

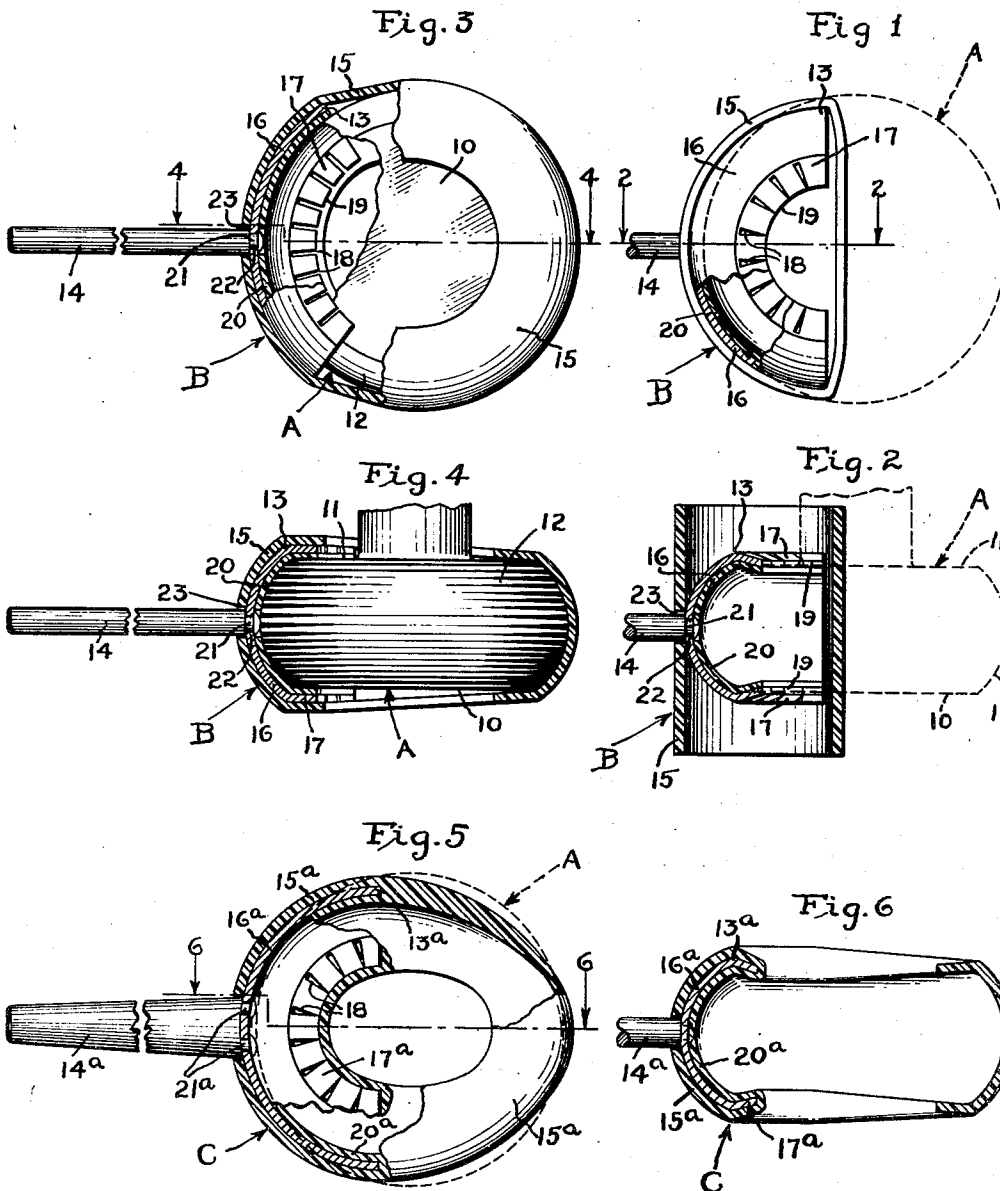
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LEVER ATTACHMENT FOR DOOR KNOBS

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LEVER ATTACHMENT FOR DOOR KNOBS

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9 Claims. (Cl. 292—347)

My invention relates to improvements in lever attachments for door knobs.

Traffic through doorways in hospitals, homes, commercial and industrial establishments and other places commonly requires, in the opening of doors, a turning of the door knobs by twist of the hand, which operation by a person with loaded or otherwise occupied hands is difficult, if not impossible.

I have found that a simple lever attached to a door knob serves readily to turn the knob simply by the application of pressure to the lever in a manner to move the same, as by pressure applied by any part of the body, or by a tray, box, package or other object held in the hands. Thus, a door having a knob equipped with a lever may be easily opened by a person with loaded hands, without the necessity of shifting the load to one hand, or of relieving both hands of the load to free one thereof to the turning of the knob.

An object of my invention is to provide a simple, durable and inexpensive attachment for door knobs, which is adapted to be readily attached to a door knob in "snap-on" fashion without exercise of skill or aid of even common tools and which, when attached to the knob, provides a lever in association therewith by which the knob may be readily turned upon movement of the lever brought about simply by pressure of an object thereagainst.

Another object of the invention is to provide a lever attachment for door knobs, as aforesaid, which is slightly and devoid of hazardous protuberances, and which is associated with the knob in a manner lending to the lever a limited yielding action relative to the knob resulting in the diminution of shocks arising from impacts of objects against the lever.

A further object of the invention is to provide for door knobs a lever attachment of the nature above indicated, which in given size is readily applicable to knobs of a range of sizes of varied contours.

Other objects of the invention reside in the novel combination and arrangement of parts and in the details of construction hereinafter illustrated and/or described.

In the drawings:

Fig. 1 is a side elevational view of a form of lever attachment for door knobs constructed in accordance with my invention, a portion of the structure being broken away.

Fig. 2 is a sectional view of the attachment shown in Fig. 1, said view being taken as on the line 2—2 of Fig. 1.

Fig. 3 is a side elevational view showing the aforesaid form of attachment installed on a door knob, portions of the attachment and a portion of the knob being broken away to reveal otherwise concealed details of construction, and the interfitting of parts.

Fig. 4 is a sectional view of the attachment and knob shown in Fig. 3, said view being taken as on the line 4—4 of Fig. 3.

Fig. 5 is an elevational view of an alternate form of my invention, portions thereof being broken away.

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Fig. 6 is a sectional view of the form of attachment shown in Fig. 5, said view being taken as on the line 6—6 of Fig. 5.

Referring to the drawing, it is to be seen that the illustrated door knob A is of common formation having front and rear faces 10 and 11 and a peripheral surface 12, such surface being of circular curvature circumferentially of the knob and of lateral convex curvature between said faces of the knob.

The form of my invention shown in Figs. 1 to 4, inclusive, is indicated in its entirety by the reference character B. This form of attachment consists of a mounting strip 13 adapted to be saddled upon the peripheral surface of a door knob, a lever 14 secured to said mounting strip 13, and an elastic retainer band 15 encircling the mounting strip 13 and adapted to strap the same to the knob in saddled disposition of the strip on such knob.

The mounting strip 13 has a longitudinal body portion 16 and marginal flange portions 17 at either side of said body portion. Said body portion 16 of the mounting strip 13 is curved longitudinally and laterally and the marginal portions 17 of said strip 13 are turned inwardly and slightly canted toward each other, as seen in Fig. 2. These marginal portions 17 of the mounting strip 13 are formed with serrations 18 therein which open at the free longitudinal edges 19 of said marginal portions. The longitudinal curvature of the body portion 16 of the mounting strip 13 is preferably slightly sharper than the circumferential curvature of the peripheral surface of the smallest door knob in a range of sizes of knobs to which my attachment, of a given size, is adapted to be applied. Similarly, the lateral curvature of the body portion 16 of the mounting strip 13 is preferably sharper than the lateral curvature of the peripheral surface of the smallest door knob in such a range of sizes of knobs. This feature may be noted by reference to Figs. 1 and 2, wherein the door knob A is shown in dotted lines juxtaposed relative to the attachment B. The width of the body portion 16 of the mounting strip 13 is preferably at least equal to the distance along the lateral curvature of the peripheral surface of a knob of maximum size in a range of door knobs of sizes to which an attachment B of given size is applicable, and the distance between the longitudinal edges 19 of the canted marginal flange portions 17 of the mounting strip 13 preferably will not be greater than the thickness of a knob of minimum size in such range of door knobs.

Said arcuated mounting strip 13 is pliant and suitably struck from pliable sheet material. It is adapted to be saddled on a peripheral portion of a door knob and in such disposition thereof to be readily conformed closely to the contour of the knob by pressure applied to the mounting strip 13 externally thereof. The length of the mounting strip 13 is less than the circumferential dimension of the peripheral surface of a knob to which it is to be applied, and preferably will be slightly less than one-half of such dimension. In saddling the mounting strip 13 on a door knob A, the body portion 16 of the strip 13 will be brought to bear upon a segmental portion of the peripheral surface 12 of the knob and the marginal flange portions 17 of said strip 13 will be brought against marginal portions of the front and rear faces 10, 11 of the knob. To counter any slippage of the mounting strip 13 on the knob, said strip may be provided with a flexible liner 20 of friction material such as sheet rubber.

The lever 14 extends radially outward from the arcuated mounting strip 13, the inner end of said lever being rigidly secured to said strip 13 intermediately thereof. As shown in the illustrated attachment B, the said inner end of the lever 14 is reduced in diameter to form a stud 21. This stud is received in an aperture 22 in the body portion 16 of the mounting strip 13 and firmly riveted thereto at the inner side thereof.

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The endless elastic retainer band 15 is preferably of rubber and may consist simply of a section severed from a rubber tube, in which case the band 15 will be flat in transverse cross-section. This elastic band 15 is formed with an aperture 23 midwidth thereof which receives the lever 14, allowing the band 15 to be disposed in encircling relationship about the mounting strip 13 coextensively therewith.

The girth of the elastic band 15 in an attachment B of given size is of a lesser dimension than the circumference of a circle having the curvature of the longitudinal edge 19 of a flange portion 17 of the mounting strip 13 in the saddled disposition of such strip on a door knob of minimum size in the range of sizes to which the attachment B is suited. And, the width of the band 15 is at least equal to the width of such mounting strip 13.

With the band 15 stretched to increase its normal girth, the attachment B is installed on a door knob A by maneuvering the attachment to saddle the pliant mounting strip 13 on a peripheral portion of the knob and bringing the band 15 into knob-embracing disposition, such pressure being applied to the mounting strip 13, in the operation, as may be required to bend and cause said strip 13 to straddle the edge of the knob. Tightly overlying the mounting strip 13, the tensioned band 15 brings the body portion 16 of said strip 13 to grip with the peripheral surface 12 of the knob A and the marginal flange portions 17 of said strip 13 to grip with their respective faces 10, 11 of the knob. Having installed the attachment B on a door knob A, as aforesaid, any lack of closeness in fit between the mounting strip 13 and the knob may be remedied simply by tapping any convenient object against the band 15 at that portion thereof overlying the mounting strip 13, such tapping serving readily to conform the pliant mounting strip 13 closer to the underlying surface portions of the knob.

The attachment B preferably will be installed on the knob of a door with the lever 14 in a substantially horizontal position extending from the knob in a direction in which downward movement of the lever 14 will, through the turning of the knob thereby, cause the unlatching of the door.

In the alternate form of attachment, which is shown in Figs. 5 and 6 and designated in its entirety by the reference character C, the elastic band 15^a is molded to conform in transverse cross-section with the lateral cross-section of the mounting strip 13^a and said mounting strip is molded into said band 15^a. Thus, the band 15^a itself provides a friction liner, as at 20^a, for the mounting strip 13^a. In this alternate attachment C, the lever 14^a is provided with dual studs 21^a riveted to the body portion 16^a of the mounting strip 13^a. Otherwise, the form of the attachment C corresponds with the form of the attachment B, the former, like the latter, having on the body portion 16^a of the mounting strip 13^a intumed marginal flange portions 17^a formed with serrations 18^a opening at the longitudinal edges thereof.

Installation on a door knob of the alternate form of my invention, embodied in the attachment C, is accomplished in the same manner as that employed in the installation of the form of the invention embodied in the attachment B.

From the foregoing, it will be readily seen that I have provided effective constructions in lever attachments for door knobs which fully meet all and sundry of the stated objectives of my invention.

Changes in the specific form of the invention, as herein described, may be made within the scope of what is claimed without departing from the spirit of the invention.

Having described the invention, what is claimed as new and desired to be protected by Letters Patent is:

1. An attachment for a door knob having side faces at front and rear thereof and a peripheral circumferentially curved surface, said attachment comprising a mounting

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strip of a lesser length than the circumferential dimension of such surface of the knob, said mounting strip being longitudinally curved substantially in conformity with the circumferential curvature of the peripheral surface of the knob enabling said strip to be saddled on the knob about such surface thereof, a knob-turning lever extending outwardly from the convex side of the mounting strip, the inner end of said lever being rigidly secured to said mounting strip intermediately the ends thereof, an endless retainer band of elastic material encircling the curved mounting strip coextensively therewith, said band having an aperture therein receiving the lever on said mounting strip, said band being normally of a lesser dimension in girth than the circumference of the peripheral surface of the knob, said band being capable of being stretched and disposed in tensioned condition about the peripheral surface of the knob and the mounting strip in the saddled disposition of said strip on the knob, said retainer band when so disposed securing the mounting strip relative to the knob.

2. An attachment, as defined in claim 1, wherein the retainer band is normally flat in transverse cross-section and of a width exceeding that of the peripheral surface of the knob, whereby said band when tensioned about the knob will confront the opposite faces of the knob.

3. An attachment as defined in claim 1, wherein the mounting strip is of pliant material enabling said strip to be readily bent into close conformity with the peripheral surface of the knob in saddled disposition of the strip on the knob, and wherein the longitudinal curvature of the mounting strip is initially sharper than the circumferential curvature of the peripheral surface of the knob.

4. An attachment for a door knob having side faces at front and rear thereof and having a peripheral circumferentially curved surface convexedly curved laterally between said faces, said attachment comprising a mounting strip of lesser length than the least circumferential dimension of such surface of the knob, said mounting strip having a longitudinally intermediate body portion and marginal flange portions at either side of said body portion, the body portion of the mounting strip being longitudinally and transversely curved substantially in conformity with the circumferential and lateral curvatures of the peripheral surface of the knob enabling said strip to be saddled on the knob about such surface thereof, the width of body portion of the strip being at least that of the peripheral surface of the knob, the marginal flange portions of said strip being intumed to embrace the side faces of the knob in saddled disposition of the mounting strip thereon, a knob-turning lever extending radially outward from the convex side of said curved strip, the inner end of said lever being rigidly secured to the body portion of the strip intermediately the ends thereof, an endless retainer band of elastic material encircling the curved mounting strip coextensively therewith, said band having an aperture therein receiving the lever on said mounting strip, the width of said band being substantially that of said strip, the least dimension in girth of said band in its normal condition being less than the circumferential dimension of a circle of curvature corresponding with that of the free longitudinal edge of an intumed flange portion of the mounting strip, said band being capable of being stretched and disposed in tensioned condition about the peripheral surface of the knob and the mounting strip in the saddled disposition of said strip on the knob, said band when so disposed securing the mounting strip relative to the knob.

5. An attachment, as defined in claim 4, wherein the marginal flange portions of the mounting strip are formed with serrations therein opening at the free longitudinal edges thereof, and the mounting strip is of pliant material enabling said strip to be readily bent into close conformity with the peripheral surface of the knob in saddled disposition of the strip on the knob.

6. An attachment, as defined in claim 5, wherein the

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initial longitudinal and lateral curvatures of the mounting strip are sharper than the circumferential and lateral curvatures of the peripheral surface of the knob.

7. An attachment, as defined in claim 6, wherein the flange portions of the mounting strip are initially canted toward each other and spaced apart at their free longitudinal edges a distance less than the thickness of the knob.

8. A lever attachment for a door knob, said attachment consisting of a pliant mounting strip readily bendable into conformity with a segmental portion of the peripheral surface of the knob enabling said strip to occupy saddled disposition thereon, an elastic retaining band encircling the mounting strip, said band being adapted to be stretched and disposed under tension about the mounting strip and about the peripheral surface of the knob diametrically in opposition to the mounting strip in the saddled disposition of said strip on the knob, and a lever secured to and extending from the mounting strip.

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9. A lever attachment for a door knob, said attachment consisting of a mounting strip conformed to a segmental portion of the peripheral surface of the knob for saddled disposition thereon, an elastic band encircling said mounting strip, said band being adapted to be stretched and disposed under tension about the mounting strip and about the peripheral surface of the knob diametrically in opposition to the mounting strip in the saddled disposition of said strip on the knob, and a lever secured to and extending from the mounting strip.

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