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(54) **WEATHER PROTECTION COVER FOR A COUPLER OF A RAILWAY VEHICLE**

(57) The weather protection cover (10) is intended to be arranged around a coupler body of the coupler. The protection cover (10) comprises a first cover part (20) having a U-shape intended to be arranged around the coupler body, and a second cover part (22) intended to be assembled with the first cover part (20) in a detachable manner to finalize covering of the coupler body.

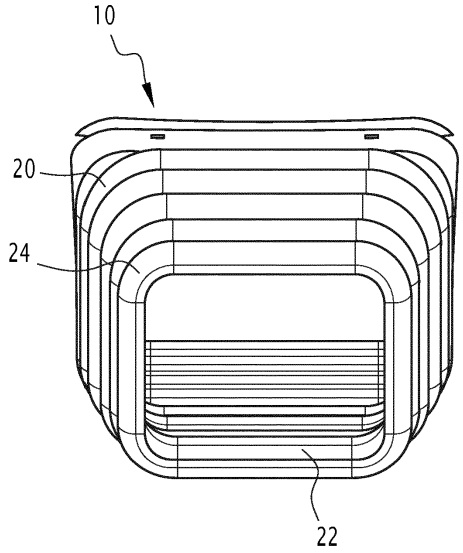

FIG.2

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Description

[0001] The present invention concerns a protection cover for a coupler of a railway vehicle.

[0002] A coupler is a mechanism arranged at an end of a car of a railway vehicle in order to connect this car to another car of the railway vehicle. During winter, it could happen that accumulation of snow and ice on the coupler disturbs its functioning.

[0003] In order to protect the coupler, a protection cover is already known from prior art. However, the conventional snow cover has many folds and undercuts that promote the accumulation of snow and ice, so the cover may be difficult to move.

[0004] The invention is intended to improve such a cover.

[0005] To this end, the invention relates to a weather protection cover for a coupler of a railway vehicle, intended to be arranged around a coupler body of the coupler, characterized in that the protection cover comprises a first cover part having a U-shape intended to be arranged around the coupler body, and a second cover part intended to be assembled with the first cover part in a detachable manner to finalize covering of the coupler body.

[0006] The cover structure in two parts allows detaching the cover easily, so there is no obstruction to the movement of the coupler due to snow and ice accumulation on the coupler or in the coupler or due to icing of the cover.

[0007] A cover according to the invention may comprise any of the following features, taken alone or in any possible combination.

- The weather protection cover is made in a flexible material, such as rubber, preferentially silicon based or Chlorosulfonated Polyethylene.
- The protection cover has a cross section larger at a proximal end than at a distal end, for example the protection cover has a truncated pyramid general shape or a truncated conical general shape.
- The weather protection cover has an upper face that is curved, for example curved from the center outward to lateral sides.
- The weather protection cover has a corrugated shape comprising folds.
- Each fold of the first cover part is connected to each adjacent fold by a connection line, each connection line being covered by a first reinforcing clamp, and the folds of the second cover part are also connected by similar connection lines covered by a second reinforcing clamp.
- The second clamps overhang the connection lines of the second cover part, so each second clamp overlaps a respective first clamp.
- A connection element, such as a pin or a screw, connects each second clamp with the corresponding first clamps. Various aspects and advantages of the invention will be enlightened in the following disclosure, given only as an example and made in reference to figures, in which:

- Figure 1 is a perspective view of a coupler and a weather protection cover, during assembly, according to an example of embodiment of the invention;
- Figure 2 is a perspective view of the weather protection cover of Figure 1 ;
- Figure 3 is a schematic perspective view of a first part of the weather protection cover of Figure 1; and
- Figure 4 is a schematic perspective view of the connection of the first part of Figure 3 with a second part of the weather protection cover of Figure 1.

[0008] Figure 1 shows a weather protection cover 10 intended to equip a coupler 12 of a car of a railway vehicle. The coupler 12 is intended to cooperate with another coupling element of another car of the railway vehicle.

[0009] The coupler 12 comprises a coupler head 14 and a coupler body 16, in a classical manner known in itself. The coupler body 16 extends in a longitudinal direction.

[0010] In order to protect the coupler 12 against weather, in particular snow and ice, the coupler 12 is equipped with the weather protection cover 10 around the coupler body 16, and with a head cover 18 on the coupler head 14. The head cover 18 is for example a metal sheet fixed in a detachable manner to the coupler head 14, for example with screws.

[0011] Preferentially, the head cover 18 comprises a flap that can be moved to let an access to the coupler head 14 without needing removing the head cover 18.

[0012] A shown in figure 2, the weather protection cover 10 is made in two parts, which are a first cover part 20 and a second cover part 22.

[0013] The first cover part 20 has a U-shape in order to overlap the coupler body 16. The second cover part 22 has a generally plane shape in order to close the weather protection cover 10 into a general polyhedral shape. Thus, when the second cover part 22 is assembled with the first cover part 20, the coupler body 16 is enclosed in the weather protection cover 10.

[0014] The protection cover 10 extends in the longitudinal direction, with a cross section larger at a proximal end (i.e. the end near the carbody of the vehicle) than at a distal end (i.e the end near the coupler head 14). For example the protection cover 10 has a truncated pyramid general shape or a truncated conical general shape.

[0015] In case of a truncated pyramid shape, at least the upper face of the pyramid is curved in order to facilitate the drainage of melting water. For instance, this upper face is curved from the center outward to the lateral sides.

[0016] The coupler body 16 classically has a variable length, for example, during coupling buff the reversible element in the coupler works.

[0017] Thus, the weather protection cover 10 is preferentially made in a flexible material, in order to keep covering the coupler body 16 even when its length changes. Preferentially, the material is water-repellent.

[0018] For example, the material is rubber, preferentially silicon based or Chlorosulfonated Polyethylene (CSM).

[0019] Preferentially, the weather protection cover 10 is corrugated. The cover 10 forms a bellow comprising folds 24 intended to move with respect to each other so that the length of the weather protection cover 10 changes with the length of the coupler body 16. The folds 24 are perpendicular to the longitudinal direction.

[0020] The corrugations of the cover 10 ensure its mobility. The folds 24 can move against each other. This ensures that snow/ice adhering for a short time is blown off again by the constant movements. The cover 10 preferentially comprises between five and ten folds.

[0021] Each fold 24 of the first part 20 is connected to each adjacent fold by a connection line 26. Each connection line 26 is covered by a first reinforcing clamp 28.

[0022] The folds of the second part 22 are also connected by similar connection lines covered by a second reinforcing clamp 30.

[0023] The first clamps 28 of the first part 20 are arranged in the continuity of the second clamps 30 of the second part 22.

[0024] Preferentially, the second clamps 30 overhang the connection lines of the second part 22, so each second clamp 30 overlaps a respective first clamp 28. Preferentially, a connection element, such as a pin 32 or a screw, connects the second clamp 30 with the corresponding first clamps 28.

[0025] The second clamps 30 allows the connection between the first part 20 and the second part 22.

[0026] Since the folds of the first part 20 are connected to the folds of the second part 22, the first 20 and second 22 parts can extend together in length.

[0027] Preferentially, the cover 10 is attached, at a distal end, to the coupler head 14, and at a proximal end, to a bodywork part of the railway vehicle. Thus, the length of the cover 10 changes with moves of the coupler head 14.

[0028] In case the cover 10 has a truncated pyramidal shape or a truncated conical shape, the larger base is preferentially at the proximal end.

[0029] It appears that the cover 10 allows protecting the coupler body 16 from environmental influences, especially from snow and ice, so that the coupler's freedom of movement is not restricted. There is no obstruction to the movement of the coupler due to snow and ice accumulation on the coupler or in the coupling jaw or due to icing of the cover. Besides, the cover in two parts is easy to assembly.

Claims

1. A weather protection cover (10) for a coupler (12) of a railway vehicle, intended to be arranged around a coupler body (16) of the coupler (12), **characterized in that** the protection cover (10) comprises a first cover part (20) having a U-shape intended to be arranged around the coupler body (16), and a second cover part (22) intended to be assembled with the first cover part (20) in a detachable manner to finalize covering of the coupler body (16).

2. The weather protection cover (10) according to claim 1, made in a flexible material, such as rubber, preferentially silicon based or Chlorosulfonated Polyethylene.

3. The weather protection cover (10) according to claim 1 or 2, wherein the protection cover (10) has a cross section larger at a proximal end than at a distal end, for example the protection cover (10) has a truncated pyramid general shape or a truncated conical general shape.

4. The weather protection cover (10) according to any of preceding claims, having an upper face that is curved, for example curved from the center outward to lateral sides.

5. The weather protection cover (10) according to any of preceding claims, having a corrugated shape comprising folds (24).

6. The weather protection cover (10) according to claim 5, wherein each fold (24) of the first cover part (20) is connected to each adjacent fold by a connection line (26), each connection line (26) being covered by a first reinforcing clamp (28), and the folds of the second cover part (22) are also connected by similar connection lines covered by a second reinforcing clamp (30).

7. The weather protection cover (10) according to claim 6, wherein the second clamps (30) overhang the connection lines of the second cover part (22), so each second clamp (30) overlaps a respective first clamp (28).

8. The weather protection cover (10) according to claim 7, wherein connection element, such as a pin (32) or a screw, connects each second clamp (30) with the corresponding first clamps (28).

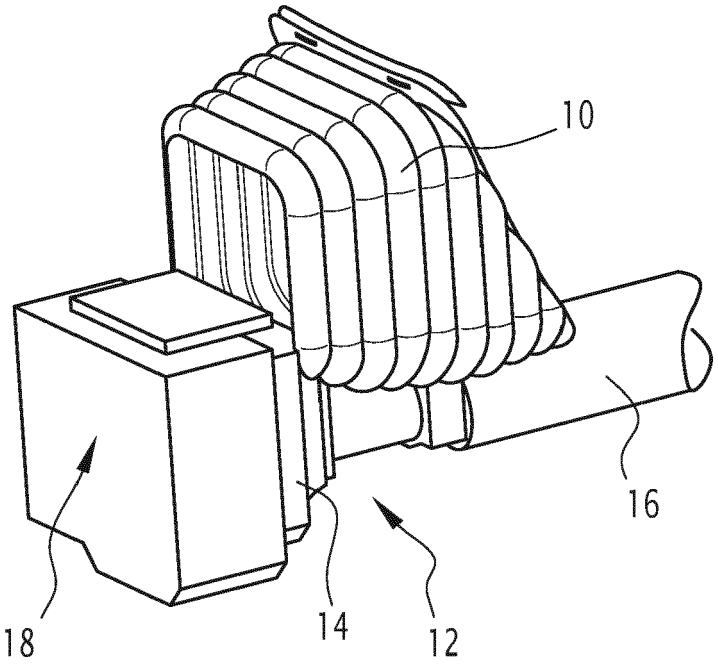

FIG.1

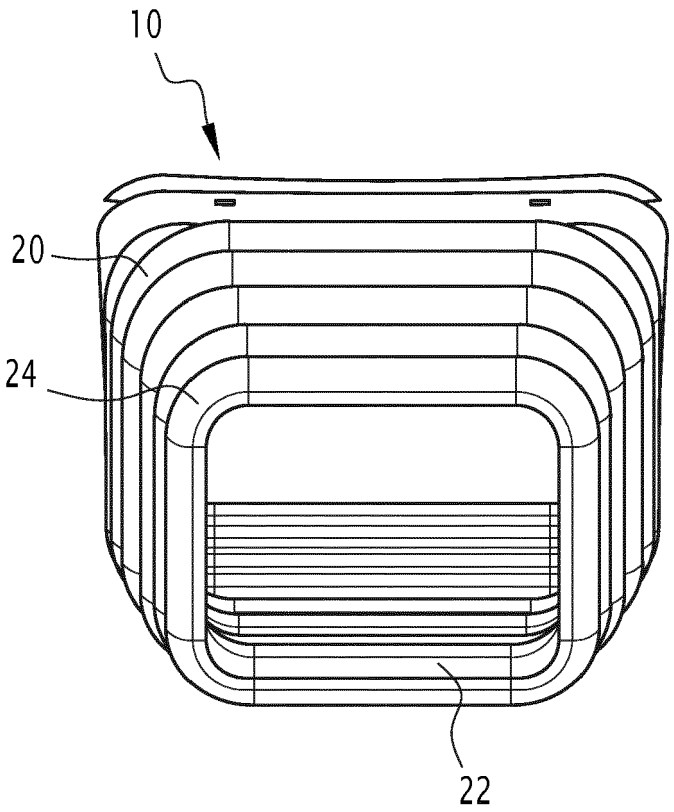

FIG.2

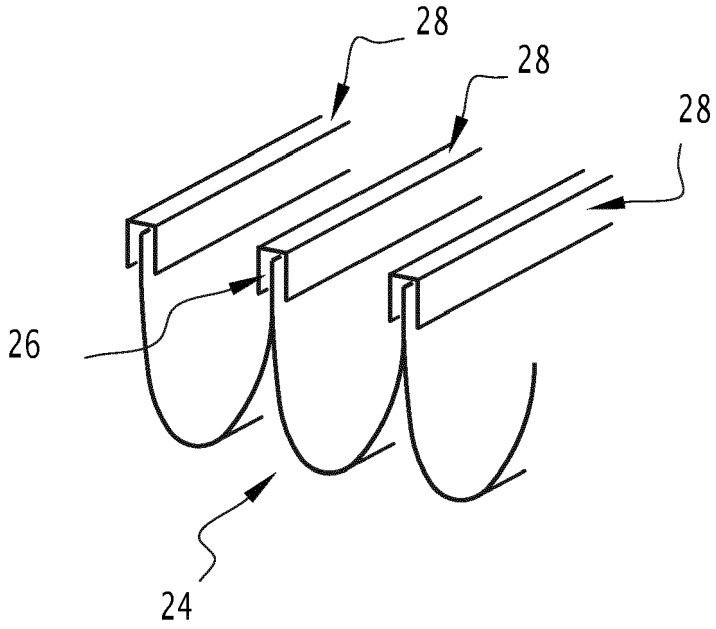

FIG.3

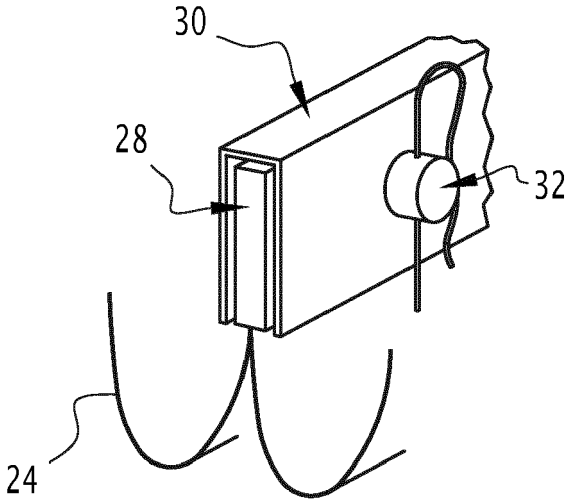

FIG.4

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EUROPEAN SEARCH REPORT

Application Number
EP 23 30 7123

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TECHNICAL FIELDS SEARCHED (IPC)
B61G

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	6 May 2024	Awad, Philippe

CATEGORY OF CITED DOCUMENTS

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