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DESCRIPTION

[0001] This invention relates to a roller blind assembly for a window or door.

[0002] Windows are typically provided with screens fitted to the inside of the frame of the window opening, typically fixed to the upper face of the window opening or between the sides of the window opening adjacent the upper face thereof, for selectively obscuring the window. In the case of a roller blind, a roller is mounted at an upper side of the frame around which a suitable screen is wound. The screen may be lowered and raised by rotating the roller. The lower end of the screen may be provided with a bar such that the screen hangs from the roller under gravity. The roller, upon which the screen is wound in convolute manner, is typically located within an elongate cassette adapted to be mounted at an upper side of a window opening.

[0003] Over time the screen of a roller blind assembly may become dirty, faded or damaged or it may be desired simply to change the screen, for example when a room is redecorated. This usually requires costly replacement of the entire roller blind assembly.

[0004] An object of the present invention is to provide an improved roller blind assembly wherein the screen can be readily detached from the roller for cleaning or replacement. JPH10292756 and DE202007001597 are examples of known detachable screens.

[0005] According to the present invention there is provided a roller blind assembly as claimed in claim 1.

[0006] The first fastening component may be integrally formed on said lower marginal edge of said panel.

[0007] The screen may be attached to the second fastening component by one or more of adhesive, crimping, heat sealing or any other suitable attachment method. Preferably the screen is detachable from the panel by displacing the second fastening component with respect to the first fastening component in a direction towards the roller.

[0008] Preferably the length of the panel is less than the circumference of the roller.

[0009] The roller is provided with an elongate recess or channel formed on its outer surface extending substantially over the entire length of the roller and parallel to the axis of the roller for receiving said fastening means when the panel and screen are wound onto the roller.

[0010] The shape and dimensions of the roller, and the elongate recess or channel formed thereon, and the fastening means are such that when the panel and the fastening means are wound around the roller, the resulting assembly presents a circular cross section of substantially constant radius.

[0011] In one embodiment the roller may be rotatably mounted within an elongate cassette, the cassette having an elongate opening in a lower face thereof through which said screen and at least said marginal edge of the panel may extend.

[0012] Preferably the screen comprises a sheet of fabric or similar flexible material.

[0013] The roller may be tensioned, for example by means of a spring, to bias the roller in a winding direction whereby the screen is biased towards a raised or open position with the screen and panel wound onto the roller in convolute manner.

[0014] A roller blind assembly in accordance with an embodiment of the present invention will now be described, by way of example only, with reference to the accompanying drawings, in which :-

Figure 1 is a perspective view of a roller blind assembly in accordance with an embodiment of the present invention;

Figure 2 is a detailed perspective view of an end region of the roller blind assembly of Figure 1;

Figure 3 is a sectional view through the roller blind assembly of Figure 1; and

Figure 4 is a sectional view through the roller blind assembly of Figure 1, with the screen partially wound around the roller.

[0015] As illustrated in the drawings, a roller blind assembly in accordance with an embodiment of the present invention comprises an elongate cassette 2 adapted to be mounted in an upper side of a window opening, the cassette 2 having a front face 4 defining a head portion of the roller blind assembly and having an opening or slot 6 at a lower side of the front face 4.

[0016] A roller 8 is rotatably mounted within the cassette. A fabric screen 10 is supported from the roller 8 such that the screen 10 extends through the slot 6 in cassette 2. The screen 10 can be retracted into the cassette 2 by rotation of the roller 8 such that the screen 10 becomes wrapped around the roller 8 in convolute manner, as is known in the art. The roller 8 may be tensioned, for example by means of a spring, to bias the roller 8 in a winding direction whereby the screen 10 is biased towards a raised or open position with the screen 10 wound onto the roller 8 in convolute manner. The roller 8 may be rotatably by a manual operating mechanism, such as a pull cord or chain, or by a motorised drive to enable the screen 10 to be lowered and raised by rolling and unrolling the screen on the roller in known manner. A rod or bar may be attached to a lower edge of the screen 10 to maintain the screen 10 under tension.

[0017] The roller 8 may be formed from aluminium, preferably by an extrusion process, or may be made from any other suitable material.

[0018] The screen 10 is attached to the roller 8 via a rectangular panel (12) in the form of an intermediate web of flexible sheet material. A bead 14 is provided at an upper marginal edge of the intermediate web to be received within an elongate slot 16 formed along the length of the roller 8, parallel to the axis of the roller 8, to attach the intermediate web to the roller 8. A leading portion 30 of outer surface of the roller 8, ahead of the elongate slot 16 has a radius greater than the remainder or trailing portion 32 of the outer surface of the roller 8 by an amount substantially equal to the thickness of the intermediate web such that the overall diameter of the outer surface of the roller and intermediate web when the intermediate web is wound around the roller 8, is substantially constant around the circumference of the roller 8.

[0019] A free lower marginal edge of the intermediate web is provided with a first component 18A of a fastening device 18, a second component 18B of the fastening device 18 being attached to an upper edge of the screen 19, whereby the upper edge of the screen 10 may be releasably attached to the lower marginal edge of the intermediate web.

[0020] The intermediate web may be formed from a polymeric material, such as PVC, or any other suitable flexible sheet material. This may permit the bead 14 and fastening device 18 to be integrally formed on the respective upper and lower marginal edges of the web, for example by injection moulding, or co-moulding from compatible but differing materials, for example different grades of PVC.

[0021] As best shown in Figures 3 and 4, the fastening device 18 comprises a first elongate hook-like component 18A provided on the lower marginal edge of the intermediate web, defining an upwardly open elongate channel, and a second elongate hook-like component 18B, defining a downwardly open elongate channel, provided on the upper edge of the screen 10, the first and second elongate hook-like members being shaped to engage one another to attach the screen 10 to the intermediate web, while being readily separable from one another to allow removal and replacement of the screen 10 from the intermediate web by relative displacement of the two components 18A,18B in a vertical direction.

[0022] The first component 18A of the fastening device 18 may be formed from a resilient material, such as plastic or PVC, and may be integrally formed with the intermediate web, as described above. The second component 18B of the fastening device 18 may be formed from a plastic material, for example by moulding, and may be attached to the upper edge of the screen 10 by adhesive, crimping, heat sealing or other suitable attachment methods. The second component 18B may be provided with a recessed region 22 on its outer face 21 adapted to receive the upper edge region of the screen 10, the recessed region 22 having a depth substantially equal to the thickness of the screen 10.

[0023] The length of the intermediate web is less than the circumference of the roller 8 such that the intermediate web can be wound onto the roller 8 without overlap. As best shown in Figure 2, an elongate channel 20 is formed in the outer surface of the roller 8, along the length of the roller 8 and parallel to the axis of the roller 8, the channel 20 and the fastening device 18

being dimensioned and positioned such that the channel 20 receives the fastening device 18 when the intermediate web is wound onto the roller 8 so that the fastening device 18 does not interfere with the winding of the screen 10 onto the roller 8. The fastening device 18 is shaped and dimensioned to fit into the recess 20 when the screen is wound onto the roller 8 so that the screen 10 and presents a circular cross section when wound on the roller 8, an outer surface of the fastening device 18 having a radius of curvature substantially equal to the radius of the roller 8, in particular the radius of the leading portion 30 of the roller 8, as best shown in Figure 4, such that the roller 8, and the intermediate web and fastening device 18 when wound thereon, present a circular cross section of substantially constant radius.

[0024] The length of the screen 10 may be selected so that the intermediate web remains wound onto the roller 8, and thus out of sight within the cassette 2, during normal operation of the roller blind assembly (i.e. during opening and closing of the screen).

[0025] When it is desired to remove the screen 10 for cleaning or to replace the screen 10, the roller is rotated to fully unwind the screen 10 and the intermediate web from the roller 8 to expose the fastening device 18, as shown in Figure 1. In such position, the screen 10 can be readily detached from the intermediate web by manipulation of the fastening device 18 to separate the first and second parts 18A, 18B of the fastening device.

[0026] This arrangement enables the screen 10 to be readily removed for cleaning and allows the screen to be replaced or interchanged, without requiring access to the roller 8, by simply detaching the screen 10 from the intermediate web via the fastening device 18. Thus the appearance of the roller blind assembly can be easily, quickly and cheaply altered by simply interchanging the screen 10 with one of a different colour or pattern. In addition, the flat screen 10 may be replaced by other types of screen, such a roman blind having pleated portions, providing even greater flexibility.

[0027] The invention is not limited to the embodiment(s) described herein but can be amended or modified without departing from the scope of the appended claims.

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- JPH10292756B [0004]
- DE202007001597 [0004]

Patentkrav

1. Rullegardinsamling, der omfatter en rulle (8), et generelt rektangulært panel (12), der er dannet ud fra et fleksibelt tyndplademateriale med en øvre randkant, som er fastgjort til rullen (8), og en fri nedre randkant, en afskærmning (10) i form af et væv af fleksibelt materiale, der er udløseligt monteret på den frie nedre rand af panelkanten via et udløseligt fastgørelsesmiddel (18), hvilket udløselige fastgørelsesmiddel (18) omfatter samvirkende første og sekundære fastgørelseskomponenter (18A,18B), som er anbragt på henholdsvis den nedre randkant på panelet (12) og en øvre kant på afskærmningen (10), hvor den første og den anden fastgørelseskomponent (18A,18B) omfatter matchende langstrakte elementer, hvor rullen (8) er forsynet med en langstrakt fordybning eller kanal (20), der er dannet på den ydre overflade, der strækker sig i det væsentlige over hele rullens (8) længde og parallelt med rullens akse til modtagelse af fastgørelsesmidlet (18), når panelet (12) og afskærmningen (10) opvikles på rullen (8), idet formen af og dimensionerne på rullen (8) og den langstrakte fordybning eller kanal (20), der er dannet derpå, og fastgørelsesmidlet (18) er således, at den resulterende samling, når panelet (12) og fastgørelsesmidlet (18) opvikles omkring rullen (8), fremviser et cirkulært tværsnit med i det væsentlige konstant radius, kendetegnet ved, at den første fastgørelseskomponent og den anden fastgørelseskomponent hver især har et i det væsentlige U-formet tværsnit med henblik på at definere samvirkende krog lignende elementer, der er tilpasset til udløseligt at gå i indgreb med hinanden for at understøtte afskærmningen fra panelet, og ved, at den første fastgørelseskomponent af fastgørelsesmidlet (18) omfatter en første langstrakt krog lignende komponent (18A), der er anbragt på den nedre randkant på panelet (12), og som definerer en opadtil åben langstrakt kanal, idet den anden fastgørelseskomponent af fastgørelsesmidlet (18) omfatter en anden langstrakt krog lignende komponent (18B), som definerer en nedadtil åben langstrakt kanal, der er anbragt på den øvre kant på afskærmningen (10), hvor den første og den anden langstrakte krog lignende komponent (18A,18B) af fastgørelsesmidlet (18)

er formet med henblik på at gå i indgreb med hinanden for at fastgøre afskærmningen (10) til panelet (12), mens de nemt kan adskilles fra hinanden for at muliggøre fjernelse og udskiftning af afskærmningen (10) fra panelet (12), i brug, ved relativ forskydning af den første og den anden fastgørelseskomponent (18A,18B) i en vertikal retning.

2. Rullegardinsamling ifølge krav 1, hvor den første fastgørelseskomponent (18A) er integralt dannet på den nedre randkant på panelet (12).

3. Rullegardinsamling ifølge krav 1 eller krav 2, hvor afskærmningen (10) er fastgjort til den anden fastgørelseskomponent (18B) ved hjælp af én eller flere af sammenklæbning, krympning eller varmekforsigling.

4. Rullegardinsamling ifølge et hvilket som helst foregående krav, hvor panelets (12) længde er mindre end rullens (8) periferi.

5. Rullegardinsamling ifølge et hvilket som helst foregående krav, hvor rullen (8) er roterbart monteret inde i en langstrakt kassette (2), idet kassetten (2) har en langstrakt åbning (6) i en nedre flade deraf, gennem hvilken afskærmningen (10) og mindst randkanten på panelet (12) kan strække sig.

6. Rullegardinsamling ifølge et hvilket som helst foregående krav, hvor afskærmningen (10) omfatter et stykke stof eller et tilsvarende fleksibelt materiale.

7. Rullegardinsamling ifølge et hvilket som helst foregående krav, hvor rullen (8) fastspændes med henblik på at forspænde rullen (8) i en opviklingsretning, hvorved afskærmningen (10) forspændes imod en hævet eller åben position, hvor afskærmningen (10) og panelet (12) opvikles på rullen (8) på en sammenrullet måde.

DRAWINGS

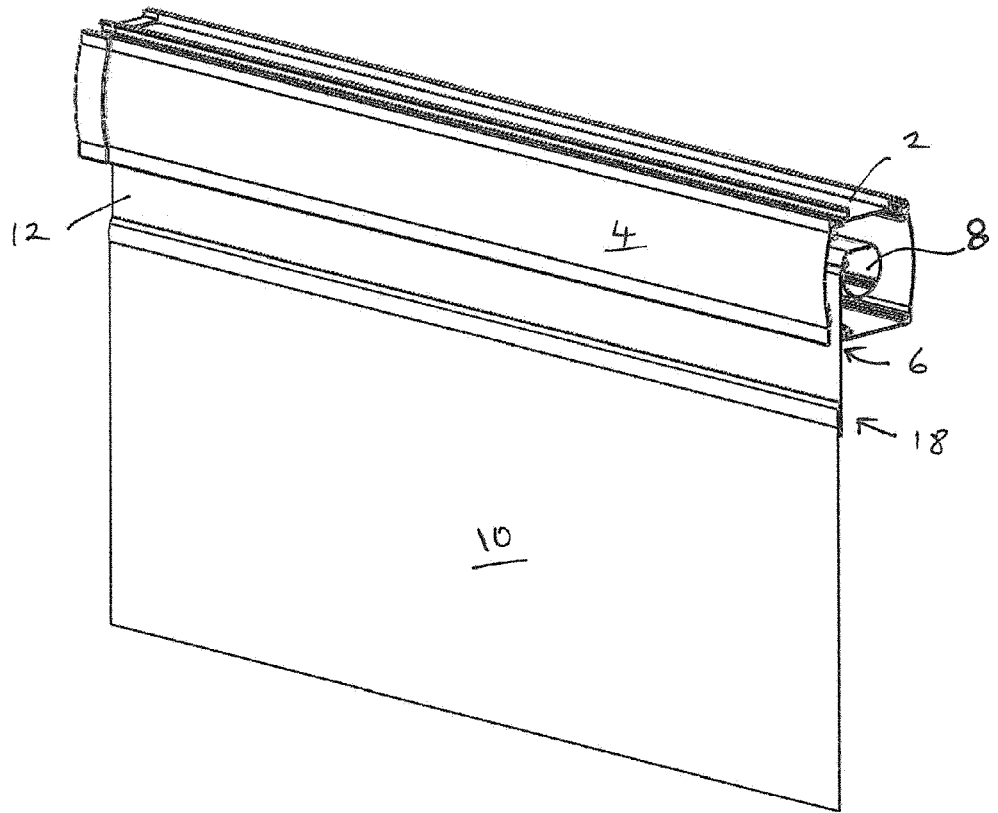


Figure 1

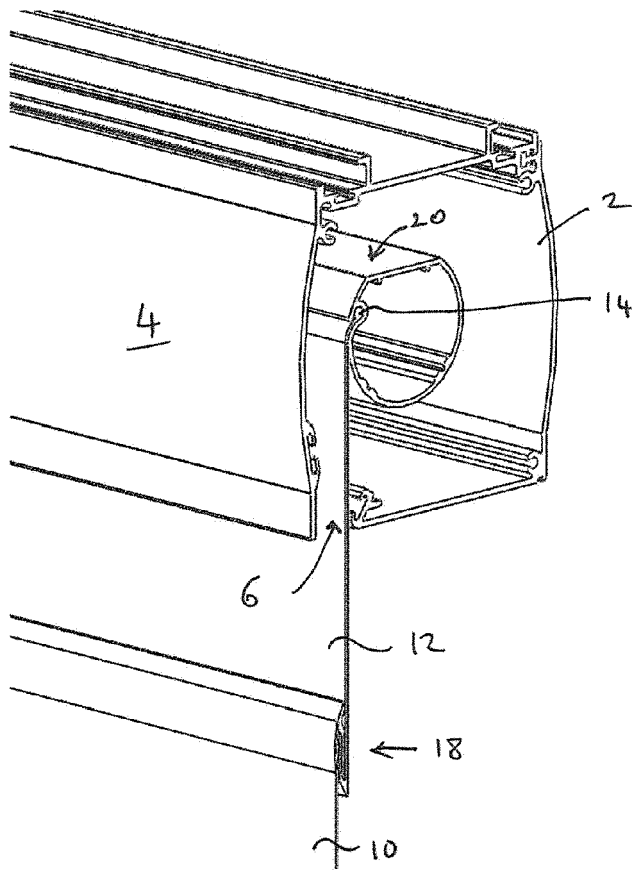


Figure 2

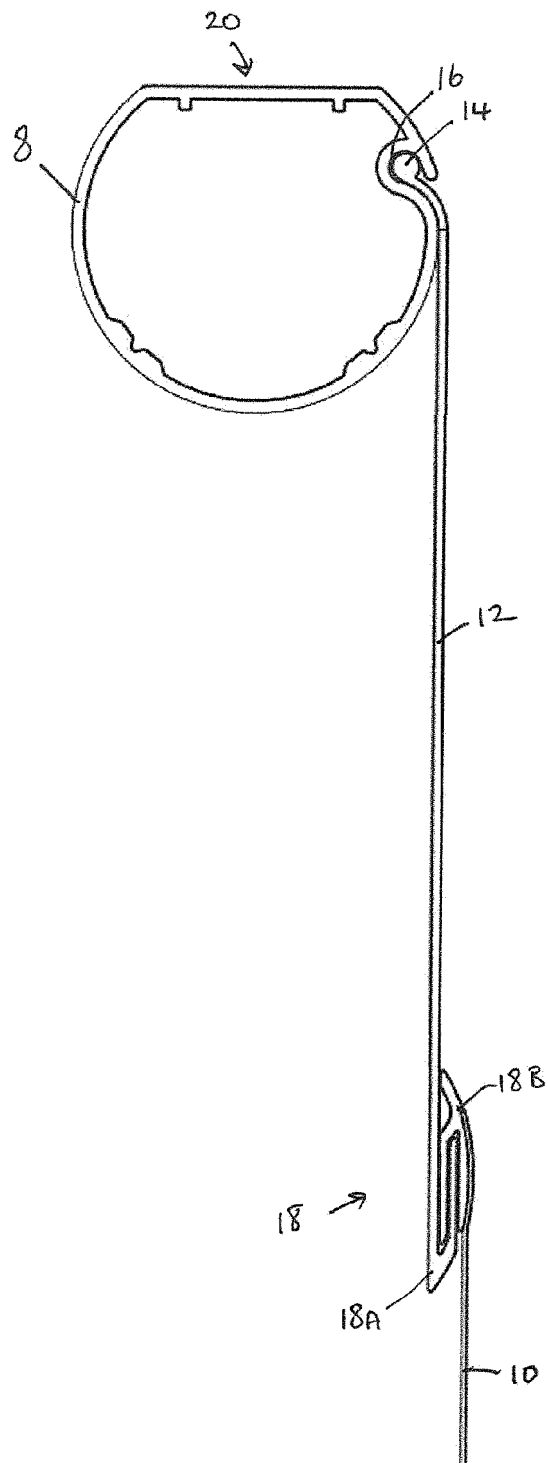


Figure 3

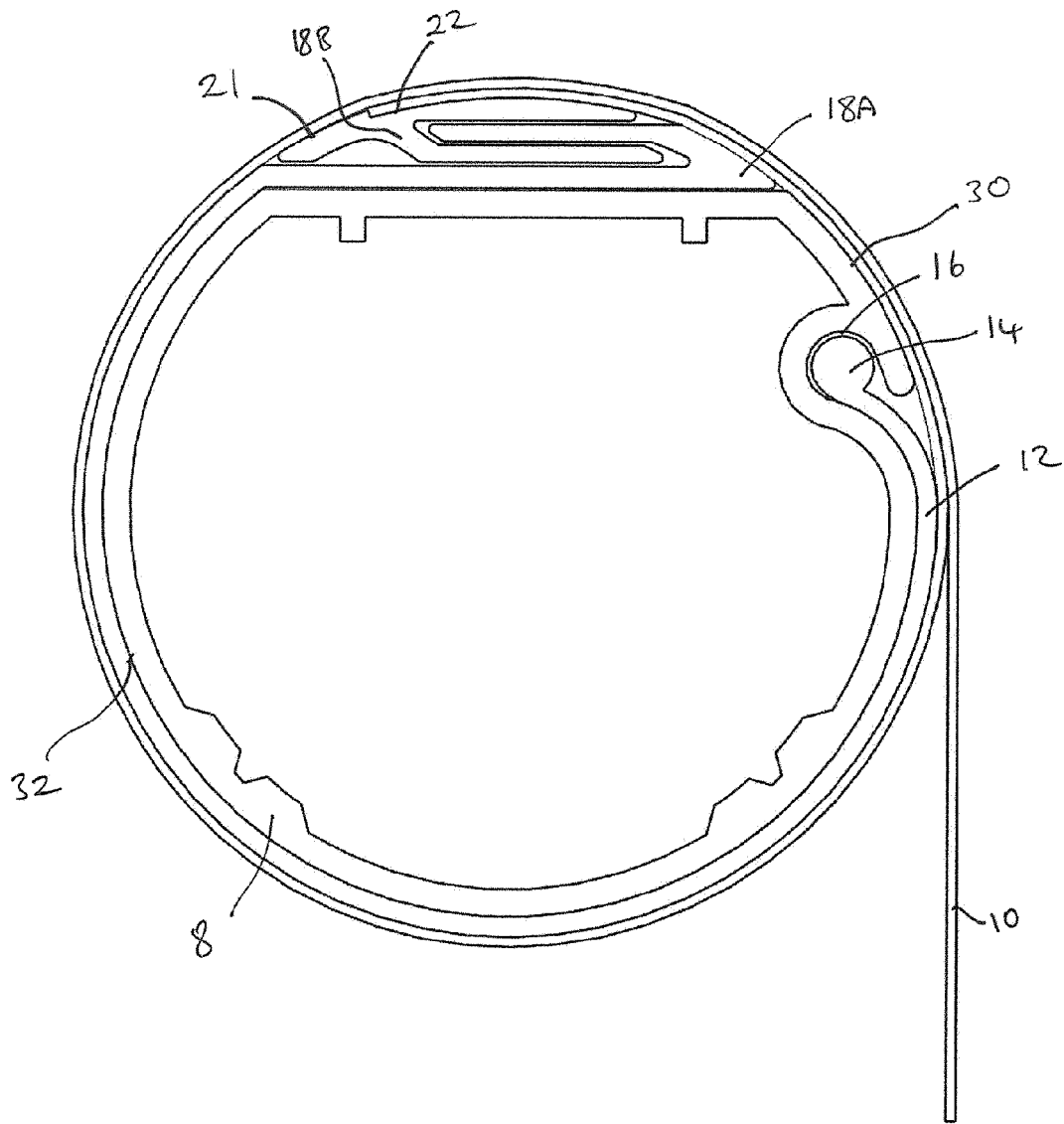


Figure 4