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L. E. BUTLER

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ROLLER FOR REMOVING LINT

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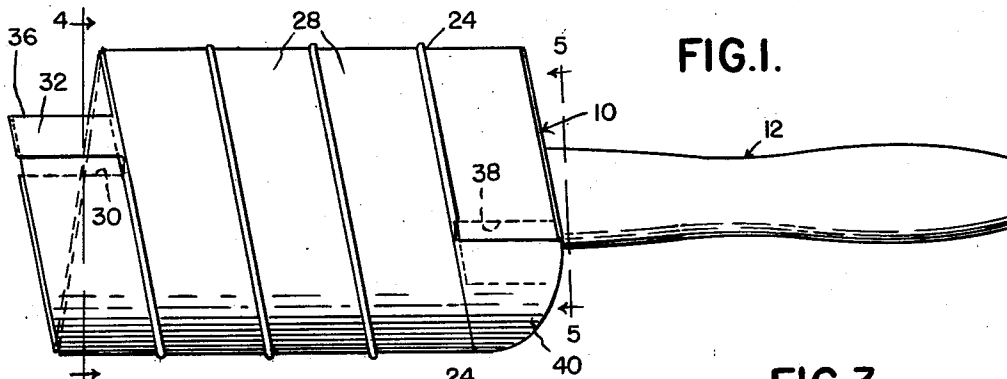


FIG. 1.

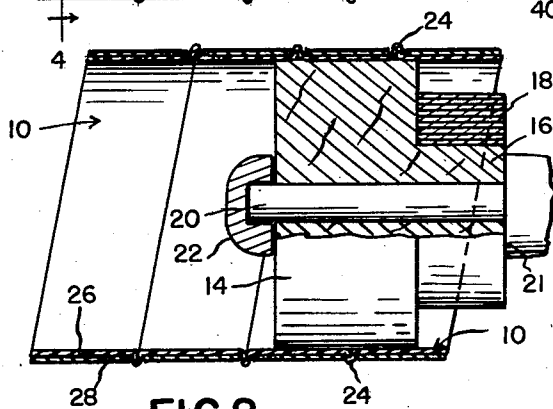


FIG. 2.

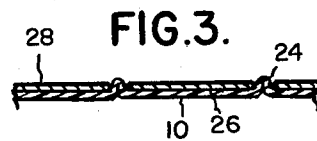


FIG. 3.

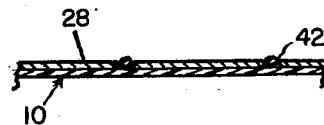


FIG. 7.

FIG. 4.

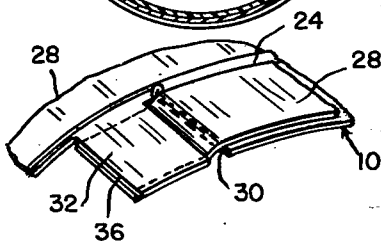
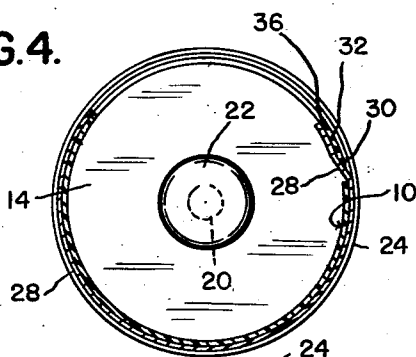
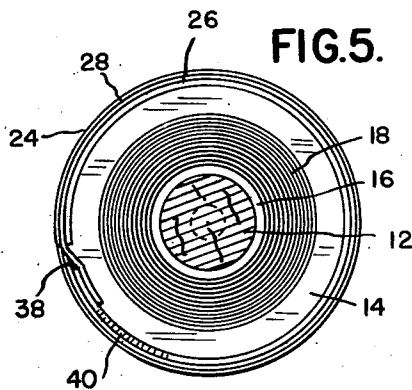


FIG. 6.

FIG. 5.



INVENTOR.
LINDLEY E. BUTLER
BY *Whittenbury,*
Hulbert & Belknap
ATTORNEYS

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ROLLER FOR REMOVING LINT

Lindley E. Butler, Detroit, Mich.

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12 Claims. (Cl. 15—104)

This invention relates to a device for cleaning clothing or similar fabrics and more particularly to a roller type device for removing lint.

One object of this invention is to provide a device for removing lint from clothing and other fabrics which is capable of performing this operation quickly and efficiently and without damage to the fabric.

Another object of the invention is to provide a device of the type indicated which is composed of a relatively few simple parts and which is inexpensive to manufacture.

Still another object of the invention is to provide a device for removing lint in the form of a cylindrical roller having means on the cylindrical surface thereof which is sufficiently tacky to pick up any lint or loose particles upon the surface of a piece of fabric.

Another object of the invention is to provide a lint removing roller as described in the preceding paragraph having ribs projecting radially outwardly beyond the tacky surface to enable the roller to be put down on its side upon a supporting surface without sticking.

Another object of the invention is to provide a roller type lint removing device in which the tacky surface is provided by a strip of adhesive tape helically wrapped about the roller and having novel means for securing the opposite ends of the strip to the roller.

A further object of the invention is to provide a roller type lint removing device supported by a handle projecting axially therefrom. Preferably the roller is in the form of a cylindrical shell supported on the handle by a hub having provision for supporting a reserve supply of adhesive tape.

Other objects of the invention will be made more apparent as this description proceeds, especially when taken in conjunction with the accompanying drawing wherein:

Figure 1 is a side elevational view of a lint removing device construction in accordance with the present invention;

Figure 2 is a fragmentary longitudinal sectional view of the device shown in Figure 1;

Figure 3 is an enlarged sectional detail of a portion of Figure 2;

Figure 4 is a sectional view taken along the line 4—4 of Figure 1;

Figure 5 is a sectional view taken along the line 5—5 of Figure 1;

Figure 6 is a fragmentary perspective view illustrating the manner in which one end of the tape is secured to the cylindrical shell; and

Figure 7 is a view similar to Figure 3 but showing a modification.

Referring now more particularly to the drawing and especially to Figures 1 and 2 thereof, the lint removing device will be seen to comprise a cylindrical body in the form of a hollow shell 10 and an elongated handle 12 rotatably supporting the shell and projecting axially from one end thereof.

Secured within the shell is a cylindrical hub 14 which may be secured to the inner surface of the shell by glue or by tacking or by any suitable means. The hub has a concentric cylindrical boss or extension 16 of reduced diameter extending from one end thereof for supporting a reserve spool of adhesive tape 18. There may be sufficient friction between the spool and extension to pre-

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vent the spool from accidentally slipping off, although the spool may be easily removed to apply a fresh strip of tape to the shell. The handle 12 has a cylindrical pin 20 projecting from the outer end 21 thereof which is of a diameter considerably less than the diameter of the outer end of the handle. A cap 22 is secured to the outer end of pin 20 as by gluing, for example. The hub 14 has a concentric bore extending axially therethrough of slightly larger diameter than the pin and, as will be seen in Figure 2, the hub is loosely retained between cap 22 and the outer end 21 of the handle permitting the hub and shell to rotate freely relative to the handle.

The cylindrical shell 10 will be seen to have a plurality of axially spaced rib portions on the outer cylindrical side thereof extending around the shell and projecting radially outwardly thereof. These rib portions are actually parts of one continuous narrow ridge 24 which extends helically about the shell from a point adjacent one end thereof to a point adjacent the other end. As shown in Figure 3, the ridge 24 is formed integrally with the shell and is provided by crimping the material of the shell to form the radially outwardly projecting ridge.

The ridge 24 defines a helical path 26 of uniform width extending around the shell and disposed in the helical path is a strip 28 of adhesive tape having its tacky side facing radially outwardly. The strip may, for example, be any of the cloth or cellophane type tapes which are commercially available.

The tape may be secured to the shell in any desired manner. However, the particular means for securing the tape to the shell disclosed herein is believed to have a number of advantages which will become apparent as this description proceeds. As seen particularly in Figures 1, 4 and 6, the shell has an axially extending notch at its outer end which defines the axially outer end of the helical path determined by ridge 24. The outer end of the strip 28 projects radially inwardly through the notch and has its tacky surface adhered to the radially inner surface of the tab 32 on the other side of the notch from the outer end of the helical path 26. The strip may then be severed along the knife edge 36 of the tab.

The opposite or inner end of the shell is formed with an axially extending notch 38 which extends into and defines the axially inner end of the helical path. The portion at the side of the notch 38 opposite the inner end of the helical path is designated by the numeral 40 and provides an attaching surface for the inner end of the helical strip. Thus, the inner end of the strip extends radially inwardly through notch 38 and the tacky side of the inner end is adhered to the inner surface of portion 40 of the shell.

In order to apply a fresh strip of tape to the shell, the spool may be removed from the hub extension (the spool has an internal diameter larger than the maximum diameter of the handle so that it may be removed over the handle) and the free end of the tape adhered to the inner side of portion 40. The tacky side, of course, faces out and the strip is then extended outwardly through notch 38 and wrapped helically about the shell in path 26. The helical ridge not only defines the path 26 but also serves to confine the adjacent turns of the strip against axial shifting movement, thereby maintaining the adjacent turns in their proper positions on the shell. The strip is then passed inwardly through notch 30 and adhered to the inner side of tab 32. The strip may easily be severed from the spool along knife edge 36. The device may be grasped by the handle during this operation, and the shell may be held against rotation by merely pressing the thumb against the hub extension 16. Thus the extension 16 has a second function in addition to being a support for the spool of tape.

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Figure 7 illustrates a modified form of the invention in which the ridge 24 is defined by a separate length of wire 42 helically encircling the shell and projecting radially beyond the outer surface thereof to define a helical path of uniform width in exactly the same manner as in the case of ridge 24. The wire may be secured to the shell in any desired manner as by welding, for example.

In both the Figure 3 and Figure 7 forms, the ridge 24 or 42 projects radially outwardly beyond the tacky outer surface of the strip to enable placing the shell on a supporting surface without sticking.

The shell may be formed of any suitable material such as metal or plastic. The handle may also be formed of these materials, or may be formed of wood or any other suitable material.

The drawing and the foregoing specification constitute a description of the improved roller for removing lint in such full, clear, concise and exact terms as to enable any person skilled in the art to practice the invention, the scope of which is indicated by the appended claims.

What I claim as my invention is:

1. A device for removing lint comprising a cylindrical shell, a strip of adhesive tape extending helically about said shell to provide convolutions progressing along the length of said shell with the tacky side disposed radially outwardly, said shell having an axially extending notch at each end, the ends of said strip projecting radially inwardly through said notches and having the tacky side adhered to the radially inner surface of the portions of said shell circumferentially beyond said notches, one of said portions being a tab having an axially extending knife edge spaced circumferentially beyond the adjacent notch for severing said strip.

2. A device as defined in claim 1 including a handle rotatably supporting said shell.

3. A device for removing lint comprising a cylindrical body, a narrow ridge projecting radially outwardly from said body and extending helically thereabout, the adjacent convolutions of said ridge defining a helical path of uniform width extending around said body and a strip of adhesive tape encircling said body and disposed in said helical path with the tacky side of said tape facing radially outwardly, said ridge projecting radially outwardly beyond the tacky side of said tape.

4. A device as defined in claim 3 including a handle projecting from said body and rotatably supporting the same.

5. A device for removing lint comprising a cylindrical shell, a narrow ridge projecting radially outwardly from said shell and extending helically thereabout from a point adjacent one end of said shell to a point adjacent the other end thereof, the adjacent convolutions of said ridge defining a helical path of uniform width on the outer cylindrical side of said shell, a strip of adhesive tape encircling said shell and disposed in said helical path with the tacky side of said strip facing radially outwardly, said shell having an axially extending notch at each end defining the ends of said helical path at the opposite ends of said shell, the ends of said strip projecting radially inwardly through said respective notches and having the tacky surface adhered to the radially inner surface of the portions of said shell circumferentially beyond said notches from the ends of said spiral path, one of said portions being a tab having an axially extending knife edge spaced circumferentially beyond the adjacent notch for severing said strip.

6. A device as defined in claim 5 including a handle projecting axially from one end of said shell and rotatably supporting the same.

7. A device for removing lint comprising a cylindrical shell, a narrow ridge projecting radially outwardly from said shell and extending helically thereabout from a point adjacent one end of said shell to a point adjacent the other end thereof, the adjacent convolutions of said ridge

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defining a helical path of uniform width on the outer cylindrical side of said shell, a strip of adhesive tape encircling said shell and disposed in said helical path with the tacky side of said strip facing radially outwardly, said shell having an axially extending notch at each end defining the ends of said helical path at the opposite ends of said shell, the ends of said strip projecting radially inwardly through said respective notches and having the tacky surface adhered to the radially inner surface of the portions of said shell circumferentially beyond said notches from the ends of said helical path, one of the said portions of said shell comprising a tab having an axially extending terminal knife edge circumferentially spaced from the adjacent notch for severing said strip, a hub secured to said shell, a handle projecting axially from one end of said shell and rotatably supporting said hub, said hub having an axial extension of reduced diameter projecting from said hub in the direction of said handle, and a reserve roll of adhesive tape removably supported on said extension and having an internal diameter enabling it to be removed over said handle, said extension being adapted to be engaged by the thumb of the hand gripping said handle to prevent rotation of said shell and hub relative to said handle when applying a strip of tape to said shell.

8. A device as defined in claim 7 in which said ridge is integral with said shell and formed by crimping the latter.

9. A device as defined in claim 7 in which said ridge comprises a wire secured to said shell.

10. A device for removing lint comprising a cylindrical shell, a strip of adhesive tape extending helically about said shell along the length thereof with the tacky side disposed radially outwardly, said shell having an axially extending notch at one end, one end of said strip projecting radially inwardly through said notch and having the tacky side adhered to the radially inner surface of the portion of said shell circumferentially beyond said notch, said portion being in the form of a tab having an axially extending knife edge spaced circumferentially beyond said notch for severing said strip, and a handle projecting from said body and rotatably supporting the same.

11. A device for removing lint comprising a cylindrical shell, a strip of adhesive tape extending helically about said shell to provide convolutions progressing along the length of said shell with the tacky side disposed radially outwardly, said shell having a generally axially extending slot adjacent one end, one end of said strip projecting radially inwardly through said slot and having the tacky side thereof adhered to the radially inner surface of the portion of said shell circumferentially beyond said slot, said shell having a generally axially extending knife edge circumferentially beyond said slot for severing said strip.

12. A device as set forth in claim 11 in which said knife edge is formed by a generally axially extending notch said shell spaced circumferentially beyond said slot and is defined by the generally axially extending edge of said notch adjacent said slot.

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