

CLAIMS

1. A screen assembly that comprises:
 - a support structure;
 - a roller assembly mounted on the support structure;
 - a flexible panel with a distal end mounted on the roller assembly so that the flexible panel can be wound onto and off the roller assembly as the flexible panel is retracted and extended;
 - two opposed track assemblies arranged on the support structure, sides of the flexible panel and each track assembly being configured so that the sides of the flexible panel can slide to and fro, longitudinally, within the track assemblies as the flexible panel is retracted and extended, at least one of the track assemblies having a static support that is fixed relative to the support structure and a dynamic support that is displaceable relative to the static support;
 - an adjustment mechanism that is operatively connected to the static and dynamic supports to adjust a position of the dynamic support relative to the static support;
 - an elongate guide assembly that is mounted on a proximal end of the flexible panel to guide movement of the flexible panel with respect to the track assemblies;
 - an insert mounted on at least one end of the guide assembly; and
 - the dynamic support of said at least one of the track assemblies including a runner in which the insert is received to slide or roll with respect to the dynamic support as the flexible panel is retracted and extended.
2. The screen assembly as claimed in claim 1, in which at least one of the track assemblies defines a longitudinally extending guide formation, the guide assembly including at least one guide that is received in the guide formation to guide movement of the guide assembly with respect to the track assemblies.
3. The screen assembly as claimed in claim 2, in which the guide assembly includes a carrier that at least spans the flexible panel, the at least one guide being one guide that extends from one side of the carrier to be received in the guide formation that is defined by the static support and the insert extending from an opposite side of the carrier to be received in the runner.
4. The screen assembly as claimed in claim 3, in which the insert is in the form of at least one roller, the, or each, roller and the runner being configured so that the, or each, roller can roll to and fro within the runner as the flexible panel is retracted and extended.
5. The screen assembly as claimed in claim 4, in which one of the track assemblies has the static support and the dynamic support and the, or each, roller is mounted on one end of the carrier that corresponds with said one of the track assemblies.

6. The screen assembly as claimed in claim 3, in which the guide assembly further includes at least one latch that can extend from at least one respective end of the carrier.
7. The screen assembly as claimed in claim 6, in which the, or each, latch can be extended or retracted with respect to the carrier to engage at least one respective track assembly.
8. The screen assembly as claimed in claim 7, in which the at least one latch is connected to a corresponding at least one handle included in the guide assembly to enable extension or retraction of the, or each, latch upon operation of the handle.
7. The screen assembly as claimed in claim 4, in which one or more stoppers are arranged in at least one of the track assemblies to form a stop for the, or each, latch when the, or each, latch is extended.
8. The screen assembly as claimed in claim 1, in which at least one of the dynamic support and the static support includes a bead guide on the end proximate the roller assembly.
9. The screen assembly as claimed in claim 8, in which the bead guide defines a channel containing at least one retaining formation with an internal slope to engage a bead of the flexible panel before being wound on to the roller assembly.
10. The screen assembly as claimed in claim 1, in which the support structure includes an elongate housing and two, opposed side members arranged at respective ends of the elongate housing, the roller assembly being mounted between the side members.
11. The screen assembly as claimed in claim 10, in which a bracket is mounted on one of the side members to support a drive end of the roller assembly.
12. The screen assembly as claimed in claim 10, in which a guide member is positioned on one of the side members and configured to guide an edge of the flexible panel as it is rolled onto the roller assembly to inhibit coning of the flexible panel.
13. The screen assembly as claimed in claim 1, in which the support structure and the roller assembly are configured for generally vertical orientation so that the flexible panel can extend generally horizontally.
14. The screen assembly as claimed in claim 13, in which the support structure includes a top side member and an opposed bottom side member, the roller assembly being mounted between the side members.
15. The screen assembly as claimed in claim 14, in which the opposed track assemblies are an upper track assembly and a lower track assembly, the upper track assembly including the static and dynamic supports.

16. The screen assembly as claimed in claim 15, in which a guide member is arranged on an inner side of the bottom side member and is configured to guide an edge of the flexible panel as it is rolled onto the roller assembly to inhibit coning of the flexible panel.
17. The screen assembly as claimed in claim 15, in which at least one of the dynamic support and the static support includes a bead guide at or near an end proximate the roller assembly.
18. The screen assembly as claimed in claim 17, in which the bead guide defines a channel containing at least one retaining formation with an internal slope to support a bead of the flexible panel before being wound on to the roller assembly.
19. A screen assembly that comprises:
a support structure;
a roller assembly mounted on the support structure, the roller assembly including a drive roller and a mounting projection arranged on the drive roller to extend axially from a flange and radially with respect to a rotational centre of the drive roller to project radially from the drive roller; and
a bracket that is mounted on the support structure, the bracket defining a receiving formation for receiving one end portion of the roller, the bracket including a bracket body and a releasably engaged closure that together define the receiving formation, the closure being configured to retain the mounting projection and thus the roller against radial movement when engaged and, when released, to permit the mounting projection and thus the drive roller to be displaced from the bracket body and out of the formation in a radial demounting direction.
20. The screen assembly as claimed in claim 19, in which the formation for receiving one end portion of the roller is in the form of a circular opening and a peripheral, internal lip, both defined by the bracket body and the closure so that the mounting projection is retained in the opening by the lip.
21. The screen assembly as claimed in claim 20, in which a drive mechanism is mounted on the bracket and is operatively engaged with the drive roller to permit a user to rotate the drive roller.
22. The screen assembly as claimed in claim 19, in which the mounting projection is in the form of at least one tooth of a gear, the drive mechanism including a gear wheel that is received in the opening, the gear wheel defining a slot to receive the, or each, tooth so that the gear wheel and the, or each, tooth complete the gear wheel.

23. The screen assembly as claimed in claim 22, in which the drive mechanism includes an input gear that is engaged with the gear wheel and accessible from outside the bracket, the input gear being configured for manipulation by the user.

24. The screen assembly as claimed in claim 23, in which the input gear is in the form of a worm gear located in a passage defined in the bracket body, the passage being in tangential communication with the opening so that the worm gear can engage the gear wheel.

25. A screen assembly that comprises:

first and second opposed support structures;

two opposed track assemblies that are mounted between the support structures and spaced so that the support structures and the track assemblies define an opening;

first and second roller assemblies mounted in respective first and second support structures, each roller assembly including a biasing mechanism;

a flexible panel, a distal end of the flexible panel being mounted on the first roller assembly so that the flexible panel can be wound off the first roller assembly against a bias of the biasing mechanism and back on to the first roller assembly under action of the biasing mechanism;

a handle assembly that is mounted on a proximal end of the flexible panel and displaceable in an opening direction towards the first roller assembly and a closing direction away from the first roller assembly;

at least one pulley that is mounted on the second roller assembly, a flexible connector with a distal end being connected to the pulley so that unwinding of the connector from the pulley occurs against a bias of the biasing mechanism and winding of the connector back onto the pulley is under action of the biasing mechanism, a proximal end of the connector being connected to the handle assembly so that movement of the handle assembly in the opening direction is against a bias of the second roller assembly and movement of the handle assembly in the closing direction is assisted by the bias of the second roller assembly; and

a stop arrangement that is operatively arranged with respect to the support structures and the handle assembly and operable to selectively stop the handle assembly in a desired position relative to the support structures.

26. The screen assembly as claimed in claim 25, in which at least one of the roller assemblies includes an adjustment mechanism to adjust the biasing mechanism.

27. The screen assembly as claimed in claim 25, in which the handle assembly includes a latch mechanism that forms part of the stop arrangement, which includes one or more stoppers that are positioned in the support structures to engage the latch mechanism.

28. A screen assembly that comprises:

a support structure that includes an elongate housing and two, opposed side members arranged at respective ends of the elongate housing;
a roller assembly mounted on the support structure between the side members;
a flexible panel with a distal end mounted on the roller assembly so that the flexible panel can be wound on to and off the roller assembly as the flexible panel is retracted and extended;
and

a guide member that is positioned on one of the side members and configured to guide an edge of the flexible panel as it is rolled onto and off the roller assembly to inhibit coning of the flexible panel.

29. The screen assembly as claimed in claim 28, in which the support structure and the roller assembly are configured for generally vertical orientation so that the flexible panel can extend generally horizontally.

30. The screen assembly as claimed in claim 29, in which the support structure includes a top side member and an opposed bottom side member, the roller assembly being mounted between the side members and the guide member being positioned on the bottom side member.

31. The screen assembly as claimed in claim 30, in which a bead guide is mounted on the top and bottom side members, the bead guide being configured to guide an edge of the flexible panel as it is rolled onto and off the roller assembly.

32. The screen assembly as claimed in claim 31, in which two opposed track assemblies, in the form of an upper track assembly extending from the top side member, and a lower track assembly extending from the bottom side member, are arranged on the support structure, the upper track assembly including a bead guide proximate the roller assembly, the bead guide being configured to guide an edge of the flexible panel as it is rolled onto and off the roller assembly.

33. The screen assembly as claimed in claim 32, in which the bead guide defines a channel containing at least one retaining formation with an internal slope to support a bead of the flexible panel before being wound on to the roller assembly.