A shelf management system comprises a product merchandising (400) for mounting on a shelf, rack or other support unit (405). It comprises a locating strip (430) engageable with the front edge (406) of the shelf. One or more dividers (410) divide the shelf into zones to accommodate product. The front end of each divider (410) divide the shelf into zones to accommodate product. The front end of each divider (410) is engageable with and lockable to the locating strip (430). In the engaged mode, the divider (410) is movable relative to the locating strip (430) while still being connected to the locating strip. In the locked mode the divider (410) is secured relative to the locating strip (4309).
SHELF MANAGEMENT SYSTEMS

[0001] The present invention relates to a shelf management system, in particular to a product merchandising apparatus, such as a gravity feed merchandising apparatus, a spring loaded merchandising apparatus or a merchandising apparatus with a product pulling mechanism, which is fitted to a sloping shelf, rack or other support unit used in shops, supermarkets and other retailing premises.

[0002] Gravity feed merchandising apparatus and systems have been used in the merchandising industry for a number of years and can be very effective in merchandising small bags, packs and boxes of merchandise, such as sweets, stockings, soups and the like. One such gravity feed merchandising apparatus is described in the present applicant’s published International Patent Application WO-A-9317607. That gravity feed apparatus has a sloped shelf, a vertical wall and a slicable cassette for pushing merchandise on the shelf towards the front wall. A portion of the merchandise on display is placed into the cassette. The combined weight of the cassette and the merchandise contained in it forces the remainder of the merchandise to the front of the shelf adjacent the front wall. Also, the lower front edge of the cassette has a rim which contacts the merchandise at its base in order to concentrate the force of pushing the merchandise forward.

[0003] A disadvantage associated with the above arrangement is that for lower density merchandise enough weight may not be generated by putting the merchandise into the cassettes to push the merchandise forward. Other systems use tracks to allow the cassette to slide with reduced friction and dividers to separate rows of products. A disadvantage with these systems is that it is necessary to manufacture many different depths of tracks and dividers to fit to the various sizes of retail shelves. Also, even though the cassette as shown in WO-A-9317607 is of simple construction, it still requires assembly by a shop assistant or a shopfitter.

[0004] U.S. Pat. No. 3,285,429 discloses a shelf organizer with a divider member, where the divider member locks in position on the shelf by engaging with a guide rail positioned at the front of the shelf.

[0005] The object of the invention is to alleviate the disadvantages associated with the prior art.

[0006] The present invention provides a shelf management system comprising a product merchandising apparatus for mounting on a shelf rack or other support unit comprising a locating strip engageable parallel to the front edge of the shelf, rack or other support unit; one or more dividers for dividing the shelf, rack or other support unit into zones to accommodate product; the front end of the or each divider being engageable with and lockable to the locating strip, whereby in the engaged mode the divider is movable relative to the locating strip while being connected to the locating strip, and in the locked mode the divider is secured relative to the locating strip.

[0007] As a result of this structure, the compartments or zones on a shelf can be readily rearranged without any need to demerchandise the shelf.

[0008] Other advantageous features of the invention are defined in the appended claims 2 to 40 the contents of which are incorporated herein by reference.

[0009] The invention is easy to assemble and fit to a shelf, requires no special skill, tools or knowledge and can therefore be fitted and loaded with merchandise by merchandising staff avoiding the necessity to call on the services of shopfitters.

[0010] The invention will hereinafter be more particularly described with reference to the accompanying drawings which show by way of example only, a number of embodiments of a shelf management system including a product merchandising apparatus according to the invention. In the drawings:

[0011] FIG. 1 is a perspective view of a first embodiment of a product merchandising apparatus according to the invention utilising a gravity feed arrangement mounted on a shelf;

[0012] FIG. 2 is a perspective view of the first embodiment showing one divider, the cassette mounted on the track and the ribs which locate the invention on the shelf;

[0013] FIG. 3 is a perspective view of the telescopic track and telescopic divider mounted on the ribs;

[0014] FIG. 4 is a perspective view which shows only the track mounted on the ribs on the shelf;

[0015] FIG. 5 is a cross sectional view through the base of the cassette as mounted on the telescopic track;

[0016] FIG. 6 is a cross sectional view of the cassette runner on the telescopic track;

[0017] FIG. 7 is a cross sectional view of the telescopic track;

[0018] FIG. 8 is a perspective view from the front and one side of a second embodiment of a product merchandising apparatus according to the invention;

[0019] FIG. 9 is a perspective view from the rear and one side of the merchandising apparatus as shown in FIG. 14;

[0020] FIG. 10 is an exploded perspective view of the product merchandising apparatus of FIGS. 14 and 15; and

[0021] FIGS. 11 and 12 are perspective views from the front and rear respectively of the product merchandising modified for a particular merchandising arrangement.

[0022] FIG. 13 is a perspective view of a third embodiment of a product merchandising apparatus according to the invention, showing a pair of dividers retracted and locked at the front of a shelf;

[0023] FIG. 14 is a perspective view of the third embodiment showing the dividers extended and engaged at the rear of the shelf;

[0024] FIG. 15 is a perspective view of the third embodiment showing one divider released at the rear end and unlocked but engaged at the front end;

[0025] FIG. 16 is a series of orthogonal views 16A to 16G illustrating the detail of the front portion of the divider of the third embodiment;

[0026] FIG. 17 is a series of orthogonal views 17A to 17G illustrating the details of the rear portion of the divider.
FIG. 18 is a series of orthogonal views 18A to 18F and perspective views 18G to 18H illustrating the details of front end of the track of the third embodiment;

FIGS. 19 and 20 are enlarged side views of one example of a locking and engaging means of the divider of the third embodiment;

FIGS. 21 and 22 are enlarged side views of a second example of a locking and engaging means of the divider of the third embodiment;

FIGS. 23 and 24 are enlarged side views of a third example of a locking and engaging means of the divider of the third embodiment;

FIG. 25 is a partly exploded front perspective view showing the detail of a removable front end of the divider having solid wings and FIG. 26 is a rear perspective view of the same detail;

FIG. 27 is a front perspective view of a modified divider of the third embodiment; and

FIG. 28 is a rear perspective view of the modified divider of FIG. 27.

Referring to FIG. 1 and FIG. 2, the first embodiment of product merchandising apparatus 210 comprises a telescopic central track 212 manufactured as two extruded parts of low friction material such as nylon. These parts fit one inside the other as illustrated in FIG. 10 and the complete track can be therefore adjusted to fit any shelf depth, of for example, between 300 mm and 600 mm. The track is secured to the shelf at both ends. The track is provided with a front clip 213 and a rear clip 214 incorporated into the track at the front and rear respectively. Each clip has a socket which locates over ribs 215 and 216 to hold the track 212 in position. Rib 215 includes a flexible element 235 which creates a suction grip on the shelf which can be easily lifted for cleaning. The rib 215 acts only to locate the front edge of the track and dividers.

A cassette 218 is slidably engaged on the track 212 so as to push items of merchandise (not shown) forward. The cassette 218 is supplied flat as one item and needs only to be folded into shape where it is locked in place by a ‘snap action for ease of assembly. The cassette has a runner 220 which interlocks with the track as shown in FIG. 11. This allows the cassette to follow either section of the telescopic track or both sections together in the overlap between the sections. The front of the cassette is shaped to provide a protrusion 222 which contacts the base of the item of merchandise in front of it in order to concentrate the force of pushing the merchandise forward by the force of gravity. The cassette also contains a U-shaped cut out at the front to enable smaller items of merchandise to be lifted out easily by hand.

There are dividers 224 which separate the rows of merchandise. These dividers are telescopic, accommodating shelves between 300 mm and 600 mm in depth. The ends of the dividers have sockets which locate over ribs 215, 216 to hold the divider in position.

The second embodiment of product dispensing apparatus 300 is shown generally in FIGS. 8 to 12. Track components 301 and 302 are the two parts of the telescopic track that housing 305 slides along, component 301 being the rear or back element in the arrangement and component 302 being the front element. Track component 302 clips onto receiver/profile/rail 308 at the front of the retail shelf and track component 301 clips onto receiver/profile/rail 307 at the rear of the shelf. Rail 308, 307 can manifest itself in a number of forms—as a co-extrusion where the other flanges of the profile are of a soft flexible material allowing it to ‘grip’ like a suction cup to the surface it rests on, incorporating an adhesive tape on the underside of the profile in order to adhere to the surface or incorporating a strip of magnetic tape to grip to metal shelving. Also, incorporated into this profile can be a facility for ticket strips and an upstand or ‘fence’ facility to stop product falling off the shelf.

Track component 301 comprises a number of ridges or dimples 311 equally spaced along its length corresponding to a V shaped detail 321 on track component 301 allowing the track to be setup on a display shelf at pre set positions—this is an interference fit which can be reset with adequate applied pressure. Elongate element 304 acts as a ‘puller’, which pulls housing 305 along track components 301 and 302 in turn pulling product forward on the shelf when the puller element 304 is pulled by a user. The puller element 304 incorporates a snap off section 340 allowing it to be used on different shelf depths.

Housing 305 acts as a housing for a spring (not shown) when in use and as a pusher along track components 301 and 302 when used in the pusher arrangement. In the “puller” arrangement as shown in the drawings it is being used as a platform or guide along the tracks 301, 302 which in conjunction with facia 306 and puller 304 the product is pulled forward along the shelf. Facia 306 can be produced in a range of shapes and sizes depending on the size and shape of the product being either manually pulled or pushed by the spring. Incorporated into the design of the facia is a transparent sleeve 360 that allows the retailer or brand manufacturer to insert a printed message such as indicating the product to be stocked in this row or an ‘out of stock’ indicator.

The arrangement shown in FIG. 8 is set up as a puller arrangement as merchandising apparatus for flat or flat packed products such as sliced cheeses and meats.

Component 303 acts as a ridged guide allowing product to be gripped at an angle backwards to a plane shelf surface. Guide 303, nominally half the length of the extended track, is securely placed to the front of the track and retail shelf engaged with track component 302. The friction between housing 305 and track components 301 and 302 ensures that product is kept in line at the back section of the compartment—guide 303 keeping product presented correctly at the front of the shelf.

FIGS. 11 and 12 illustrate the arrangement of the embodiment 300 for use with spring loading of the housing 305. A flat section 351 is provided on front wall 350 housing 305 for contacting small items such as spice bottles and medicines. Above the flat section 351 is an angled profile which is a compromise between the puller arrangement (requiring an angle for flat packed products) and the pusher arrangement requiring a flat vertical surface. The house 305 contains the main portion of the spring behind the front wall 350 and is fed through orifice 352 and is held in place at the front of track component 302 by tension around retainer 325.
[0043] Referring now to FIGS. 13 to 28, the third embodiment 400 of a shelf management system includes dividers 410 (only two of which are shown) for dividing the shelf 405 into zones 420 to accommodate product. The front end 412 of each divider 410 is engageable and lockable to locating strip 430 mounted at the front edge 406 of the shelf 405 and parallel to the front edge.

[0044] The locating strip 430 includes a ridge or ball formation 432 and an upwardly extending lug 434. Complementary formations in the form of a socket 413 and depending lug 414 are provided at the lower front end of the divider 410. In use the socket 413 fits over the ball formation 432 and even while connected can be slid along the strip 430 to the desired location. When the lugs 414 and 434 are inter-engaged the dividers 410 are locked in position and cannot be moved without disengaging the lugs.

[0045] Each divider 410 has two parts or portions, a front portion 415 and a rear portion 416 telescopically engageable with the front portion 415 so as to be extendable and contractable to accommodate different depths of shelves, racks or other support units.

[0046] To provide additional rigidity to the system a second locating strip 440 is mounted at the rear edge 407 of the shelf 405 and parallel to the rear edge. The end 451 of the rear portion 416 has a socket 417 which is engageable with a formation 442 on the second locating strip 440. The end 452 of the rear portion 416 is provided with a clip 453 which engages with a catch 454 on the front portion 415 so as to provide a detent to prevent the unintentional disengagement of the two portions 415 and 416. To disengage the two portions pressure is applied to release the clip 453 and catch 454.

[0047] A basic 440 is provided on the front portion 415 so that the divider is stable and can be standing on the shelf when just connected at its front end. A series of stops 462 are provided along the front portion 415 at 50 mm intervals so as to control the amount of the extension of the rear portion 416 for the front portion 415 with notches 463 contacting the stops 462 to provide the necessary contact.

[0048] An alternative version of inter-engaging formations 470, 471 is shown in FIGS. 23 and 24 to provide the dual engaging and locking function between the divider 410 and the strip 430.

[0049] The front end 480 of the divider 410 can engage with a riser (not shown) located in the front section 408 of the shelf 405. Other options are the provision of flexible barriers 482 as shown in FIG. 14 which provide a go/no go arrangement for dispensing merchandise. Other merchandise require the provision of a solid barrier 484 which is engageable by means of a channel 485 engaging with the inverted T shaped connection 486 at the front end 480 of the divider 410. Each barrier 482, 484 can have one or two sections depending on its location, i.e. at the end or middle of a shelf.

[0050] The merchandising apparatus 500 includes a spring loaded dispenser 510 mounted on a track 520, the front end 525 of which is engaged with the locating strip 430. As shown in FIG. 18, a pair of formations 526 and 527 are provided at the front end 525 which are engageable with the formations 432 and 434 on the strip 430.

[0051] The dispenser 510 includes a receptacle 515 to accommodate a card or other information bearing element to assist the users and customers. The shelf management system of the invention can be used in a number of arrangements:

1. Dividers only,
2. Dividers with spring loaded dispenser,
3. Dividers with gravity fed dispenser,
4. Dividers with puller dispenser.

[0056] It is to be understood that the invention is not limited to the specific details described herein, which are given by way of example only, and that various modifications and alterations are possible without departing from the scope of the invention as defined in the appended claims.

1. A shelf management system comprising a product merchandising apparatus for mounting on a shelf, rack or other support unit comprising a locating strip engageable parallel to the front edge of the shelf, rack or other support unit; one or more dividers for dividing the shelf, rack or other support unit into zones to accommodate product; the front end of the or each divider being engageable with and lockable to the locating strip, whereby in the engaged mode the divider is movable relative to the locating strip while being connected to the locating strip, and in the locked mode the divider is secured relative to the locating strip; engaging and locking means for engaging and locking the or each divider to the locating strip, whereby the engaging and locking means comprises complementary engageable formations formed on the divider and the locating strip; characterized in that the complementary engageable formations comprise a first set of engageable formations including a ball and socket in cross-section and the second set of formations comprises a pair of overlapping lugs, whereby to unlock the formations the overlapping lugs are disengaged by tilting the divider towards its front end about the ball and socket arrangement and whereby the socket of the divider may be slid along the ball or ridge formation.

2. A shelf management system as claimed in claim 1, in which the or each divider is telescopically extendable and contractable to accommodate different depths of shelves, racks or other support units.

3. A shelf management system as claimed in claim 1, in which a second locating strip is engageable parallel to the rear edge of the shelf, rack or other support unit, with the rear end of the or each divider being engageable with the second locating strip.

4. A shelf management system as claimed in claim 3, in which engaging means are provided to engage the rear end of the or each divider to the second locating strip.

5. A shelf management system as claimed in claim 4 in which the engaging means comprises complementary engageable formations formed on the divider and the second locating strip.

6. A shelf management system as claimed in claim 5, in which the complementary engageable formations include a ball and socket in cross-section.

7. A shelf management system as claimed in claim 1, in which a barrier element is provided at the front end of the divider so as to prevent merchandise from falling from the shelf.
8. A shelf management system as claimed in claim 7, in which the barrier element is selected from the group consisting of one rigid flap, two rigid flaps, one flexible flap and two flexible flaps.

9. A shelf management system as claimed in claim 1 in which the or each divider is engageable with a riser at the front of the shelf.

10. A shelf management system as claimed in claim 1, in which the product merchandising apparatus includes a track engageable with and lockable to the first locating strip.

11. A shelf management system as claimed in claim 10, in which engaging and locking means are provided to engage and lock the track to the first locating strip.

12. A shelf management system as claimed in claim 11, in which the engaging and locking means comprises complementary engageable formations formed on the track and the first locating strip.

13. A shelf management system as claimed in claim 12, in which the complementary engageable formations comprise a first set of engageable formations including a ball and socket in cross-section and the second set of formations comprise a pair of overlapping lugs, whereby to unlock the formations the overlapping lugs are disengaged by tilting the track towards a front end about the ball and socket arrangement whereby the socket of the divider may be slid along the ball or ridge formation.

14. A shelf management system as claimed in claim 1, in which the or each divider comprises a pair of runners slidably engageable with the track and a plate engageable with the runners.

15. A shelf management system as claimed in claim 14, in which the cross-sectional shape of the or each divider corresponds to an inverted T-shape.

16. A shelf management system as claimed in claim 2, in which the or each divider comprises two parts, one part being telescopically engageable with the other with detent means being provided at the engaging end of one or both parts to prevent unintentional disengagement of the two parts.

17. A shelf management system as claimed in claim 16, in which stop indications are provided at regular intervals along one part of the divider so as to provide a means of determining the length of the divider.

18. A shelf management system as claimed in claim 10, including a telescopic track engageable with shelves of different depths; a product support member mountable on the telescopic track and a means for moving the product support member and any product supported by the member from one end of the track towards the other end.

19. A shelf management system as claimed in claim 18, in which the means for moving the product support member comprises a puller element movable by gravity, a pulling mechanism operable by a user or a spring loaded mechanism to urge the product support member towards the said other end of the track.

20. A shelf management system as claimed in claim 10, in which the track is of low friction material and a pushing member is slidably mounted on the track for pushing items of merchandise towards a dispensing end of a shelf.

21. A shelf management system as claimed in claim 10, in which the track is secureable to the shelf at both ends.

22. A shelf management system as claimed in claim 20, in which the pushing member comprises a pair of runners slidably engageable with the track and a plate engageable with the runners.

23. A shelf management system as claimed in claim 10, comprising a cassette for containing items of merchandise with the cassette being slidably mountable on the track; whereby the cassette with its contents provides a weight to push items of merchandise towards a dispensing end of a shelf.

24. A shelf management system as claimed in claim 23, in which the cassette is manufactured from a low friction material, and is slideable on the track.

25. A shelf management system as claimed in claim 23, in which the cassette is provided with points of low friction material which are slideable on the surface of the shelf on which the apparatus is mounted.

26. A shelf management system as claimed in claim 23, in which the cassette is provided with wheels or rollers which allow it to slide directly on the shelf surface.

27. A shelf management system as claimed in claim 23, in which the cassette includes a base, a rear wall and a front wall, the front and rear walls being pivotally attached to the base so as to be foldable from a generally flat transport position to a folded operating position.

28. A shelf management system as claimed in claim 24, in which the cassette comprises a front wall, base and rear wall manufactured from metal so as to provide weight to the cassette.

29. A product merchandising apparatus comprising a telescopic track engageable with shelves of different depths; a product support member mountable on the telescopic track and a means for moving the product support member and any product supported by the member from one end of the track towards the other end.

30. A product merchandising apparatus as claimed in claim 29 in which the means for moving the product support member comprises a puller element movable by gravity, a pulling mechanism operable by a person or a spring loaded mechanism to urge the product support member towards the said other end of the track.

31. A product merchandising apparatus comprising a track of low friction material and a pushing member slidably mounted on the track for pushing items of merchandise towards a dispensing end of a shelf.

32. A product merchandising apparatus as claimed in claim 31, in which the track is secureable to the shelf at both ends.

33. A product merchandising apparatus as claimed in claim 32 in which the track is secureable by a connector engaged with each end of the track and is removable engageable with a rib element on the shelf at each end of the track.

34. A product merchandising apparatus as claimed in claim 31 in which the pushing member comprises a pair of runners slidably engageable with the track and a plate engageable with the runners.

35. A product merchandising apparatus as claimed in claim 31 in which the pushing member comprises a block slidably engageable with the track and an inverted V-shape plate member secureable to the slideable block.

36. A product merchandising apparatus comprising a cassette for containing items of merchandise and an elongated track on which the cassette is slidably mountable, the track being telescopic so as to allow the apparatus to be easily fitted to shelves of differing depths; whereby the cassette with its contents provides a weight to push items of merchandise towards a dispensing end of a shelf.
37. A product merchandising apparatus as claimed in claim 36, in which the apparatus includes dividing members securable to the shelf to keep items of merchandise in ordered rows and wherein the dividing members are telescopic.

38. A product merchandising apparatus as claimed in claim 36, in which the cassette is manufactured from a low friction material, and is slidable on the track.

39. A product merchandising apparatus as claimed in claim 36, in which the cassette is provided with points of low friction material which are slidable on the surface of the shelf on which the apparatus is mounted.

40. A product merchandising apparatus as claimed in claim 33 in which the cassette is provided with wheels or rollers which allow it to slide directly on the shelf surface.

* * * * *