

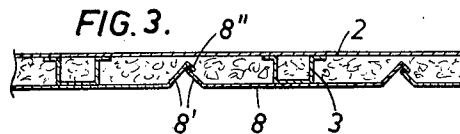
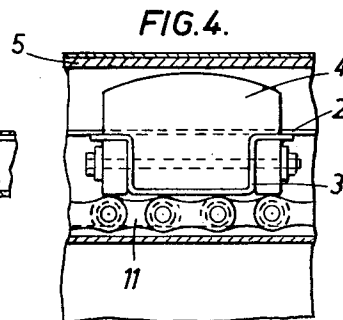
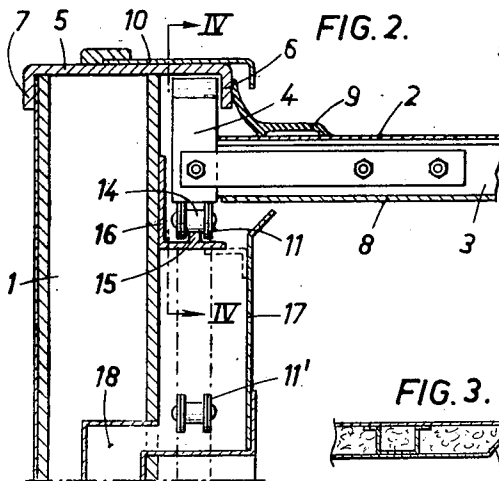
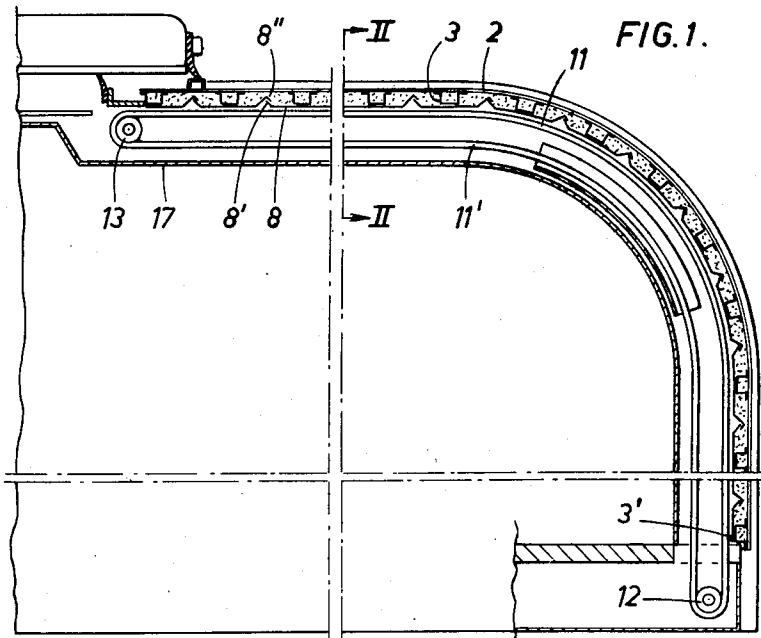
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O. I. GROTH ET AL

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COVER STRUCTURES FOR WAGONS, TRUCKS OR THE LIKE

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COVER STRUCTURES FOR WAGONS, TRUCKS OR THE LIKE

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1 Claim. (Cl. 296-106)

This invention relates to cover structures for wagons, trucks or freight cars, railway carriages in general of the covered type.

In cover structures of the character referred to the truck cover body comprises side walls forming therebetween at the rear end of the truck an opening, which extends over the entire end face of the cover body and unobstructed over at least a portion of the roof. The rear portions of the side walls thus stand by themselves, which may give cause for fluttering when not steadied. In order to steady said wall portions covering means for said opening comprises a flexible cover slidably anchored into guide slots in the inner side of the side walls, whereby said side walls are rigidly connected with each other in closed position of the flexible cover without affecting the slidability of the flexible cover. For this purpose the flexible cover includes rigid transverse bars provided at their ends with blocks sliding in said guide slots. An edge portion of said guide slots hooks over the blocks and prevents the same from moving transversely relative to the slot.

Reference is made to our co-pending application Ser. No. 745,689, filed June 30, 1958, now Patent No. 2,992,040, dated July 11, 1961.

The primary object of this invention is to provide a flexible cover especially suitable for truck cover bodies of said type, said flexible cover being able to be heat insulated without affecting its flexibility.

Another object of the invention is to provide simple means for moving the flexible cover.

Still another object is to provide a flexible cover structure forming a water tight cover with draining means, thereby preventing any moisture from entering into the truck body.

Another object of the invention is to provide a flexible cover comprising an outer continuous layer of a plane, flexible sheet material supported by transverse elongated members and an inner layer consisting of separate, transverse strips of sheet material secured to said transverse elongated members. The strips have bent longitudinal edge portions engaging each other in the space between said elongated members. Suitably one edge portion of each strip is bent over the adjacent edge portion of the next strip to form an overlapping joint. The space between said outer and inner layers may be filled with a heat insulating material.

The interengagement of the strips by their bent edge portions renders possible that the flexible cover may independently of its great thickness be easily bent; this is on one hand due to the yieldingness of the bent edge portions of the strips and on the other hand due to the location of the engaging points of said bent portions in the vicinity of the outer layer or shell whereby the engaging points are close to the bending line of the flexible cover as a whole.

In a flexible cover construction according to the invention an endless roller chain may be used which is fastened at a single point to the flexible cover, preferably at its front edge. The roller chain may be located in the very guide slot for the side edges of the flexible cover. The chain runs with its rollers supported by a ridge in the slot, said ridge simultaneously forming transverse guide means for the roller chain. Opposite edges of the flexible cover

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are supported directly on the upper side of the chain links at a distance from the rollers.

Other objects and advantages of this invention will be more readily understood from the following description taken in connection with the accompanying drawing and pointed out in the claim.

FIGURE 1 is a fragmentary vertical sectional view of cover structure according to the invention.

FIGURE 2 is a large scale fragmentary sectional view taken on line II-II of FIGURE 1.

FIGURE 3 is a fragmentary longitudinal sectional view of a flexible cover according to the invention.

FIGURE 4 is a sectional view on line IV-IV of FIGURE 2.

In the drawing 1 is a side wall of a truck cover body. The rear end of the body and a portion of its roof is open and covered by a flexible cover. Said flexible cover comprises according to the invention an outer continuous flexible plate 2 supported by transverse rigid elongated members in the form of generally U-shaped bars 3. Said transverse bars 3 are at their ends provided with sliding blocks 4 which are guided in slots in the side walls, said slots being bounded at their upper sides each by a U-shaped bar or rail 5 in such a manner that one edge flange 6 of said bar or rail 5 hooks over the sliding blocks 4. The opposite edge flange 7 of said bar or rail 5 hooks over the outer surface of the side wall to rigidly secure said bar or rail 5 to the wall.

The rigid transverse members 3 are secured to the plate 2 at the open side of their U-shape. In order to strengthen the fastening between said generally U-shaped bars 3 said bars are at their longitudinal edges provided with out-turned flanges engaging the inner surface of the plate 2.

To the opposite side of each transverse bar 3 a strip 8 of sheet material is secured. Said strips 8 have at their opposite longitudinal edges obliquely bent portions 8' extending towards the outer plate 2. The strips secured to two adjacent transverse bars 3 rest against each other by the edges of their bent portions 8', one 8' of said engaging edge portions is bent to V-shape at its outermost edge to overlap the straight edge of the adjacent strip 8 (see especially FIGURE 3). Due to the fact that the engaging portions of said strips 8 are formed in the above described manner, the flexible cover may easily follow the curved guide slots. Said flexibility is a result of the fact that on one hand the bent edge portions 8', 8'' of the strips 8 may easily be yieldingly deformed or bent about their folding lines and on the other hand of the fact that the points of engagement between the strips are located in the vicinity of the outer plate 2, forming the bending line of the flexible cover.

The flexible cover according to the invention results in a construction being rigid enough to be drawn forward or pulled back without being jammed even when the operating means engages one point only of the flexible cover. Moreover the flexible cover according to the invention is capable of resisting shocks and forms a water tight cover, which may be easily tightened against the side walls. To this end a rubber strip 9 is secured to the outer plate 2 of the flexible cover and engages the outer side of the above-mentioned flange 6 of the U-shaped bar or rail 5. Suitably an angle-strip 10 covers the engaging surfaces between the rubber strip 9 and the flange 6.

Moreover the flexible cover may be heat insulated by filling the space between the outer plate 2 and the inner plate-shaped strips 8 as well as the space between the outer plate 2 and the bottom of each U-shaped transverse bar 3 with a heat insulating material. Due to the fact that the engagement of the longitudinal edges of adjacent strips 8 are held under compression by the flexible bent portions 8' the insulating material does not tend to pass through the joint between said edges.

The flexible cover may be drawn to open and closed positions by means of an endless roller chain 11 secured to the flexible cover at a single point 3' near its front edge. The roller chain 11 is passed around an idle or driven wheel 12 at the lower end of the opening to be covered by the flexible cover and around an idle wheel 13 at the upper end of the opening. Suitably the roller chain 11 is guided in the slot for the sliding blocks 4 by means of a bar 16 having a ridge 15 forming a rail for the rollers 14 of said chain. The sliding blocks 4 are supported by the links of the roller chain without engaging the rollers 14. This makes the flexible cover easy to move as the chain serves as a roller bearing.

The return run 11' of the roller chain 11 is guided to move parallelly with the guide slot adjacent thereto.

In order to prevent water penetrating through the sliding joint between the rubber strip 9 and the flange 6 from entering into the covering structure a shield 17 is secured to the inner side of the side walls and extends adjacent to the inner side of the flexible cover, so as to form a flute being drained by a conduit 18 leading through the side wall 1 to the outside of the same.

We claim:

- A heat and moisture insulated flexible cover adapted to be slid over an angle shaped opening formed at a rear end of a cover structure for freight cars, trucks, or the like, comprising in combination an outer layer of a continuous plate of flexible metal sheet material, transverse bars supporting said plate, tracks formed at the side walls of the structure along said angle shaped opening guiding the ends of said bars, a transverse strip of metal sheet material secured to the inner side of each transverse bar, each said strip having one longitudinal edge bent obliquely and the other formed in a V-shape, each obliquely bent edge engaging the V-shaped portion of a respective adjacent strip, and heat insulating material in the space between said outer continuous plate and said inner strips.

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