Nov. 8, 1955 T. E. BROWN 2,722,899

RAILWAY CAR HINGED CLEAN-OUT STRIP

Filed May 15, 1952

FIG. 1

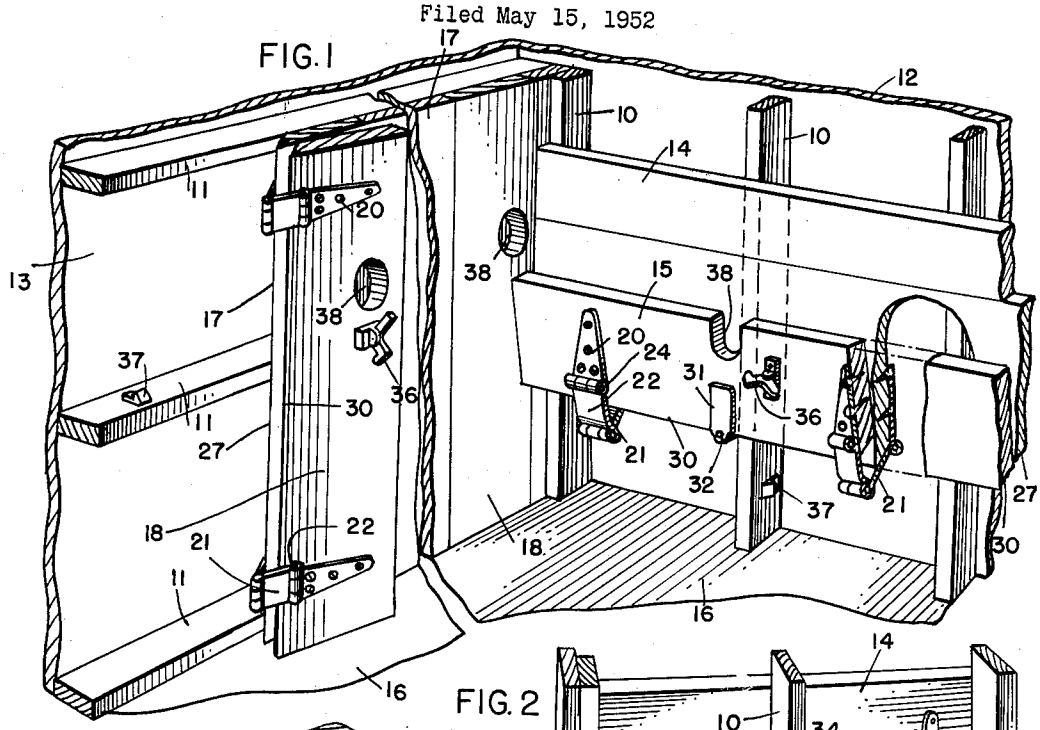


FIG. 2

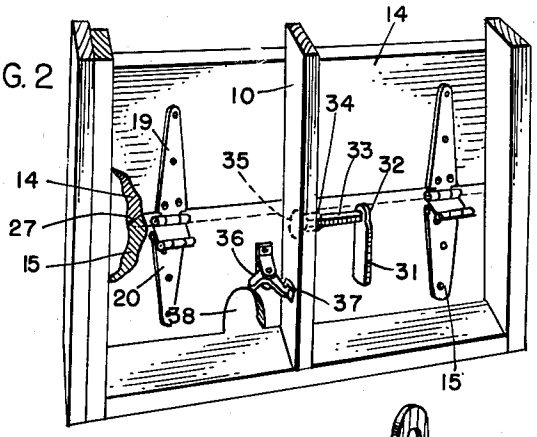


FIG. 3

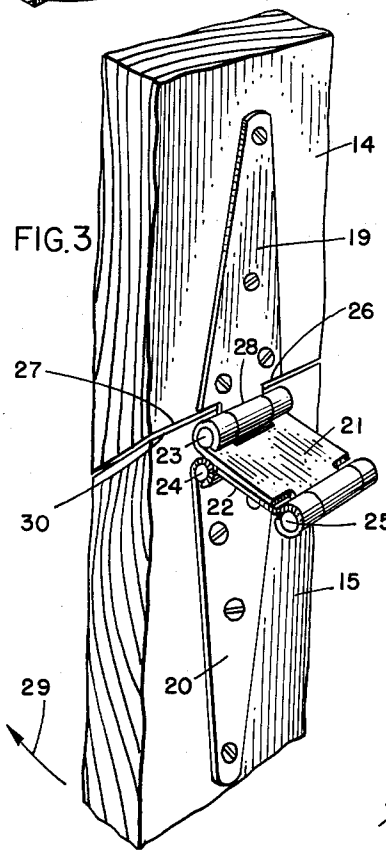
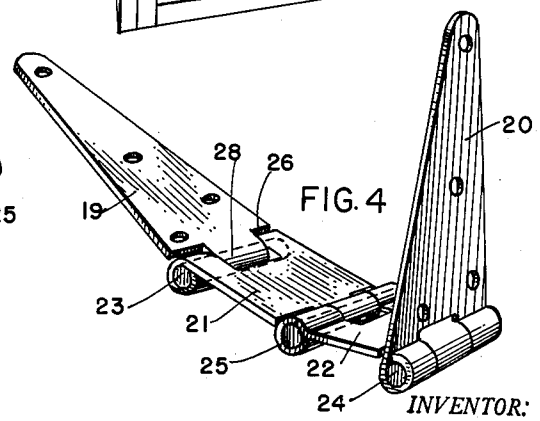


FIG. 4



INVENTOR:
THEODORE E. BROWN
BY
Rummler Rummler & Snow
ATT'YS

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RAILWAY CAR HINGED CLEAN-OUT STRIP

Theodore E. Brown, Chicago, Ill.

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1 Claim. (Cl. 105—423)

In railway box cars used for the transportation of grain and grain products, there exists a danger of contamination of the lading by weevils, other insects and rodents for the prevention of which it is essential that access be had to the dead space between the inner and outer sheathings of the car walls for thorough cleaning of that space between successive ladings of such products. This space is a potential breeding ground for insects which infest the lading.

The present invention is directed to devices for providing such access through the use of a hinged sheathing strip that can be readily shifted between open and closed positions and, when in its closed position, will leave the inner sheathing walls absolutely flush and devoid of projections.

The main objects of this invention are, therefore, to provide an improved wall structure having a flush-mounted sheathing strip which may be readily swung to an open position and held there temporarily and which may be readily swung to a closed position in flush alinement with the remainder of the wall sheathing, without having any of the hardware projecting from or visible from the exposed side of said sheathing; and more specifically, to provide an improved form of hinge that is capable of being mounted entirely behind the sheathing members and so articulated as to allow the movable strip to be swung forward freely so as to be completely out of the way of cleaning operations; and to provide an improved bracket for holding the strip in its open position, said hinge and bracket being both articulated so that the meeting edges of the clean-out strip and the adjacent sheathing structure will form an unbroken tight joint when the strip is closed.

A specific embodiment of this invention is shown in the accompanying drawings in which:

Figure 1 is a fragmentary perspective view illustrative of the manner in which the present invention may be applied to both vertical and horizontal clean-out strips of the inside sheathing walls of a railway box car.

Fig. 2 is a fragmentary perspective rear view of the right-hand side portion of the structure shown in Fig. 1, with respect to a horizontally clean-out strip.

Fig. 3 is a detail in perspective showing the hinge structure that connects the swingable clean-out strip to the adjacent stationary sheathing member.

Fig. 4 is a perspective view showing the structure of the hinge.

In the drawings, the frame of a railway boxcar is represented by the vertical studding **10** of the side walls of the car and horizontal studding **11** of the end walls. The outer sheathing of the side walls is designated **12** and that of the end walls is designated **13** in the drawing. The side walls have horizontal flush jointed sheathing boards **14** attached to the inside of the studding **10** with a horizontal clean-out strip **15** swingable between an open position in which it is shown in Fig. 1

and a closed position in which its free edge abuts the floor **16**. Similarly, the end walls are lined with flush jointed vertical sheathing boards **17** having vertical clean-out strips **18** hinged thereto adjacent to the side walls. These vertical clean-out strips **18** have their lower ends fitting tight against the floor **16** of the car and their free edges flush with or close to the side wall sheathing **14**. One of these vertical clean-out strips **18** is shown open and the other is shown closed in Fig. 1.

When the vertical panels **18** at both sides of the end walls of the car are open, it is possible to clean off the ledges formed by the horizontal stud members **11** and floor by means of a hose directing a stream of water or air from one opening to the other.

In the case of the side walls, a single clean-out strip **15** along the bottom of the inner sheathing **14** is sufficient because any matter getting through the walls would fall to the floor and, as can be seen from Fig. 1, would be readily accessible between the studs **10**.

The hinges that connect the clean-out strip **15** with the adjacent sheathing member **14** are the same as those that connect the vertical clean-out strips **18** with the adjacent sheathing members **17**, as shown in Figs. 3 and 4. Each such hinge comprises a pair of end strap hinge members **19** and **20** respectively fastened to the stationary sheathing and to the clean-out strip and a pair of intermediate straps **21** and **22** connected end to end in strap-hinge fashion with transverse pintles.

The hinge pintles **23** and **24** are offset to the same side of the plane of their respective main end members **19** and **20**, so that these strap members can lie flat against alined planar surfaces. In the form shown in the drawings, the middle pintle **25** is positioned so that the body portions of the intermediate straps **21** and **22** are radially disposed with respect to the middle pintle.

When the hinge is connected to the sheathing and the clean-out strip, as illustrated in Figs. 2 and 3, the shoulders **26** of one end strap **19** are alined with the lower edge **27** of the stationary sheathing member **14** on the back of said member, so that its pintle **23** is spaced a little below the edge **27** and a portion of its bearing tongue **28** will serve as an abutment for the front face of the strip **15** to bear against, so as to aline the corresponding faces of the strip **15** and the stationary sheathing **14** when the strip is in its closed position against the floor **16**.

The lower edge **27** of the stationary sheathing **14** is beveled upwardly and inward with respect to the space between the walls, as shown in Fig. 3, so that when the strip **15** is swung down against the floor, it will be wedged against the stationary sheathing strip **14** in a manner that prevents the upper part of the clean-out strip from shifting outwardly. There is thus an interlocking engagement of the shiftable strip **15** with the stationary sheathing **14** that keeps these members in perfect alinement. By alining the shoulders **26** of the hinges with the lower surface **27** of the sheathing **14**, the pivot **23** of the hinge will be located at a point sufficiently below the edge surface **27** to allow the strap **21** of the hinge to swing forward under the surface **27** when the strip **15** is swung to its open position; that is, in the direction of the arrow **29** of Fig. 3.

When the strip **15** is swung forward and upward, as shown in Fig. 1, the strap **21** will occupy the position just described and the straps **22** and **20** will be in planar alinement with each other, the strap **22** bearing against the face of the strip **15**, as shown in Fig. 1, due to the fact that the hinge pivot **24** is located inward from the edge **30** of the strip **15**. As shown in Fig. 3, the strap **20** is fastened to the clean-out strip **15** in such position as will bring the straps **21** and **22** in contact with each other when the parts are in the position of Fig. 3.

If the hinge straps **21** and **22** are of a length equal to or more than twice the thickness of the sheathing boards, the clean-out strip in its open position can be folded against the stationary parts of the sheathing. If these straps are slightly less than such length, then the clean-out strip **15** will stand in an inclined position as shown in Fig. 1.

When the clean-out strip **15** is in the open position in which it is shown in Fig. 1, it is temporarily supported in such position by a holder which comprises a dog **31** pivoted at **32** so as to be rotatable in a plane at right angles to an arm **33** which in turn is pivoted on a vertical axis **34** in a bracket **35** fastened to one of the studs **10**. In order to support the clean-out strip **15** in its open position, the arm **33** is first swung forward and then the dog **31** is turned up against the face of the strip **15**, as shown in Fig. 1, where it is held by friction.

A latch hook **36** is mounted on the rear face of the clean-out strip **15** in position to engage a keeper **37** on one of the studs **10** for latching the strip **15** in its closed position, as shown in Fig. 2. The latch **36** is normally urged by spring pressure into engagement with its keeper. A hole **38** in the strip **15** provides access to this latch when the strip **15** is closed. This hole is provided with a closure to prevent grain from passing through it, but such closure is not shown.

At the front and rear walls of the car where the sheathing is vertical, the clean-out strips **18** are accordingly vertically disposed and the hinges and other hardware are suitably located for allowing the clean-out strip to be swung as shown at the left of Fig. 1.

Although but one specific embodiment of this invention is herein shown and described, it will be understood that numerous details of the structure shown may be altered or omitted without departing from the spirit of the invention as defined by the following claim.

I claim:

In a box car, a floor, an outside wall, inside sheathing secured in permanently-spaced relationship to the outside wall, a clean-out strip, and spaced hinges connecting the strip to the sheathing and constituting the sole support of the strip on the sheathing to afford swinging of the strip between positions alined with and transverse to the sheathing, each hinge comprising a pair of end straps each hingedly connected to an intermediate strap in turn hingedly connected together at the ends not connected to the end straps, the end straps being fixed to the inner and normally-alined faces of the sheathing and strip respectively, the end strap being so positioned on the sheathing that the end hinged to the intermediate strap extends beyond the edge of the sheathing normally opposed to the strip so as to serve as an abutment for the strip to aline it with the sheathing.

References Cited in the file of this patent

UNITED STATES PATENTS

2,158,257	Sheehe	May 16, 1939
2,226,042	Zane	Dec. 24, 1940
2,300,449	Rowe	Nov. 3, 1942
2,308,025	Purcell	Jan. 12, 1943
2,591,006	Radey	Apr. 1, 1952