IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

ATTY.'S DOCKET: COENRAETS=1

In re Application of:	)	Art Unit: 3509
COENRAETS	)	Examiner: PUROL
Appln. No.: 08/737,068	)	Washington, D.C.
Filed: January 3, 1997	)	February 23, 1999
For: CLOSURE DEVICE WITH A FLEXIBLE SCREEN	)	

PRELIMINARY AMENDMENT

Honorable Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

Prior to examination upon on the merits, please amend as follows.

IN THE SPECIFICATION

Applicant submits with this amendment a substitute specification in compliance with 37 C.F.R. 1.52(a) and (b) as previously required by the Examiner.

IN THE CLAIMS

Please cancel claims 31-60 without prejudice in favor of the following new claims 61-92.

--61. A closing device comprising a flexible screen (1) having lateral edges (2) guided in guide channels (3) to permit the screen (1) to be moveable between a closed position and an open position, wherein said edges (2) are substantially

incompressible in a direction of movement of the screen towards the closed position in a longitudinal direction of said edges, and driving means for applying a thrust force on the lateral edges (2) in the longitudinal direction of the edges when in the guide channels (3) to move the screen towards the closed position.

--62. A device according claim 61, wherein the screen (1) is provided, at the lateral edges (2), with a series of substantially rigid link members along the longitudinal direction of the lateral edges (2), the rigid link members being able to bear against one another, in the longitudinal direction of the lateral edges (2), and the rigid link members being articulated with respect to each other in order to allow the screen (1) to be moved to an open position.

--63. A device according to claim 62, wherein the rigid link members surround at least partially the lateral edges (2) of the screen (1), forming a protrusion with respect to a surface of the lateral edges (3) the protrusion being moveably held in the guide channels (3).

--64. A device according to claim 63, wherein the rigid link members (5) have rollers (26) held in and rolling inside the guide channels.

--65. A device according to claim 63, wherein the lateral edges (2) of the screen (1) have a substantially continuous bead (7) around which are fixed the rigid link members.

--66. A device according to claim 65, wherein the continuous bead (7) of the lateral edges (2) encloses a hollow pipe (8) containing a fluid.

--67. A device according to claim 65, wherein the rigid link member are formed as sleeves (6) having a wall with a longitudinal slot (9) through which the screen (1) extends , said slot defining two flanges (10, 11) extending on either side of the slot, a first flange (10) of said flanges having a length in a direction of the lateral edges (2) of the screen (1) less than that of the second flange (11) of said flanges, such that a gap (12) is formed on a first side of the screen (1) between two consecutive rigid link members allowing the flexion of the edge (2) transversely to the plane of the screen (1) on the first side, the second flange (11) of the consecutive link members (5) being able to bear end to end against one another in the longitudinal direction of the lateral edges (2) of the screen (1).

--68. A device according to claim 67, wherein the consecutive rigid link members fixed to the lateral edges (2) of the screen (1) work with each other through an intermediary ball-joint coupling (28).

--69. A device according to claim 68, wherein the ball -joint coupling (28) comprises a spherical seating (29) at one end of the rigid link member of said members and a pivot with a spherical head (3) at an opposite end of the rigid link member, the head of the pivot (30) of the rigid link member

being articulated in the seating (29) of a following adjacent rigid link member of said members.

--70. A device according to claim 69, wherein the pivot (30) is split in the longitudinal direction of the lateral edges (2) in order to be compressed elastically in the spherical seating.

--71. A device according to claim 70, wherein the pivot (30) extends around the bead (7) provided at the lateral edges (2) of the screen.

--72. A device according to claim 67, wherein the sleeves (6) of the rigid link members (5) moveable in the guide channels (3) have a polygonal cross-section substantially corresponding to that of the sleeves.

--73. A device according to claim 67, wherein the lateral edges (2) of the screen (1) are fitted in the rigid link members with a degree of play.

--74. A device according to claim 62, wherein the rigid link members on the screen (1) are rigid small blocks separated from each other by a seal (13) made of a flexible and substantially incompressible material protruding from the rigid small blocks with respect to the screen (1).

--75. A device according to claim 62, wherein the rigid link members have an elastic section (10a, 11a) in a direction transverse to the plane of the screen (1) and sliding in the guide channels so that, when traction is applied to the rigid link members in the plane of the screen (1), the elastic

section (10a, 11a) compresses elastically and allows the edges (2) of the screen (1) to disengage from the guide channels (3).

--76. A device according to claim 68, wherein the rigid link members are formed by two flanges (10") and (11"), articulated with each other, which are fixed on either side of the lateral edges (2) of the screen (1), by pins (14) penetrating into the surface of the latter.

--77. A device according to claim 61, wherein the screen (1) has stiffening means outside the guide channels proximate to the lateral edges, said stiffening means being flexible in the direction of movement of the screen (1') to render the lateral edges (2) substantially incompressible in the lengthwise direction.

--78. A device according to claim 77, wherein the stiffening means comprise a notched belt (1') integral with the screen (1) and extending along at least one of the lateral edges (2) of the screen, the driving means working with said notched belt.

--79. A device according to claim 78, wherein the rigid link members moving in the guide channels are formed by a series of small blocks articulated with respect to each other, the driving means comprising teeth or protrusions that can penetrate between two consecutive small blocks in order to engage with the lateral edge.

--80. A device according to claim 62, wherein the rigid link members on the lateral edges are formed by an articulated chain parallel to the lateral edges to the lateral

edges (2), wherein the driving means have teeth to engage links of the articulated chain (15).

--81. A device according to claim 61, wherein the driving means for applying a thrust force on the lateral edges comprises a transmission (16) able to be moved along the guide channels (18) or in guide channels, with a backward and forward motion while working with the lateral edges (2) of the screen (1), to move the screen between an open position and the closed position.

--82. A device according to claim 61, wherein when the screen (1) is in an open position the screen is rolled up around an axis (17), and the guide channels extend around the axis (17) in a spiral (18) in a plane perpendicular to the axis, wherein in the open position, the lateral edges (2) of the screen (1) are held in the spiral guide channels (18).

--83. A device according to claim 82, wherein a radial distance between turns of the spiral guide channels (18), is such that, in the rolled up position, superimposed layers of the screen do not touch each other.

--84. A device according to claim 82, wherein the rigid link members are fitted in the spiral guide channels (18) so that they can undergo an angular movement of at most 10° about a central axis (25) of the spiral guide channels during their movement along the central axis.

--85. A device according to claim 83, wherein the driving means comprises at least one telescopic arm (19)

cooperating with an end of the lateral edges (2) of the screen 91) on a side of the axis (17).

--86. A device according to claim 85, wherein the telescopic arm (19) is mounted transversely on a drive shaft (20) extending along axis (17) and is fixed to a bar (21) parallel with the shaft (20), the shaft (20) cooperating with the lateral edges (2) of the screen (1) engaged in the spiral guide channels (18) by an intermediary connecting part (35) fixed to the screen (1) and, sliding with respect to the bar (21).

--87. A device according to claim 62, wherein the guide channels (3) further comprise two fixed portions (3a) and 3b) which prolong one another, a mobile guide connector (58) being interposed between the two fixed portions and being articulated on an edge of one openings with the portion (3a) located towards the open position of the screen, in order to pivot between a first position, in which the connector (58) extends in the prolongation of the two fixed portions (3a) and (3b) and a second position, in which the connector is orientated by an opposite opening outside the guide channels in order to allow reinsertion during the movement of the screen towards open position of the lateral edges (2) of the screen (1), when disengaged from a first portion (3b) of said two fixed portions, means (65) being provided to hold in and bring the connector (58) into said first position when the lateral edges (2) of the screen are moving in the guide channels and, allowing the connector to pivot towards said second position for the

reinsertions of the edges (2) which might have become disengaged from the guide channels (3).

88. A device according to claim 87, wherein the connector (58) has an internal cross-section identical to that of the two fixed portions (3a), 3b) of the guide channels, so that when the connector (58) is in the first position, it forms with the two fixed portions a continuous guide channel.

--89. A closing device, according to claim 61, comprising a flexible screen (1), of which the lateral edges (2) are held and guided in guide channels (3) to move the screen (1) between the closed position and an open position, wherein the screen is substantially stretched between these guide channels at least in the closed position by screw means for avoiding compression of the lateral edges (2) of the screen (1) in a lengthwise direction at least during the movement towards the closed position and, a stiffening element in the proximity of a free edge of the screen towards the closed position.

--90. A device according to claim 61, wherein the lateral edges (2) of the screen (1) are held by friction in the guide channel, so as to prevent the screen from being moved by the weight of the screen between an open position and the closed position when the screen does not extend horizontally.

--91. A device according to claim 61, wherein said guide channels (3) are parallel and perpendicular to ground on which said guide channels are erected and the screen moves to the open position and the closed position within said guide channels.

--92. A device according to claim 62, wherein said guide channels (3) are parallel and perpendicular to ground on which said guide channels are erected and the screen moves to the open position and the closed position within said guide channels.--

THE ABSTRACT

Enclosed herewith is an Abstract of Disclosure as required by the Examiner.

IN THE DRAWINGS

Enclosed herewith are corrected Figs. 9, 16-17, 22-27, 30-32 and 35 amended in red for the Examiner's approval.

REMARKS

Applicant has cancelled claims 36-60 in favor of new claims 61-92 which remain in the application for examination.

Applicant has inserted the headings in the specification as required by the Examiner. Applicant believes that this problem is now moot.

In addition, Applicant has submitted corrected Fig.s 9, 16-17, 22-27, 30-32 and 35 amended in red and has relabelled element which differ from similar elements in other embodiments to better identify different elements.

As noted above, Applicant has submitted a substitute specification as required under 37 CFR 1.52(a) and (b). The

undersigned avers that the substitute specification introduces no new matter.

Applicant has also enclosed an Abstract for inclusion behind the claims, as required by the Examiner.

Applicant submits that the invention is new and unobvious and not disclosed by the cited art. Accordingly, Applicant respectfully solicits the Examiner's early review and issuance of this application.

Respectfully submitted,

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