This invention relates to hand railings.

It is a common inconvenient aspect of hatchways or other openings that have doors that the doors prevent permanent hand railings extending through the openings. The inconvenience is compounded when the hatchways or other openings connect different horizontal levels, causing the using, entering or leaving of stairways and stairwells without the assistance of handrails. One of the most obvious and common examples of this is the familiar cellar bulkhead.

It is an object of this invention to provide a hand railing which can be installed in such a situation, providing, in an extended position, a secure and reliable hand railing extending through the opening when the door is open and, in a fold-away position in which the hand railing is unextended, an unobtrusive retracted assembly which allows the door to be closed and secured. Further objects of the invention are to provide such a hand railing which is amply supported and secured when in the extended position, which may be simply and safely manipulated, and which is simple and inexpensive to manufacture.

The invention features a hand railing having a first compact unextended position and being extendible through an opening to have a second secure extended position. The railing includes a railing assembly having a fixed member mounted on structure on one side of the opening and an extension member slidably supported on the fixed member. A support leg is pivotally attached to the outer end of the extension member at one end and is free at the other. The support leg is pivotable to allow extension and withdrawal of the extension member through the opening and has a support position supporting the extension member in its extended position and is pivotable to a fold-away position adjacent the railing assembly when the extension member is in the unextended position and the railing is in its compact unextended position, allowing the opening to be closed.

In preferred embodiments the support leg member is adjustable in length and semi-cylindrical to partially surround the railing assembly in the fold-away position. Also, a lock in the form of a spring loaded protrusion element is mounted within the inner of the railing assembly telescoping members to hold the extension member in the extended position. Further, a catch is included having one end portion mounted on the railing assembly and the other end portion spaced therefrom and parallel thereto, the end portion of the support leg member being supported between the catch other end portion and the railing assembly in the fold-away position.

Other objects, features and advantages will appear from the following description of a preferred embodiment of the invention, taken together with the attached drawings thereof, in which:

Fig. 1 shows a hand railing embodying the invention in the extended position mounted in a bulkhead; Fig. 2 shows the hand railing in the fold-away position;

Fig. 3 is a cross-section of the hand railing along the lines 3—3 of Fig. 2; and

Fig. 4 is a longitudinal sectional view of the telescoping members of the hand railing, showing particularly the spring lock device.

There is shown in Fig. 1 a bulkhead in which the door 10 has been opened. A hand railing generally designated 12 extends from inside the bulkhead through the hatchway. Hand railing 12 includes a railing assembly comprising a fixed metal cylindrical member 14 which is slidably supported a metal extension member 16. A semi-cylindrical metal support leg 18 is pivotally attached, via pin 20, to the end of extension member 16.

Fixed member 14 has mounting fixtures 19 and 21 at either end to secure it to the wall of the bulkhead. Support leg 18 supports the extension member, shown in an extended position, on a metal plate 22 with upwardly extending flanges 23 fixed in the ground by a spike 24. The support leg includes a semi-cylindrical support leg extension portion 26 attached to the rest of the support leg by screws 28 passing through adjusting slots 30 in the support leg extension portion. Two protrusion elements 32 are outwardly biased by a spring 34 in a hole 36 in extension member 16 and the hole is so positioned along the length of the extension member that when it is in the fully extended position shown in Fig. 1 the protrusion elements extend out of hole 36 just beyond the end of fixed member 14.

In Fig. 2 door 10 of the bulkhead is closed and the hand railing is in its fold-away position. Semi-cylindrical support leg 18 is folded back against fixed member 14, partially surrounding it. A catch generally designated 40 is mounted on the fixed member at one end via screw 42. The other end 44 of the catch is parallel to the fixed member and spaced from it. The end of support leg 18 is held between the catch end 44 and the fixed member.

The device is used by mounting the hand railing to the bulkhead wall by mounting fixtures 19 and 21 so that in its fold-away position it will not protrude through the hatchway. Door 10 can be closed and locked when the railing is in this position. Catch 40 ensures that there will be no hanging movable parts to endanger anyone opening the door from inside the bulkhead. After door 10 is swung into the open position, extension member 16 is pulled out to its extended position so that spring biased protrusion elements 32 extend outwardly just past the end of fixed member 14, locking the extension member in the extended position. Support leg 18 is pivoted to the vertical position, supporting the end of extension member 16 on metal plate 22. Flanges 23 ensure against too great horizontal displacement of the end of the support leg. When the ground is firm or the surface on which the support leg rests has adequate support qualities the metal plate may be dispensed with. Support leg extension portion 26 allows adjustment of the length of support leg 18 by loosening screws 28, adjusting the extension portion until the desired length is achieved, and then tightening the screws.

What is claimed is:
1. A hand railing having a first compact unextended position and being extendible through an opening to have a second secure extended position comprising
3. A railing assembly and a support leg member, said railing assembly including a fixed member for mounting on a suitable structure on one side of the opening and an extension member extendible through the opening slidably supported by said fixed member, said support leg member having one end pivotally attached to the outer end of said extension member and another end free, said extension member having extended and unextended positions, and said support leg member being pivotable to allow extension and withdrawal of said extension member through the opening and having a support position supporting said extension member in said extended position and being pivotable to a fold-away position adjacent said railing assembly when said extension member is in said unextended position and said hand railing is in said compact unextended position, to allow the opening to be closed.

2. The hand railing of claim 1 in which said extension member is telescopically supported by said fixed member.

3. The hand railing of claim 1 further including a lock to hold said extension member in said extended position.

4. The hand railing of claim 3 in which said lock comprises a spring loaded protrusion element mounted within one of said slideable members of said railing assembly, said element being extendible across a portion of the end face of said fixed member.

5. The hand railing of claim 1 in which said support leg member includes an adjustable extendible end portion.

6. The hand railing of claim 1 in which said support leg member is semi-cylindrical to partially surrounded said railing assembly when said support leg member is in said fold-away position.

7. The hand railing of claim 6 including a catch mounted on said railing assembly to hold said support leg member in said fold-away position.

8. The hand railing of claim 7 in which said catch has one end portion mounted on said railing assembly and the other end portion spaced therefrom and parallel thereto, the end portion of said support leg member being supported between said catch other end portion and said railing assembly in said fold-away position.

9. A hand railing having a first compact unextended position and being extendible through an opening to have a second secure extended position comprising:

a. a railing assembly, a catch and a length-adjustable, semi-cylindrical support leg member,

b. said railing assembly including a fixed member for mounting on a suitable structure on one side of the opening, an extension member extendible through the opening and telescopically supported by said fixed member, and having extended and unextended positions, and a lock comprising a spring loaded protrusion element mounted within the inner of said railing assembly telescoping members to hold said extension member in said extended position, said element being extendible across a portion of the end face of said fixed member,

c. said catch having one end portion mounted on said railing assembly and the other end portion spaced therefrom and parallel thereto,

d. said semi-cylindrical support leg member having one end pivotally attached to the outer end of said extension member and having another end free, and being pivotable to allow extension and withdrawal of said extension member through the opening and having a support position supporting said extension member in said extended position and being pivotable to a fold-away position partially surrounding said railing assembly when said extension member is in said unextended position and said hand railing is in said compact unextended position, allowing the opening to be closed, the end portion of said support leg member being supported between said catch other end portion and said railing assembly in said fold-away position.

References Cited

UNITED STATES PATENTS

2,798,652 7/1957 Easton 182--113 X
3,097,370 7/1963 Murcott 182--106 X
3,401,918 9/1968 Wise 256--59

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256--65