APPLICATION FOR A PATENT

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Hereby apply for the grant of a Patent for an invention entitled:

"RUNNER MEANS, PARTICULARLY CURTAIN RUNNERS"

which is described in the accompanying specification.


DATED this THIRTY-FIRST day of MARCH, 1983.

KLAUS KLITTICH

By his Patent Attorneys
G.R. CULLEN & COMPANY,

R.T. KELLY

To:
The Commissioner of Patents,
Commonwealth of Australia.

This invention relates to runner means and more particularly to curtain runners and the like.
COMMONWEALTH OF AUSTRALIA
PATENTS ACT 1952-1973
DECLARATION IN SUPPORT OF CONVENTION OR NON-CONVENTION APPLICATION FOR A PATENT OR PATENT OF ADDITION

In support of the Application made for a patent or patent of addition for an invention entitled: Runner means, particularly curtain runners.

I, Klaus KLITTICH
of 5B, Douglas Avenue
Craigall, Johannesburg
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do solemnly and sincerely declare as follows:

1. (a) I am the applicant for the patent
or (b) I am an applicant company.

2. (a) (i) I am the actual inventor of the invention
or (b) We declare that the application was made by the company
and that the inventor(s) are

3. Insert place and date of signature.

Signature of declarant(s) (no attention required)

Note: Initial all alterations.

simplifies production and assembly and reduces costs.
1. Runner means comprising hanger means; a bearing integrally formed with the hanger means; roller means or the like removably mountable on the bearing for rotation thereon; and retaining means adapted releasably to retain the roller means on the bearing.
COMMONWEALTH OF AUSTRALIA
The Patents Act 1952-1960

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COMPLETE SPECIFICATION FOR THE INVENTION ENTITLED:

"RUNNER MEANS, PARTICULARLY CURTAIN RUNNEPS"

The following statement is a full description of the invention including the best method of performing it known to us:

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This invention relates to runner means and more particularly to curtain runners and the like.

According to the invention runner means comprises hanger means; a bearing integrally formed with the hanger means; roller means or the like removably mountable on the bearing for rotation thereon; and retaining means adapted releasably to retain the roller means on the bearing.

For the purposes of this specification the term "roller means" includes wheel means or the like.

The retaining means may be integrally formed with the roller means.

Preferably, the retaining means is integrally formed with the bearing means and the hanger means.

With the arrangement according to the invention, the runner means may comprise only two separate parts which are adapted to be assembled in releasable manner. This facilitates and/or
simplifies production and assembly and reduces costs.

The retaining means may be integrally formed with the bearing and the hanger means and may comprise an elongate element which extends axially relative to the bearing and which is displaceable transversely between a normal operative position in which it is engageable with a co-operating formation on the roller means to retain the roller means in rotatable relationship on the bearing and an inoperative position in which it permits the roller means to be mounted on and be withdrawn from the bearing.

The elongate retaining element may be resiliently biassed towards its normal operative position when it is displaced away from the normal operative position.

The bearing may comprise a tubular formation which is fast towards one end thereof with the hanger means, the elongate retaining element being fast with the hanger means in the region of the one end
of the tubular formation and extending axially
along the tubular formation within the bore
thereof.

The elongate retaining element may be mounted in
canti-lever fashion and may include a transversely
projecting catch formation towards its free end.

The roller means may comprise a sleeve-like body
adapted rotatably to embrace the tubular formation
of the bearing, the sleeve-like body including a
formation adapted to co-operate with the elongate
retaining element so as rotatably to retain the
roller means on the tubular formation when the
elongate retaining element is in its normal
operative position.

The co-operating formation on the sleeve-like body
may comprise a transverse wall across the
sleeve-like body with an aperture therein through
which the elongate retaining element may extend,
the retaining element including a transversely
projecting catch formation at its outer end
adapted to engage the surround of the aperture in
the transverse wall.

7. Runner means as claimed in claim 5 or 6,
wherein the roller means comprises a
The roller means may present any suitable outer peripheral configuration to suit a rail or other guide track on which the runner is to be mounted.

The hanger means may be of any suitable configuration to permit a curtain or the like to be suspended directly or indirectly therefrom.

The hanger means may comprise a hook formation adapted to engage a curtain or a part thereon.

Alternatively, the hanger means may comprise an annular or loop-like formation in which a hook or the like on a curtain may engage.

The parts of runner means according to the invention may be made from any suitable material, such as a synthetic polymer material.

For a clear understanding of the invention a preferred embodiment will now be described purely by way of example with reference to the
accompanying drawings in which:

Figure 1 is a sectional view on the line I-I in figure 2, of a curtain runner according to the invention.

Figure 2 is a rear elevational view of the curtain runner of figure 1 in the direction of arrow M in figure 1.

Figure 3 is a sectional view similar to figure 1 of another embodiment of a curtain runner according to the invention.

The runner comprises a first unit A including hanger means 1 which includes a loop formation 2 engageable by a hook on a curtain; and a connecting part 3 which is integrally formed with loop formation 2. First unit A further comprises bearing 4 which is in the nature of a tubular formation which is integrally formed at its one end with the connecting part 3 of hanger means 1 and is open at its other end.

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retaining element to be located within the bore of the tubular formation of the bearing.
First unit A also comprises elongate retaining element 5 which is integrally connected with connecting part 3 of hanger means 1 and with bearing 4 in the region in which bearing 4 is integrally connected with connecting part 3. Retaining element 5 extends axially along bearing 4 within the bore thereof. It will be seen that retaining element 5 is mounted in cantilever fashion and that its free end projects from the open end of bearing 4. A head 6 presenting a transversely projecting catch formation 6a is integrally formed with retaining element 5 at its free end.

Loop formation 2 and connecting part 3 of hanger means 1, bearing 4, retaining element 5 and its head 6 together with its catch formation 6a are all integrally formed as a single unit A from a suitable synthetic polymer material.

The runner further comprises a second unit B comprising a roller unit including sleeve-like body 7 which is open at its one end and is adapted to be removably mountable on bearing 4 with body 7
rotatably embracing bearing 4; transverse end wall 8 which is integrally formed with and extends across the outer end of body 7 and which is provided with a central aperture 9 through which the free end of retaining element 5 and the head 6 thereon can project with catch formation 6a located outwardly of transverse wall 8; and annular guide formation 10 which is integrally formed with body 7 and is adapted to engage and run along a suitable guide rail or other guide track (not shown). Body 7, end wall 8 and guide formation 10 are all integrally formed as a single unit B from a suitable synthetic polymer material.

Retaining element 5 is normally located in the operative position shown in figure 1 in which head 6 is off centre with respect to aperture 9 and catch formation 6a is engageable with the surrounds of aperture 9 in transverse wall 8 of roller unit B so that catch formation 6a and the surrounds of aperture 9 co-operate to retain roller unit B rotatably mounted on bearing 4. The diameter of head 6 is smaller than the diameter of
aperture 9. The resilience of the material of retaining element 5 permits the retaining element 5 to be displaced transversely in the direction of arrow X against the action of an inherent resilient bias in retaining element 5, to an inoperative position in which head 6 is aligned with aperture 9 to permit roller unit B to be withdrawn axially from bearing 4.

It will be appreciated that the runner only comprises two separate parts, namely the units A and B. The two units may be produced separately and then assembled. The particular construction and arrangement of parts facilitate the assembly of the two units.

It will be seen that the outer end of head 6 on retaining element 5 is tapered and that the bore of aperture 9 has an outwardly converging configuration to define a slanting inner peripheral surface 9a. To assemble the two units A and B, the open end of body 7 of roller unit B is simply pushed over bearing 4 in the direction of arrow Y until the tapered head 6 of retaining
element 5 engages the slanting inner peripheral surface 9a in the bore of aperture 9 in end wall 8 of roller unit B. By pushing roller unit B further in the direction of arrow Y, the engagement between tapered head 6 and slanting surface 9a displaces retaining element 5 transversely in the direction of arrow X from its normal operative position towards an inoperative position, until head 6 is aligned with aperture 9 and passes through the aperture. Once head 6 has passed through aperture 9, the inherent resilient bias developed in retaining element 5 during the transverse displacement thereof, exerts itself to urge retaining element 5 back to its normal position shown in figure 1 in which catch formation 6a is engageable with the surrounds of aperture 9 and rotatably retains roller unit B on bearing 4.

It will be appreciated that instead of an elongate retaining element 5 which is integrally formed with bearing-hanger unit A as shown in figures 1 and 2, the retaining means may be integrally formed with the roller unit B and may comprise an elongate element which extends transversely between the roller unit B and bearing 4 and an in-operational position in which it is engageable with the co-operating formation 6a in transverse wall 7 of bearing-hanger-bearing unit 4.

Thus, the arrangement of element 5 and the co-operating formation 6a shown in figures 1 and 2 is an arrangement in which the outer end of elongate retaining element 5 is formed in cantilever fashion with roller unit B.
elongate element which extends axially relative to
the roller unit B and which is displaceable
transversely between a normal operative position
in which it is engageable with a co-operating
formation fast with the bearing 4 to retain the
roller unit B in rotatable relationship on the
bearing 4 and an inoperative position in which it
permits the roller unit B to be mounted on and be
withdrawn from the bearing 4. Any suitable
co-operating formation, such as an apertured
transverse wall formation, may be provided on the
hanger-bearing unit A.

Thus, the arrangement of the elongate retaining
element 5 and the co-operating transverse wall 8
shown in figures 1 and 2 may be reversed. Such an
arrangement is shown in figure 3 in which the
elongate retaining element 5 is integrally
connected with the roller unit B in the region of
the outer end of the sleeve-like body 7. The
retaining element 5 on roller unit B extends in
cantilever fashion axially along sleeve-like body
7 of roller unit B within the bore thereof from
the outer end of body 7 towards the inner open end of body 7 in a position permitting the retaining element 5 to be located within the bore of the tubular bearing 4. The elongate retaining element 5 on roller unit B is adapted for the transversely projecting catch formation 6a at its outer free end to be releasably engageable with a co-operating formation on the bearing-hanger unit A in order releasably to retain roller unit B in rotatable relationship on bearing 4.

As shown in figure 3 the co-operating formation on bearing-hanger unit A comprises apertured, transverse wall 8 across tubular bearing 4 which is integrally formed with connecting part 3 and with bearing 4 in the region of the inner end of bearing 4 where bearing 4 is integrally connected with connecting part 3. Transverse wall 8 is provided with a central aperture 9 through which the outer free end of retaining element 5 can project, aperture 9 having a converging bore configuration to define slanting inner peripheral surface 9a.
The retaining element 5 on the roller unit B can extend through central aperture 9 in the transverse wall 8 on the hanger-bearing unit A, the transversely projecting catch formation 6a at the outer free end of retaining element 5 being adapted to engage the surround of aperture 9 in transverse wall 8 to retain the roller unit B in rotatable relationship on bearing 4 when retaining element 5 is in its operative position shown in figure 3. Retaining element 5 is displaceable transversely in the direction of arrow X towards an inoperative position to permit the roller unit B to be mounted on and be withdrawn from bearing 4, retaining element 5 being resiliently biased towards its normal operative position when it is displaced away from its normal operative position. The operation of the retaining element 5 on roller unit B and its co-operating apertured transverse wall 8 on bearing-hanger unit A is similar to that described above with reference to the arrangement of figures 1 and 2.

It will be appreciated that many other variations
in detail are possible without departing from the scope of the appended claims. For example, instead of hanger means 1 presenting a loop formation 2, it may present a hook formation adapted to engage a curtain or a part thereon. Hanger means 1 may be of any suitable shape or configuration to suit particular requirements.

Also, instead of roller unit B having a guide formation 10, the roller unit B may present any other suitable outer peripheral configuration to suit a rail or other guide track on which the curtain runner is to be mounted.

The invention includes within its scope an integrally formed hanger-bearing unit as defined above as well as roller means as defined above.

Runner means according to the invention is particularly, but not exclusively, applicable to curtains.
THE CLAIMS

1. Runner bearing means, the roller thereof release bearing

2. Runner means, either roller

3. Runner means, with a relationship or relation
THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:-

1. Runner means comprising hanger means; a bearing integrally formed with the hanger means; roller means or the like removably mountable on the bearing for rotation thereon; and retaining means adapted releasably to retain the roller means on the bearing.

2. Runner means as claimed in claim 1, wherein the retaining means is integrally formed with either the hanger-bearing unit or with the roller means.

3. Runner means as claimed in claim 1, wherein the retaining means is integrally formed with the bearing and the hanger means and comprises an elongate element which extends axially relative to the bearing and which is displaceable transversely between a normal operative position in which it is engageable with a co-operating formation on the roller means to retain the roller means in rotatable relationship on the bearing and an inoperative position in which it permits the
4. Runner means as claimed in claim 3, wherein the elongate retaining element is resiliently biased towards its normal operative position when it is displaced away from its normal operative position.

5. Runner means as claimed in claim 3 or 4, wherein the bearing comprises a tubular formation which is fast towards one end thereof with the hanger means, the elongate retaining element being fast with the hanger means in the region of the one end of the tubular formation and extending axially along the tubular formation within the bore thereof.

6. Runner means as claimed in claim 5, wherein the elongate retaining element is mounted in cantilever fashion and includes a catch formation towards its free end.
7. Runner means as claimed in claim 5 or 6, wherein the roller means comprises a sleeve-like body adapted rotatably to embrace the tubular formation of the bearing, the sleeve-like body including a formation adapted to co-operate with the elongate retaining element so as rotatably to retain the roller means on the tubular formation when the elongate retaining element is in its normal operative position.

8. Runner means as claimed in claim 7, wherein the co-operating formation on the sleeve-like body of the roller means comprises a transverse wall across the sleeve-like body with an aperture therein through which the elongate retaining element may extend, the retaining element including a transversely projecting catch formation at its outer end adapted to engage the surround of the aperture in the transverse wall.

9. Runner means as claimed in claim 1, wherein the retaining means is integrally formed with
the roller means and comprises an elongate element which extends axially relative to the roller means and which is displaceable transversely between a normal operative position in which it is engageable with a co-operating formation fast with the bearing to retain the roller means in rotatable relationship on the bearing and an inoperative position in which it permits the roller means to be mounted on and be withdrawn from the bearing.

10. Runner means as claimed in claim 9, wherein the bearing comprises a tubular formation which is fast towards one end thereof with the hanger means; and the roller means comprises a sleeve-like body adapted rotatably to embrace the tubular formation of the bearing, the elongate retaining element being fast with the sleeve-like body of the roller means in the region of one end thereof and extending axially in canti-lever fashion along the sleeve-like body within the bore thereof in a position permitting the
retaining element to be located within the bore of the tubular formation of the bearing, the retaining element including a catch formation towards its free end which is adapted to engage the co-operating formation fast with the bearing.

11. Runner means as claimed in claim 10, wherein the catch formation projects transversely from the retaining element and the co-operating formation fast with the bearing comprises a transverse wall across the tubular formation of the bearing, the transverse wall including an aperture therein through which the elongate retaining element may extend and the tranversely projecting catch formation towards the outer end of the retaining element being adapted to engage the surround of the aperture in the transverse wall.

12. Runner means as claimed in any one of the preceding claims, wherein the roller means presents an outer peripheral configuration to suit a rail or other guide track on which the runner is to be mounted.
13. Runner means as claimed in any one of the preceding claims, wherein the hanger means is adapted to permit a curtain or the like to be suspended directly or indirectly therefrom.

14. Runner means as claimed in claim 13, wherein the hanger means comprises a hook formation adapted to engage a curtain or a part thereon.

15. Runner means as claimed in claim 13, wherein the hanger means comprises a formation in which a hook or the like on a curtain may engage.

16. Runner means substantially as herein described with reference to the accompanying drawings.

17. A bearing-hanger unit as defined in any one of claims 1 to 15.
18. A bearing-hanger unit substantially as herein described with reference to the accompanying drawings.

19. Roller means as defined in any one of claims 1 to 15.

20. A roller unit substantially as herein described with reference to the accompanying drawings.

DATED THIS THIRTY-FIRST DAY OF MARCH, 1983.

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By his Patent Attorneys,
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