intermediate portion and its outer portion shaped to form a hand grip, studs projecting from said intermediate portion, a continuous flexible metallic strip provided with slots registering with the studs, and means for holding said strip onto the studs.

3. A movable hand rail comprising an endless body of flexible resilient material, a continuous flexible metallic strip affixed to said body, and a track upon which said strip runs, said strip directly engaging said track to slidably support said body thereon.

4. A movable hand rail comprising an endless body of flexible resilient material, a continuous flexible metallic strip affixed to said body, and a metallic track arranged to guide and support said strip, directly.

5. A movable endless body of flexible resilient material adapted to run on a guide, the inner part of the body being recessed to overlap the guide and its outer portion shaped to form a hand grip, a continuous flexible metallic strip affixed to said body, and a track engageable directly by said strip.

6. A movable endless body of flexible resilient material adapted to run on a guide, the inner part of the body being recessed to overlap the guide and having an intermediate portion and its outer portion shaped to form a hand grip, a continuous flexible metallic strip affixed to said intermediate portion of the body, and a metallic track arranged to guide and support said strip, directly.

7. A movable endless body of flexible resilient material adapted to run on a guide, the inner part of the body being recessed to overlap the guide and having an intermediate portion and its outer portion shaped to form a hand grip, studs embedded in said intermediate portion, a metallic strip affixed to said body by said studs, and a metallic track having a central channel-like portion, ledges under spaced portions of the strip and guides at the edges of the strip.

8. A movable endless body of flexible resilient material to run on a guide, the inner part of the body being recessed to overlap the guide, the outside of the body being shaped to form a hand grip and a movable flexible continuous metallic strip in direct engagement with said guide to slidably support said body thereon.

9. A movable endless body of flexible resilient material to run on a guide, the inner part of the body being recessed to overlap the guide, the outside of the body being shaped to form a hand grip and a movable flexible metallic strip substantially in uninterrupted direct engagement with said guide to slidably support said body thereon.

10. A movable hand rail comprising an endless body of flexible resilient material, a continuous flexible metallic strip associated with said body, and means in direct movable contact with said strip for supporting the strip and the body.

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