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Schneider et al.

[11] **3,815,518**

[45] **June 11, 1974**

[54] **SIDE WALL PARTICULARLY FOR RAILROAD FREIGHT CARS**

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[73] Assignee: **Waggon Union GmbH,** Siegen, Germany

[22] Filed: **Apr. 23, 1973**

[21] Appl. No.: **353,402**

[52] **U.S. Cl.** **105/378**

[51] **Int. Cl.** **B61d 19/00**

[58] **Field of Search** 105/378, 258, 280, 286; 49/142, 210; 160/120

[56] **References Cited**

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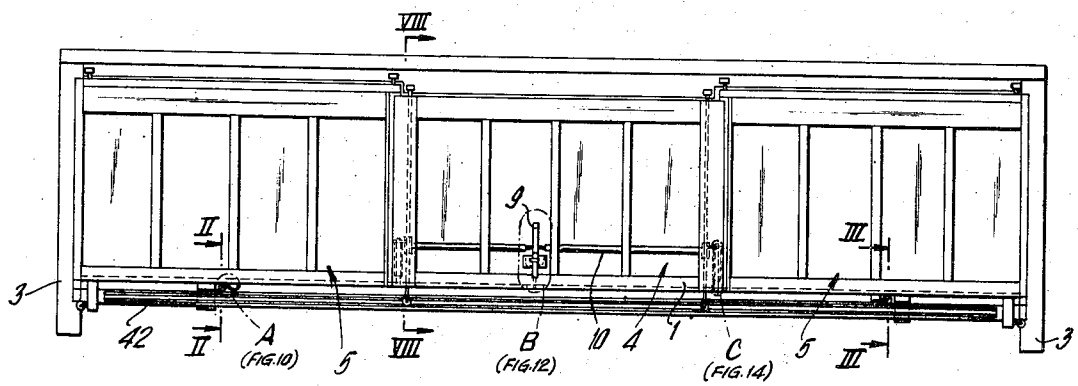
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Primary Examiner—M. Henson Wood, Jr.
Assistant Examiner—Richard A. Bertsch
Attorney, Agent, or Firm—McGlew and Tuttle

[57] **ABSTRACT**

The side wall includes a frame and three sliding wall sections arranged in a common plane when closed and being displaceable one over the other by rollers running in rails. The central section has lower runners moving on a runway rail and upper runners perpendicularly thereabove running in a guide rail, and each outer section has a lower roller between its center and its outer end running on a runway rail and a lower runner at its outer end bearing under the runway rail, each outer section having upper guide rollers running in a guide rail. The common runway and guide rails for the outer sections have, at those points which the runners and rollers engaged therewith assume in the closing position of the outer section, bends toward the longitudinal center line of the car. The runners of the central section are mounted on bell crank rocking levers pivotal about a horizontal axis parallel to the longitudinal axis of the car, so that the central section can be swung out of the common plane and moved over an outer section to open the side wall. The runway rails for the central and outer sections are constituted by a single rail section mounted in only two longitudinally spaced brackets on the lower chord of the frame, and this section is secured fixedly to one bracket while being longitudinally slidable in the other bracket. Guide fingers at the top of each outer section cooperate with catch hooks on the upper chord of the frame and which guide each outer section into the closed position, and support means on the lower chord engage the sections in the closed position to relieve the load on the supporting runners. Clamping means are provided to clamp each section in closed position to the upper and lower chords of the frame, and each outer section, with the central section swung out and displaced over the other outer section, is displaceable longitudinally to a position laterally between the central and the other outer wall sections.

10 Claims, 16 Drawing Figures



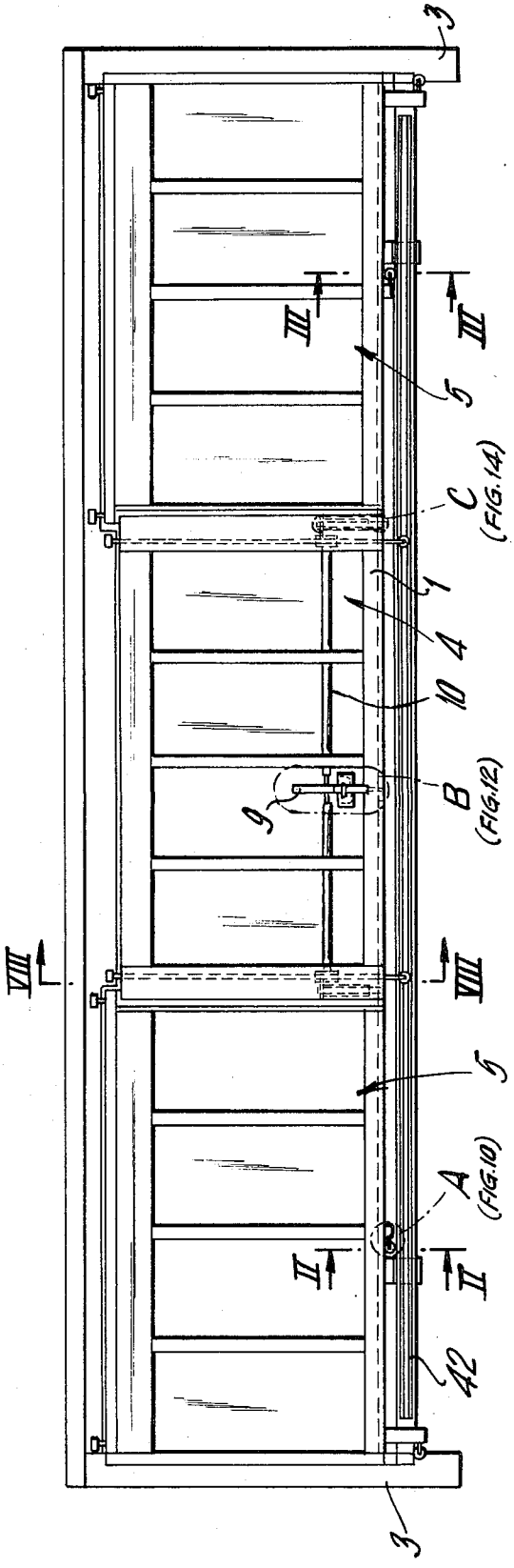


FIG.1

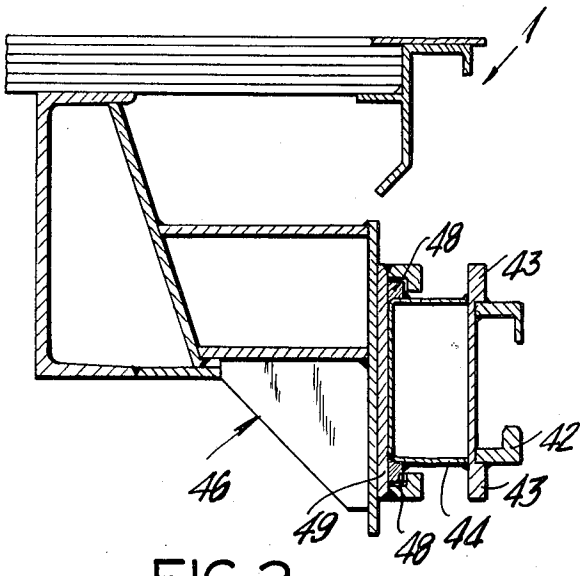


FIG. 2

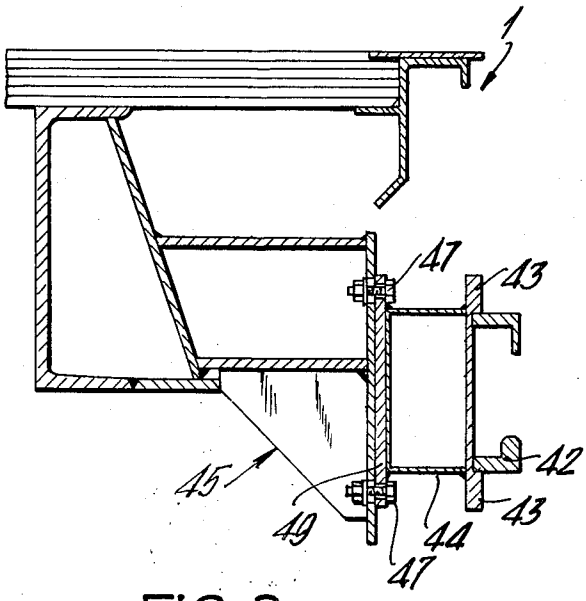


FIG. 3

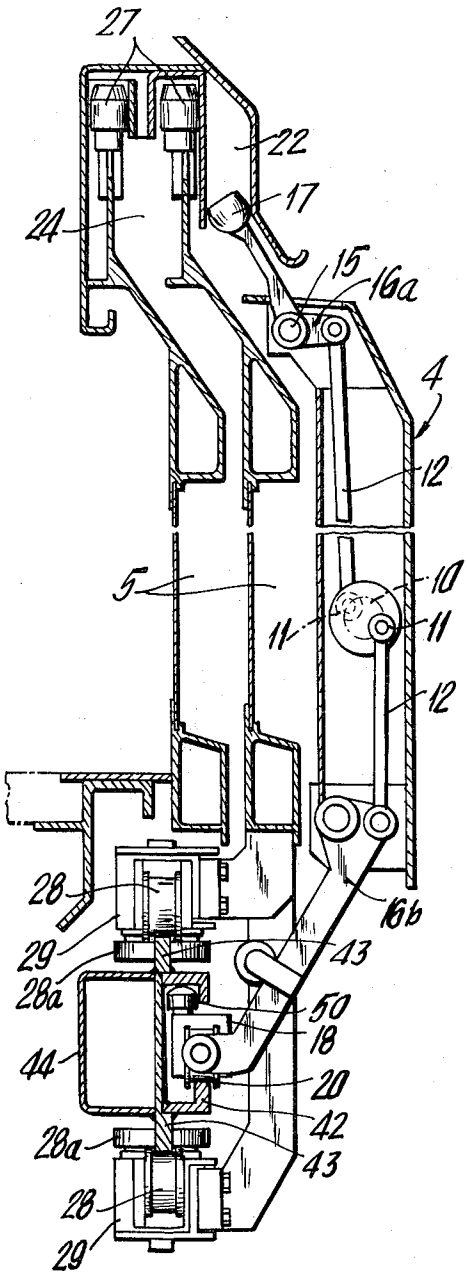


FIG. 4

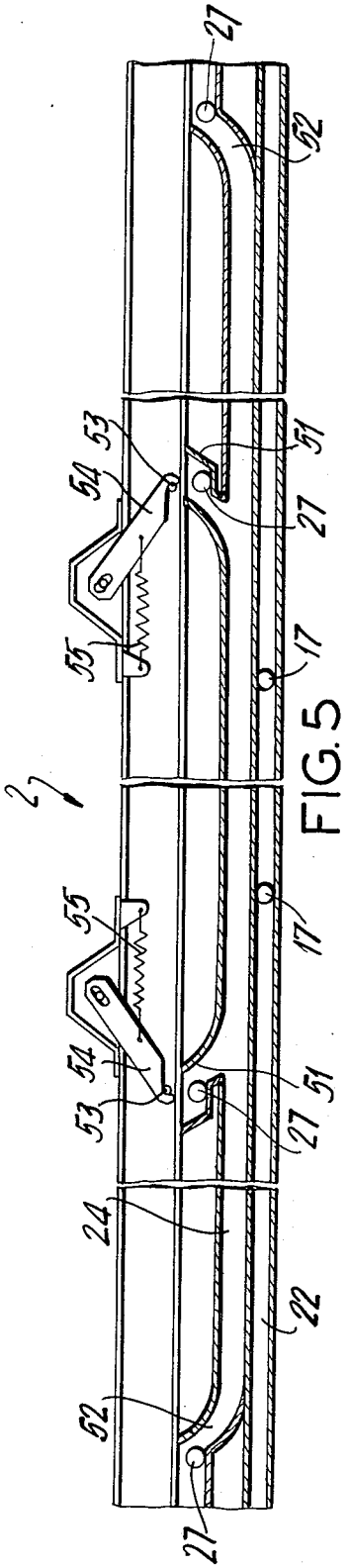


FIG. 5

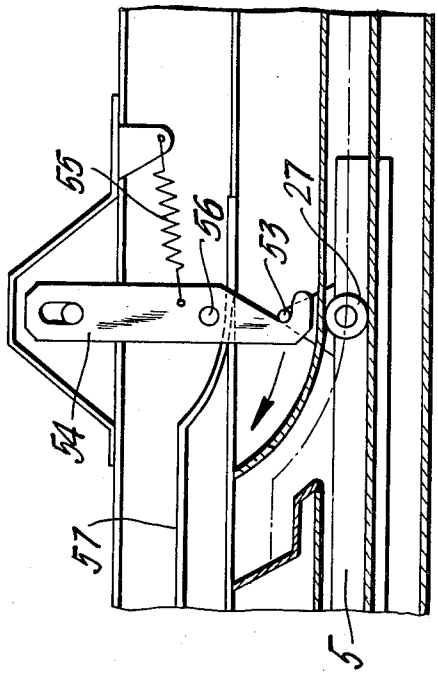


FIG. 6

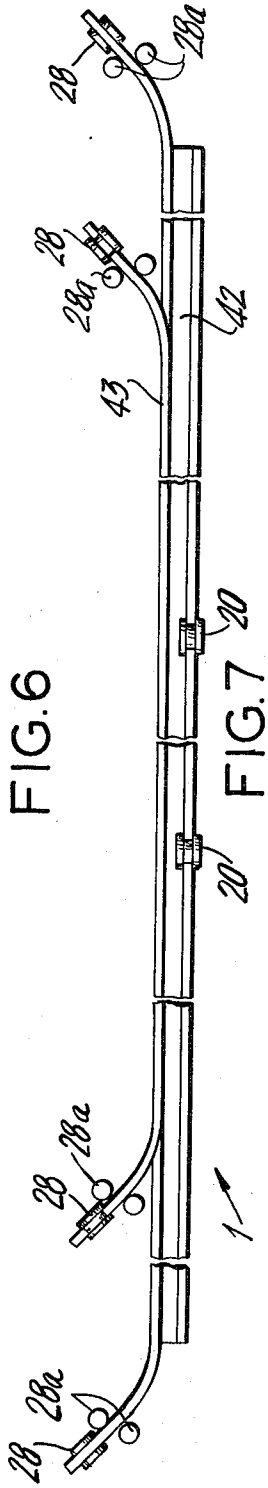


FIG. 7

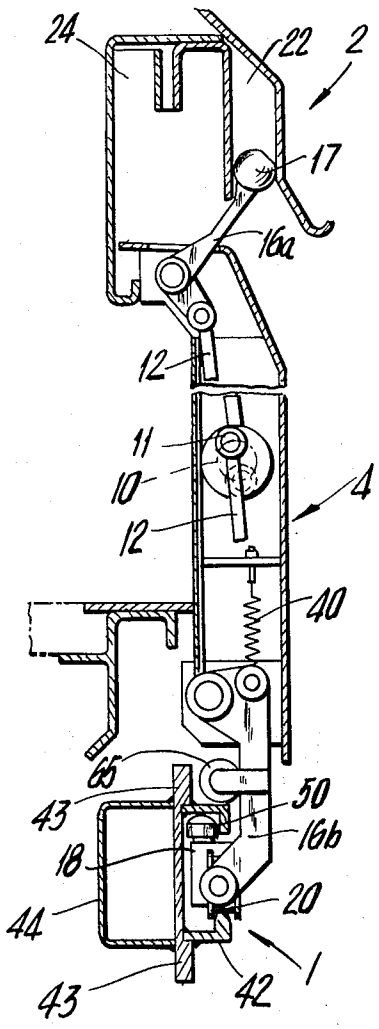

24
22
2
17
16a
12
11
10
12
4
40
65
43
50
16b
18
20
44
1
43
42

FIG. 8

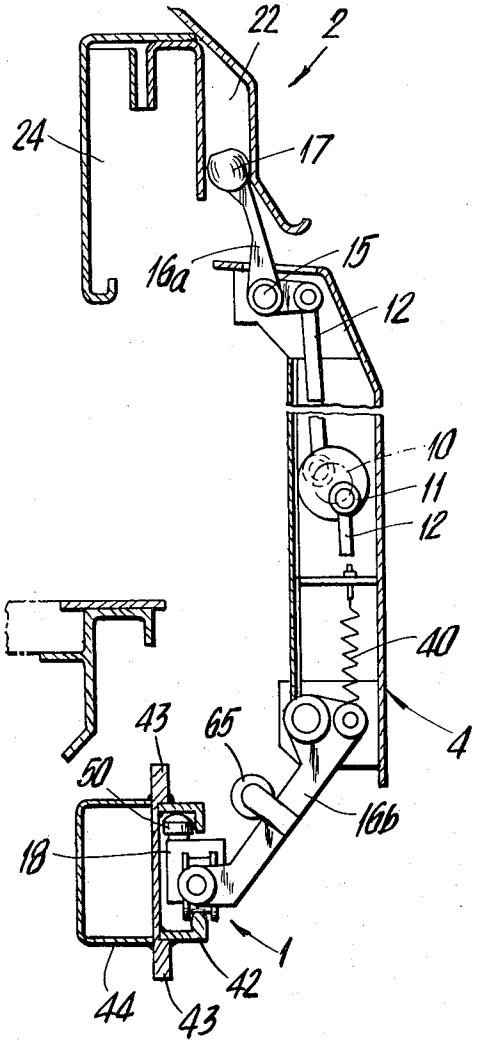

22
2
24
17
16a
15
12
10
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12
40
4
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65
50
16b
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44
43
42

FIG. 9

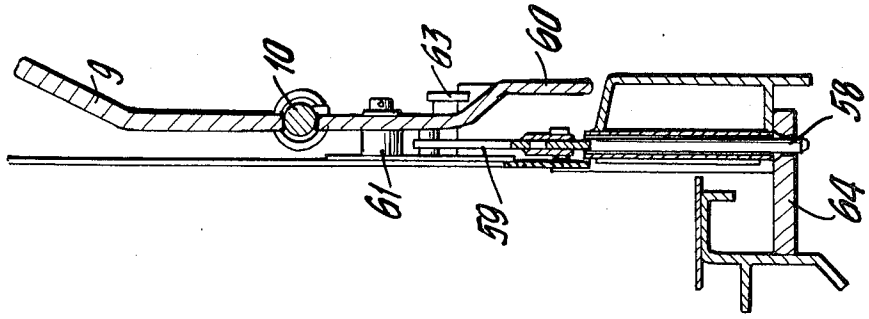


FIG.13

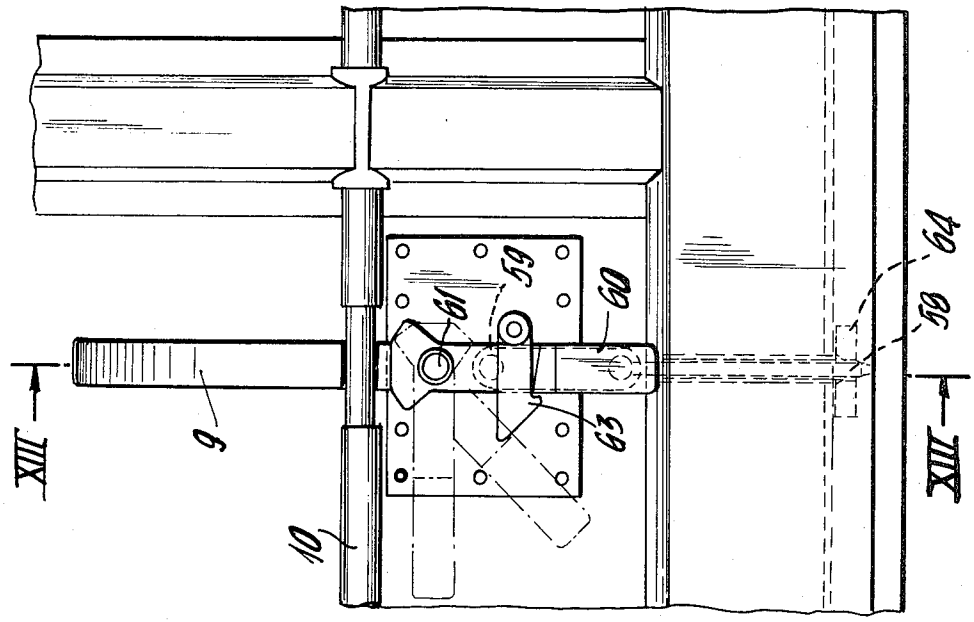


FIG.12

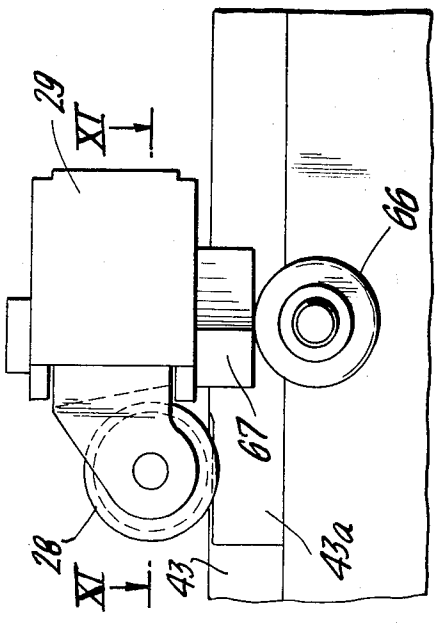


FIG.10

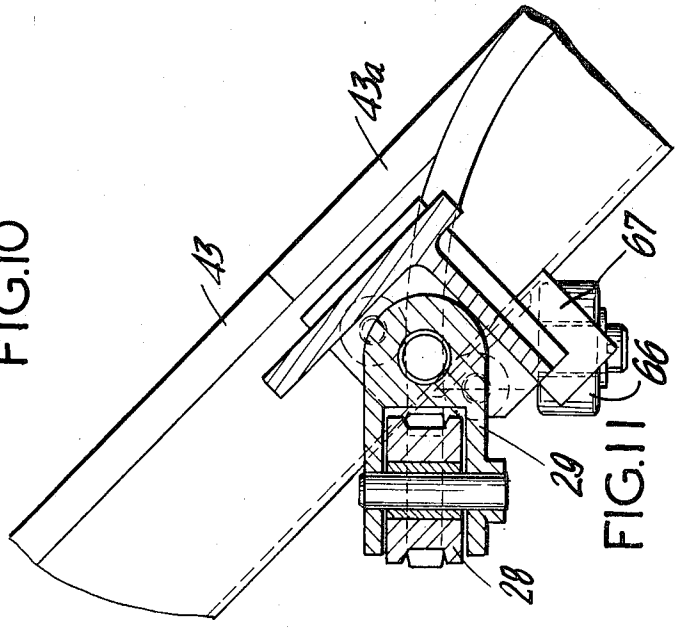


FIG.11

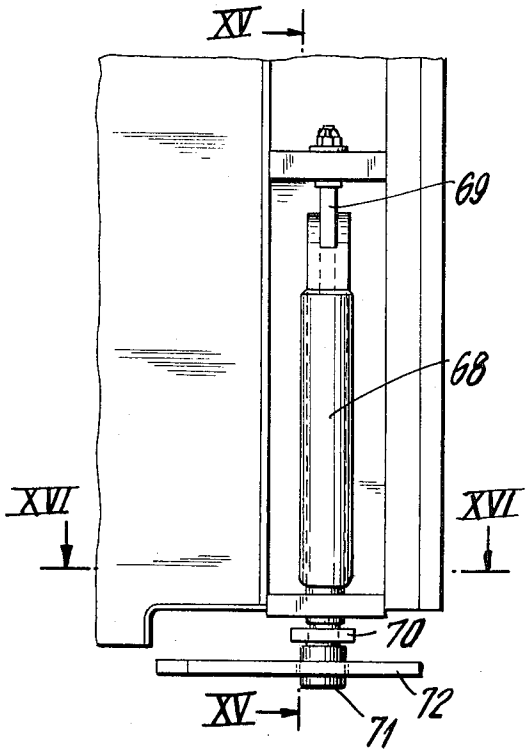


FIG.14

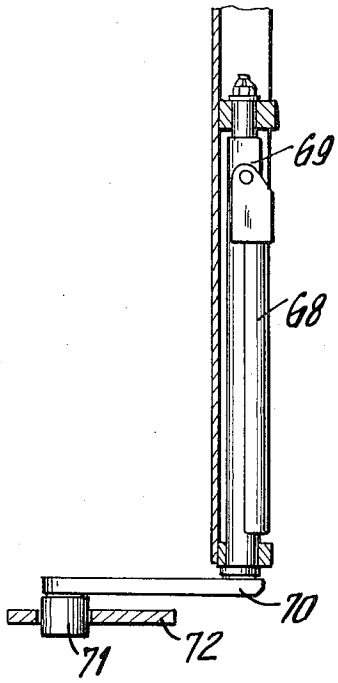


FIG.15

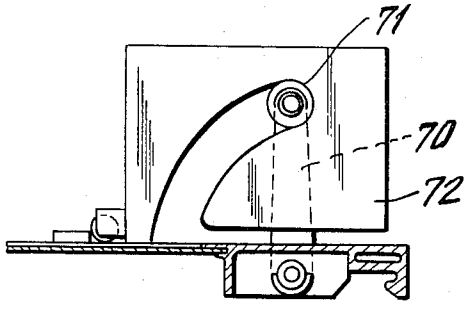


FIG.16

SIDE WALL PARTICULARLY FOR RAILROAD FREIGHT CARS

FIELD AND BACKGROUND OF THE INVENTION

This invention relates to sliding walls, particularly for railroad freight cars, and, more particularly, to an improved sliding wall in which the functions of the sliding wall sections is always assured even under extreme stress due to load and buffer shocks and in which the runway rails are not exposed to additional stresses, with the sliding sections absorbing, in the closing position, forces resulting from the bearing of material loaded in the car without being forced out of the closing position.

A known side wall, particularly for railroad freight cars, comprises a side wall frame and several sliding wall sections which are coplanar in the closed state and which can be displaced one over the other, for opening, by means of rollers running on rails. The central sliding wall section has, at its bottom and close to each end, a runner engaged in a runway rail end, at the top and perpendicularly above each runner, a guide roller running in a guide rail. Each outer sliding wall section is carried by a roller running on a runway rail and located between its midpoint and its outer end, and also carries, adjacent its outer end, a runner engaging beneath the runway rail. Guide rollers are arranged at the top of each outer sliding wall section and run in a guide rail. The common runway and guide rails for the outer sliding wall sections have horizontal bends toward the longitudinal axis of the car at those points which their runners and guide rollers assume in their end or closing positions. The runners and guide rollers of the central sliding wall section are secured thereon through bell crank rocking levers pivotal about a horizontal axis extending parallel to the longitudinal axis of the car, so that the central side wall section can be swung out of its closing position for longitudinal displacement over an outer sliding wall section.

In this known sliding wall, the runway and guide rails for the runners and guide rollers of the central sliding wall section are arranged in the range which is covered by the central sliding wall section in the closing position of the latter. On the outer sliding wall sections, the runway and guide rails are so arranged, at the bottom, that, with the sliding wall sections closed, the runway and guide rails for the central sliding wall section, arranged on the side wall frame, form, with the runway and guide rails for the outer sliding wall sections, a track with the same cross section. For displacing the sliding wall sections, the central section is pivoted out of its closing position and moved on one of the outer sliding wall sections, and then moved conjointly with this outer sliding wall section in front of the other sliding wall section which is still in the closed position.

The arrangement of the sliding wall sections as such, as well as the arrangement of the runners and guide rollers on the sliding wall sections, the movement of the central sliding wall section out of the closing position before it is moved over an outer sliding wall section, and the arrangement and design of the runway and guide rails for the outer sliding wall sections have proven satisfactory in practice, and the construction performs its function satisfactorily.

With loaded cars, however, the load, at extremely high buffer shocks, enhanced by the required light construction of the cars, can cause deformation of the lower chord of the side wall frame. The runway rails for the central sliding wall section thus are displaced so that dislocations appear at their butt joints and which jeopardize the proper displacement of the central sliding wall sections. The runway rails for the outer sliding wall sections can buckle sinusoidally for the same reasons, so that these wall parts can jam easily. When the outer sliding wall sections are retracted into their closing position, jammings likewise occur, due to sagging of the upper chord, and which influences unfavorably the operation of these wall sections.

In addition, the upper guide rollers, particularly those of the outer side wall sections, move out of the upper guide rails when the cars are loaded due to sagging of the rails and the point effect. Furthermore, it has proven necessary to lock the sliding wall parts in closing position so that loading material can be stacked.

SUMMARY OF THE INVENTION

The objective of the invention is to improve this known side wall in such a way that the function of the sliding wall sections is always assured, even under extreme stress of the car by load and buffer shocks, that the runway rails are not exposed to additional stresses, by a suitable arrangement, when the car is buckled or twisted, and that the sliding wall sections can absorb, in the closing position, horizontal forces transverse to the longitudinal axis of the car, resulting from the bearing of loading material, without being forced out of the closing position.

In accordance with the invention, this problem is solved in that the runway rails for the central and outer sliding wall sections of each slide wall are formed by a single common rail section, and this common rail section is supported merely on two longitudinally spaced brackets on the lower chord, the runway rail section being fixedly connected to one bracket while being freely slidable longitudinally of the other bracket. Also, guide fingers are arranged on the outer sliding wall sections, at the top thereof, and cooperate with catch hooks of the upper chord and which guide the side wall sections into their closing position. Supports are provided for the outer and central sliding wall sections, to relieve the rollers, and clamps are provided for latching the sections to the upper and lower chords. Finally, with the central sliding wall section swung out and displaced over one outer sliding wall section, the other outer sliding wall section can be displaced between the still closed outer sliding wall section and the central sliding wall section.

Due to this design and arrangement of the runway rail in accordance with the invention, the latter is mounted torsion-free in all loading states of the car, and the sliding wall sections can move unhindered. The catch hooks in the upper chord of the side wall frame assure, in connection with the guide fingers of the outer sliding wall sections, a positive introduction of these outer sliding wall sections into the closing position, even if the sliding wall frame is twisted. The supports for relieving the load on the runners in the closing position of the sliding wall sections prevent premature wear of the runner bearings and also improve the operation of the side wall. The outer and central sliding wall sections have additional latching means engageable with the lower chord of the side wall frame. Stacks of loading material thus can be piled against the sliding wall

sections or slipped loading material can lean against the sliding wall sections without hindering their operation.

In order to improve the guidance of the runners pivotally mounted for horizontal or vertical movement, guide rollers are arranged in the runner housings of the outer and central sliding wall sections, and assure, particularly when the outer sliding wall sections enter the bends, that the runners are guided freely on the runway rail. The bends and branches of the guide rail, extending toward the longitudinal axis of the car, have, at their ends, another bend extending parallel to the longitudinal car axis. When in these bends, the guide rollers of the outer sliding wall sections are in the closing position. With a horizontal loading of these sliding wall sections, transverse to the longitudinal car axis, an opening movement of the sliding wall sections thus is prevented.

The guide rollers of the outer sliding wall sections are arranged close to the outer ends of these sections to improve the known side wall design. This results in a better guidance of the sliding wall sections. The catch hook is designed as a hinged arm journalled in the upper chord through an oblong slot in each catch hook for rotation about a vertical axis, and carrying at its free end a hook mouth which is open toward the transverse center of the car, this hinged arm swiveling against the force of a spring from a position extending with the hook mouth to the guide rail toward the respective end of the car, and the swivel path of the catch hook is determined by a cam secured thereon and bearing on a guide web of the upper chord.

The latching of the outer sliding wall sections, at their ends facing each other, with the lower chord is effected by a locking lever which can be turned into a guide web in the lower chord and which carries, at its free end, a roller. This locking lever is turned into a closing position and into a displacement position on a vertical shaft rotatably mounted on the sliding wall section, by means of a hinged lever covered, in the closing position, by the central sliding wall section.

For the additional latching of the central sliding wall section, a vertically displaceable locking bolt is arranged on the latter, and which is horizontally and frictionally engaged in a centering piece of the lower chord in the closing position of the central sliding wall section. This lock bolt is operated by a two arm lever and blocks, with one arm, the lever of the swing-out device in the closing position.

Finally, a spring, which can be tensioned in the displacement position when the sliding wall section is swung out, is arranged as an accumulator in the swing-out device to improve the operation and the control mechanism of the central sliding wall section.

An object of the invention is to provide an improved sliding wall particularly for railroad freight cars.

Another object of the invention is to provide such improved sliding wall in which the function of the sliding wall sections is always assured.

A further object of the invention is to provide an improved sliding wall in which the sliding wall sections, in their closing position, can absorb horizontal forces transverse to the longitudinal axis of the car without being forced out of the closing position.

For an understanding of the principles of the invention, reference is made to the following description of a typical embodiment thereof as illustrated in the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

In the Drawings:

FIG. **1** is a side elevation view of a side wall embodying the invention;

FIG. **2** is a sectional view through the securing means of the runway rail, taken along the line II—II of FIG. **1**;

FIG. **3** is a sectional view illustrating the mounting of the runway rail, and taken along the line III—III of FIG. **1**;

FIG. **4** is a vertical sectional view of the side wall illustrating the sliding wall sections displaced one over the other;

FIG. **5** is a horizontal sectional view through the upper chord of the side wall frame;

FIG. **6** is an enlarged detail of FIG. **5**;

FIG. **7** is a plan view of the lower chord of the side wall frame;

FIG. **8** is a vertical sectional view of the side wall taken along the line VIII—VIII of FIG. **1** and illustrating the central sliding section closed.

FIG. **9** is a view corresponding to FIG. **8** but illustrating the central sliding wall section swung out;

FIG. **10** is an enlarged elevation view of the portion of FIG. **1** indicated at A;

FIG. **11** is a sectional view taken on the line XI—XI of FIG. **10**;

FIG. **12** is an enlarged side elevation view of the portion of FIG. **1** indicated B;

FIG. **13** is a section taken along the line XIII—XIII of FIG. **12**;

FIG. **14** is an enlarged side elevation view illustrating that portion of FIG. **1** indicatd at C.

FIG. **15** is a sectional view taken along the line XV—XV of FIG. **14**; and

FIG. **16** is a sectional view taken along the line XVI—XVI of FIG. **14**.

DESCRIPTION OF THE PREFERRED EMBODIMENT

As in the known side wall construction mentioned above, the side wall frame includes a lower chord **1** and an upper chord **2** having their ends interconnected by two corner posts **3**. The side wall, shown in FIG. **1**, is closed by outer sliding wall sections **5** and by a central sliding wall section **4**, with the sliding wall sections in the closed state, lying in a common plane. The sliding wall sections **4** and **5** are sealed relative to each other and relative to the side wall frame in the same manner as in the mentioned known construction. The swing-out device, arranged on central sliding wall section **4**, also acts, in the same manner as in the known construction, either directly through a hand lever **9** or with the interposition of a transmission connected to the torsion shaft **10** which is fixedly connected with vertical push rods **12** through journals or bearings **11** arranged eccentric to the axis of shaft **10**, push rods **12**, in turn, being articulated through triangular swivel or bell crank rocking levers **16**.

Each upper rocking lever **16a**, which is pivotally mounted on a pivot **15** on sliding wall section **4**, carries, at its free end, a guide goller **17** having the form of a sphere flattened on its axially opposite ends. The lower rocking levers **16*b***, which are likewise pivotally

mounted on sliding wall section 4, carry, at their free ends, a runner housing 18 in the interior of which are arranged respective runners 20. As best seen in FIGS. 8 and 9, a tension spring 40, acting as an accumulator, is included in each swing-out device, and is tensioned or stretched when central sliding wall section 4 is swung out, this spring enhancing the operation during closing of sliding wall section 4.

The runners 20 and guide rollers 17 of central sliding wall section 4 are arranged in runway rail 42 and guide rail 22, respectively, of the side wall frame, in the same manner as in the known construction, and both when central sliding wall section 4 is closed and when it is swung out and displaced longitudinally. Runway rail 42, secured on lower chord 1, is C-shaped and, on its upper and lower sides, there are arranged runway webs 43 while, on its back side, there is provided a U-section for reinforcement. Runway rail 42 is mounted solely on two brackets 45 and 46 on lower chord 1, as best seen in FIGS. 1, 2 and 3, with rail 42 being fixedly secured to bracket 35, for example, by means of screws 47, while being slidably mounted, for longitudinal displacement, in bracket 46. For this purpose, the U-shaped reinforcing section 44 has, flush with its back wall and at the top and bottom, guide pins 48 by means of which it is mounted in a corresponding guide 49 on bracket 46. In case of buckling, stretching, or bending of lower chord 1, the runway rail remains free of torsion and hindrance.

Uniform guidance of runner 20 is assured in all loading and torsion states of the car. Each housing 18 for runners 20 carries, at the top, guide rollers 50, rotatable about vertical axes, and which run in the C-shaped section of runway rail 42 and prevent tipping of housing 18. Guide rail 22 of central sliding wall section 4 is designed as a part of upper chord 2, as in the known construction, and extends rectilinearly throughout the entire length of the side wall.

Runners 20 for outer sliding wall sections 5 are arranged, as in the known construction of these sliding wall sections close to the outer ends, that is those ends near corner posts 3, and close to the center of each sliding wall section 5, but on the side of the center toward the outer end. The runway webs 43 of runway rail 42 for central sliding wall section 4 are used as runway rails for outer sliding wall sections 5, with each centrally arranged runner 28 resting on the upper runway web 43 and which each end runner 28 engaging beneath lower runway web 43. Runners 28 are rotatably mounted in housings 29 which are pivotally mounted on each sliding wall section 5 for movement in a horizontal plane. Housings 29 carry guide rollers 28*a* bearing on both opposite sides of the associated runway 43 and guiding the associated housing 29 with its runner 28. Close to the points which outer sliding wall sections 5 assume in their closing position, upper runways 52 forming the runway rails for the outer sliding wall sections 5 are bent off horizontally toward the longitudinal axis of the car, and guide sliding wall sections 5 into their closing position.

As in the known sliding wall construction, upper chord 2 also forms the guide rail 24 for outer sliding wall sections 5 and, in the present invention, has horizontal branches 51 and bends 52 extending toward the longitudinal car axis up to those points which guide rollers 27 of sliding wall sections 5 assume in their final closing position. The horizontal branches and bends 52 are further bent parallel to the longitudinal car axis, close to their terminal ends. Guide rollers 27 of sliding wall sections 5 are, in the closing position, in these bends parallel to the longitudinal car axis. With loading material bearing on them, upward disengagement of sliding wall sections 5 from the side wall frame thus is avoided.

In order to guide rollers 27 into branches 51 during closing of sliding wall sections 5, guide fingers 53 are arranged at the top of these sliding wall sections and cooperate with catch hooks 54 in upper chord 2. Catch hooks 54 have longitudinal slots by means of which they are pivoted to upper chord 2, and their free ends are hook-shaped and open in the opening direction of sliding wall sections 5. A respective tension spring 55 pulls each catch hook 54 into a position perpendicular to the longitudinal car axis, with the associated sliding wall section 5 open. On each catch hook 54, there is further provided a guide cam 56 which guides sliding wall section 5, during its closing movement, through catch hook 54 by bearing on a correspondingly arranged guide web 57 on upper chord 2. This arrangement of parts is best illustrated in FIGS. 5 and 6.

In the closing position of sliding wall sections 4 and 5, the respective runners 20 and 28 are relieved of loading. Referring to FIG. 8 and 9, for this purpose central sliding wall section 4 has arranged, on the lower rocking lever 16*b*, rollers 65 which bear on runway rail 42 during closing of this sliding wall section and thus advantageously relieve runners 20 of loading. In order to disengageably lock central sliding wall section 4 with lower chord 1, a latching arrangement is provided in hand levers 9 of the swing-out device, as best shown in FIGS. 12 and 13. This locking device, which secures the associated hand lever 9 against accidental rotation, comprises a vertically displaceable locking or latching bolt 58 mounted in sliding wall section 4 and connected, through a guide rod 59, with a lever 60 mounted on sliding wall section 5 through a journal 61 in a manner such that it forms a two-arm lever whose lower arm serves as a handle while its upper arm extends vertically upwardly in the closing position. Lever 60 is latched in the closing position by a catch 53, and chord 1 is provided with a centering piece 64 apertured to receive latch bolt 58.

The relief of runners 28, arranged centrally on outer central sliding wall sections 5 and carrying the sliding wall sections is effected through supporting rollers 61 arranged on upper runway web 43. Upper runway web 43 is provided, close to its end bent off toward the longitudinal car axis, with a recess 43*a* above which runner 28 is positioned in the closing position of sliding wall section 5. In this position, sliding wall section 5 bears on supporting rollers 6*b* through a cam 67 arranged on housing 29. This arrangement is clearly illustrated in FIGS. 10 and 11.

Referring to FIGS. 14, 15 and 16, at those ends of the outer sliding wall sections 5 facing central sliding wall section 4 there is mounted a respective shaft 69 rotatable about a vertical axis through a hinged hand lever 68, each shaft 69 carrying, at its lower end, a locking lever 70 extending radially therefrom. At the free end of each locking lever 70, there is mounted, for rotation about a vertical axis, a respective roller 71. In the closing position of outer sliding wall sections 5, rollers 71 are turned, together with locking lever 70, into a web

72 on lower chord 1, and thus connect the associated outer sliding wall sections 5 with lower chord 1.

For opening sliding wall sections 4 and 5, central section 4 is first turned away from the side wall frame and moved in front of a then closed outer sliding wall section 5. For this purpose, catch 63 is lifted and lever 60 is turned to loosen locking bolt 58. Then sliding wall section 4 is lifted, by means of hand lever 9 through the swing-out device, from the side wall frame by at least the thickness of the outer sliding wall sections 5. In this position, central sliding wall section 4 can be moved in front of one of the two outer sliding wall sections 5. If the side wall is to be opened to a greater extent, the connection of the other sliding wall section 5 is loosened by turning locking lever 70 through hand lever 68. This sliding wall section 5 is then moved between the still closed outer sliding wall section 5 and the displaced central sliding wall section 4, initially over the bends of the runway and guide rails 24 and 42, respectively, from the side wall frame, and then over those sections of runway and guide rails 43 and 24 extending parallel to the longitudinal car axis. The side wall is thus two thirds open. Closing of the sliding wall is effected in the same manner but in the reverse order.

While a specific embodiment of the invention has been shown and described in detail to illustrate the application of the principles of the invention, it will be understood that the invention may be embodied otherwise without departing from such principles.

What is claimed is:

1. In a side wall, particularly for railroad freight cars, including a side wall frame having a lower chord and an upper chord interconnected at their ends by corner posts, and several sliding wall sections arranged in a common plane when closed and which are displaceable one over the other by rollers running in rails, the central sliding wall section having, at its bottom and close to each of its ends, lower runners moving on a runway rail and, at its top, perpendicularly above its lower runners, upper runners running in a guide rail, each outer sliding wall section having, at its bottom, a lower roller between its center and its outer end running on a runway rail and a lower runner at its outer end bearing under the runway rail and, at its top, upper guide rollers moving in a guide rail, with common runway and guide rails for the outer sliding wall sections having, at those points which the runners and rollers engage therewith assumed in the closing position of the associated outer sliding wall section, bends toward the longitudinal center line of the car, the runners of the central sliding wall section being mounted thereon through bell crank rocking levers pivotal about a horizontal axis parallel to the longitudinal axis of the car, and the central sliding wall section being swingable out of the common plane and moved over an outer sliding wall section to open the side wall: the improvement comprising, in combination, the runway rails for said central and outer sliding wall sections being constituted by a single rail section mounted in only two longitudinally spaced brackets on said lower chord and secured fixedly to one bracket while being longitudinally slidable in the other bracket; guide fingers at the top of each outer sliding wall section; respective catch hooks on said upper chord cooperable with said guide fingers to guide said outer sliding wall sections into the closed position in said common plane; respective support means on said lower chord for each sliding wall section, engaging the latter in the closed position thereof to relieve the load on the supporting runners and the associated runway rails; and respective clamping means on each sliding wall section operable to clamp the same to said upper and lower chords; each outer sliding wall section, with the central sliding wall section swung out and displaced over the other sliding wall section, being displaceable longitudinally to a position laterally between said central and said other outer sliding wall sections.

2. In a side wall, the improvement claimed in claim 1, in which said runners comprise rollers rotatably mounted in respective housings on the associated sliding wall sections; and further rollers rotatably mounted on said housing and limiting said runners against displacement in a vertical direction and in a horizontal direction laterally of said side wall.

3. In a side wall, the improvement claimed in claim 1, in which the terminal ends of said bends in said common runway and guide rails for said outer sliding wall sections are bent to extend parallel to the longitudinal axis of the car.

4. In a side wall, the improvement claimed in claim 1, in which the upper guide rollers of said outer sliding wall sections are arranged close to the ends of said outer sliding wall sections.

5. In a side wall, the improvement claimed in claim 1, in which each catch hook comprises a hinged arm mounted in said upper chord through the medium of an oblong slot in the hinged arm, for rotation about its vertical axis; each hinged arm having, at its free end, a hooked mouth open toward the center of the car; and respective springs biasing each hinged arm to a position in which said hooked mouth faces toward the nearer end of the car.

6. In a side wall, the improvement claimed in claim 5, including a cam secured on each catch hook and bearing on a guide web on said upper chord for guiding of the hooked mouth between a position facing the upper guide rail and a position facing the near end of the car.

7. In a side wall, the improvement claimed in claim 1, including respective releasable blocking means effective to releasably latch each side wall section to said lower chord when the associated side wall section is in its closing position.

8. In a side wall, the improvement claimed in claim 7, in which the latch means on each outer sliding wall section is located at the inner vertical edge thereof; the latch means for each outer sliding wall section including a shaft mounted on the outer sliding wall section for rotation about a vertical axis, a hand lever hinged to said shaft to rotate the latter about its axis for movement into the closing position and into a displacement position, a locking lever extending radially from the lower end of said shaft, a roller on the free end of said locking lever, and an arcuately slotted web on said lower chord arranged to receive said roller upon pivoting of said shaft by said hinged hand lever; said shaft and said hand lever being covered by said central sliding wall section in the closing position of the latter.

9. In a side wall, the improvement claimed in claim 7, in which the latch means for the central sliding wall section comprises a vertically displaceable locking bolt mounted on said central sliding wall section and having a lower end engageable into an aperture in a centering element secured to said lower chord, when said central sliding wall section is in the closing position; the operat-

ing means for said bell crank rocking levers including a manually operable swinging handle; said notch means for said central sliding wall section further including a two arm lever pivotally mounted on said central sliding wall section and having a first arm articulated by a link to said locking bolt and a second arm operable to lock said manually operable handle when said locking bolt is engaged in said centering piece.

10. In a side wall, the improvement claimed in claim **1**, including a spring operatively associated with said bell crank rocking levers and serving as an accumulator; said spring being tensioned responsive to displacement of said central sliding wall section from the closing position to the swung-out position.

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