A device for aiding physically-handicapped persons to put on stockings comprises a pair of pivotable arms carried at one end of a handle, the arms being curved toward each other and pivotable from a closed position where they enclose the user's outstretched foot and leg, to open position to permit the device to be withdrawn from the leg by moving it transversely of the leg. The device also includes retaining means for releasably retaining the gathered stocking on the curved arms in the closed position. The arms are additionally provided with an extension pivotable from a folded closed position to an extended open position to enable the device to be used also for putting on underwear.

6 Claims, 7 Drawing Figures
DEVICE FOR APPLYING STOCKINGS AND THE LIKE

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a device for aiding physically-handicapped persons to put on stockings.

2. Description of the Prior Art

Persons suffering from arthritis or other ailments wherein they cannot bend their knees experience great difficulty in putting on stockings by themselves, and therefore they usually require the assistance of another person. One device available on the market to aid such a person includes two sticks each formed with a fastener at one end; the user attaches each fastener to the top of the stocking, and then manipulates the two sticks to pull up the stocking and to draw it over his foot and leg. Such a device, however, is difficult to manipulate and moreover has a great tendency to tear the stocking.

SUMMARY OF THE PRESENT INVENTION

The present invention provides a device for aiding physically-handicapped persons to put on stockings which device is not only easier to manipulate by the user, but also has much less tendency to tear the stocking. A further object is to provide such a device with means enabling it also to be used for putting on underwear.

According to the present invention, the device comprises a handle to be held at one end by the person using same, and a pair of arms carried by the handle at its opposite end. The arms are curved toward each other and are pivotally mounted from a closed position to a fully open position. In the closed position the arms are adapted to enclose the user's outstretched foot and leg to enable him to put on the stocking. In the fully open position, the ends of the arms are spaced apart a distance greater than the width of the user's leg, to permit the device to be withdrawn from the leg by moving the arms transversely of the leg. The device further includes retaining means for releasably retaining a gathered stocking on the arms in the closed position of the arms.

In one described embodiment, the retaining means are constituted by a groove or hollow depression formed on the outer face of each of the arms. In a second described embodiment, they are constituted by one or more spring fingers carried on the outer faces of each arm. The grooves or hollow depressions may also be provided in the latter embodiment.

According to a further feature of the invention, each of the arms carries an extension pivotally mounted from a folded closed position to an extended open position to enable the device to be used also as an aid for putting on underwear.

Further features and advantages of the invention will be apparent from the description below.

BRIEF DESCRIPTION OF THE DRAWINGS.

The invention is herein described, somewhat diagrammatically and by way of example only, with reference to the accompanying drawings, wherein:

FIG. 1 is a perspective view illustrating one form of device constructed in accordance with the invention, the device being shown in its fully closed position, which is the position at the time the stocking is loaded thereon;

FIG. 1a is a section along line a—a of FIG. 1;

FIG. 2 illustrates the use of the device of FIG. 1 in putting on the stocking, the device having been opened slightly to tension the stocking thereon;

FIG. 3 is an enlarged fragmentary view illustrating another form of retaining means for retaining the gathered stocking;

FIG. 4 illustrates the device of FIG. 1 when used for putting on underwear;

FIG. 5 illustrates a modification in the device of FIG. 1, helpful for removing the stocking and also for putting on shoes; and

FIG. 6 illustrates another pivoting arrangement for the arms.

DESCRIPTION OF THE PREFERRED EMBODIMENTS.

The device illustrated in FIG. 1 comprises an elongated handle 2 having a hand-grip 4 at one end, and a pair of arms 6 and 8 pivotally carried at the opposite end. The arms are pivotally mounted to a pin 10 which is externally threaded, at 12, the latter being received in the end of handle 2 which is internally threaded, as shown at 14.

For pivotally mounting the arms, each is formed with one or more hinge loops 6', 8' enclosing pin 10. The arms are pivotable on the pin from a fully closed position (FIG. 1) to a fully open position, as will be described below.

In the embodiment of FIGS. 1 and 2, the arms are retained in position by threading pin 10 into handle 2 so as to cause the end 2' of the handle to press against the inner loop which flexes sufficiently to press against the remaining loops 6', 8' and thus to retain them in position. In order to release the arms for pivoting, pin 10 is slightly unthreaded from threads 14, whereby end 2' of the handle disengages from the loops, freeing the arms for pivoting.

The outer faces of the curved arms 6 and 8 are formed with concave or hollow depressions or grooves 6'', 8'' so as to releasably retain a gathered stocking thereon when the arms are closed.

FIG. 2 illustrates the use of the device in aiding a person who cannot bend his knees to put on a stocking. First, the curved arms 6 and 8 are moved to their fully closed position, as illustrated in FIG. 1. A stocking S is then gathered on the arms with the toe part facing away from the handle, the stocking being releasable retained by the grooves 6'', 8''. The user then opens the arms slightly (to the partially closed position illustrated in FIG. 2) to tension the stocking on the arms. It will be seen that in this position the curved arms can enclose the outstretched foot and leg. The user holds the device outwardly in front of his outstretched leg, inserts his foot into the toe part of the stocking, and manipulates the device to move the arms upwardly while the stocking is drawn on his leg. During this movement, the gathered stocking on arms 6 and 8 is drawn off the arms and onto the user's foot and leg.

When the stocking is drawn up sufficiently high (to about the calf of the leg) where the user can reach the top of the stocking with his hand he holds the top of the
3,727,812

stocking with one hand. With the other he fully opens the arms by slightly unthreading pin 10 from threads 14 and pushes the arms apart to their fully open position. In this position, the ends of the arms are spaced apart a greater distance than the width of the user's leg. The user then withdraws the device from his leg by moving the arms transversely of the leg.

FIG. 3 illustrates the use of spring-fingers 18 on the arms (e.g. 8) for releasably retaining the gathered stocking on the closed arms. Spring fingers 18 may be provided in lieu of, or in addition to, the hollow depressions 6', 8' of FIG. 1.

According to an optional feature, the arms 6 and 8 may also include extensions 22 and 24 pivotable (at 22', 24') from a folded closed position illustrated in FIG. 1, to an extended open position illustrated in FIG. 4, to enable the device to be used as an aid for putting on underwear. Thus, with extensions 22 and 24 in their open position, the arms are in effect extended so that when the arms are in their working position, they retain the underwear thereon and also can enclose both legs of the user. The device can then be used for putting on underwear by loading the underwear on the extended arms and passing same, with the underwear, over both legs, in substantially the same manner as described with respect to FIG. 2 for putting on a stocking. The device is removed in the same manner, by opening the arms and moving the device transversely of the legs.

FIG. 5 illustrates a further optional feature, namely the inclusion of an extension 4', instead of the hand-grip 4. This extension facilitates the removal of the stocking or underwear. To remove the stocking (or underwear), the user draws it downwardly by hand to the end of his reach, manipulates the device to engage the top of the stocking (or underwear) with the juncture 25 of handle 2 and extension 4', and pushes down to withdraw it. In the embodiment of FIG. 5, extension 4' is shown in the form of a shoe-horn, so that the device can also be used to facilitate putting on a shoe.

FIG. 6 illustrates a variation in the pivotable mounting arrangement of the two arms 6 and 8. In FIG. 6 the two pivotable arms 26 and 28 are pivotably mounted to pin 30 by means of a loop or sleeve 26', 28' carried by each arm. Preferably, the lower sleeve 28' for arm 28 is fixed to pin 30, so that only arm 26 is actually pivotable, to open and close the arms. The upper end of pin 30 is fixed (e.g. by threading) in the lower end of handle 2, and a spring 34 is interposed between the upper sleeve 26' and the end of handle 2. In addition, the two contiguous faces of the sleeves 26', 28' are formed with inter-engaging teeth 36. Spring 34 normally biases sleeve 26' against sleeve 28', so that the teeth are normally in engagement.

In FIG. 6, the teeth 36 are shown as a right-angle teeth, i.e. each having a slanted face 36' and a right-angle face 36''. When the arms are pivoted in the opening direction the slanted faces are effective and it is not necessary to manually pull-up sleeve 26'. When the arms are pivoted in the closing direction, the right-angle faces 36'' of the teeth are effective to block pivoting which requires sleeve 26' to be grasped and to be pulled upwardly to separate the teeth before the arms can be pivoted.

Teeth 36 could be V-shaped, i.e. with both faces slanted, which would permit the arms to be pivoting in either direction without requiring the sleeve to be raised manually.

In the illustrated embodiments, the plane through the arms (e.g. 6, 8) is shown at about 90° to the longitudinal axis of the handle. In some cases it may be desirable, for convenience of manipulation, to have this angle slightly larger, to about 105°.

Many modifications, variations and other applications of the illustrated embodiments will be apparent.

What is claimed is:

1. A device for aiding physically handicapped persons to put on stockings and the like, comprising, an elongated handle to be held at one end by the person using the device, a pair of arms carried by the handle at its opposite end, said arms being curved towards each other and pivotably mounted with respect to each other from a closed position to an open position, retaining means for releasably retaining a gathered stocking on said curved arms when in its closed position, and an extension carried by each of said arms, each of said extensions being pivotably mounted from a folded closed position to an extended open position to enable the device to be used also as an aid in putting on underwear.

2. A device according to claim 1 wherein said retaining means includes a hollow depression formed on the outer face of each of said curved arms.

3. A device according to claim 1, wherein said retaining means includes a spring finger carried on the outer face of each of said arms.

4. A device according to claim 1, wherein said handle includes an extension and at least one arm includes a loop fixed at the end of said arm and pivotable on said handle extension, said handle further including a sleeve movably thereon to retain and to release said pivotable arm.

5. A device according to claim 4, wherein both said arms carry ratchet teeth on contiguous surfaces thereof, there being a spring normally biasing said arms together to bring their teeth into engagement for retaining the two arms in position.

6. A device according to claim 5, wherein said ratchet teeth include slanted faces effective to permit pivoting when the arms are pivoted in the opening direction and right-angle faces effective to block pivoting when the arms are pivoted in the closing direction.