No. 720,289. PATENTED FEB. 10, 1903.

W. A. SCOTT & P. J. SCHOLL.

CAR DOOR.

APPLICATION FILED JAN. 6, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

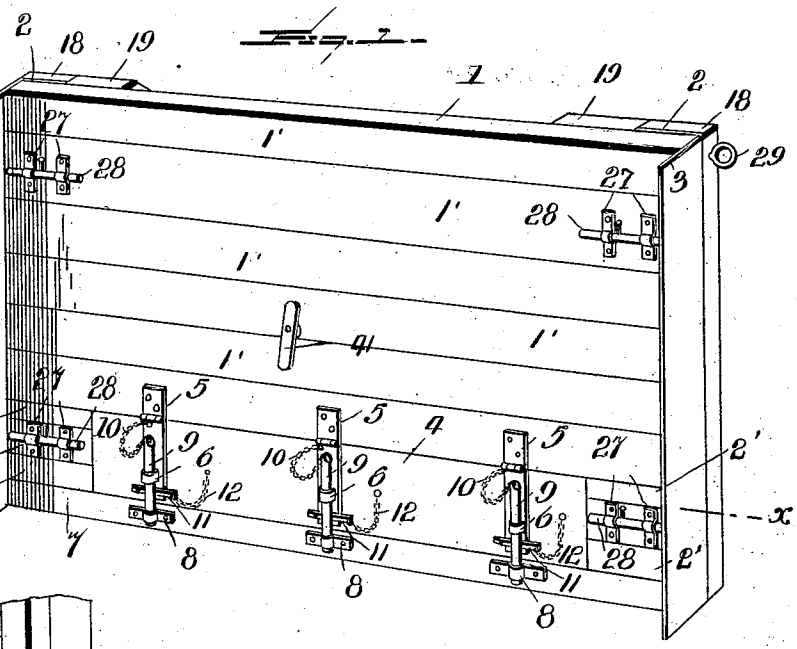


Fig. 2.

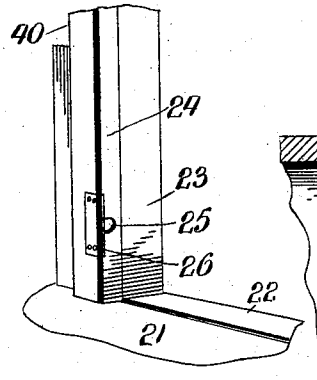


Fig. 3.

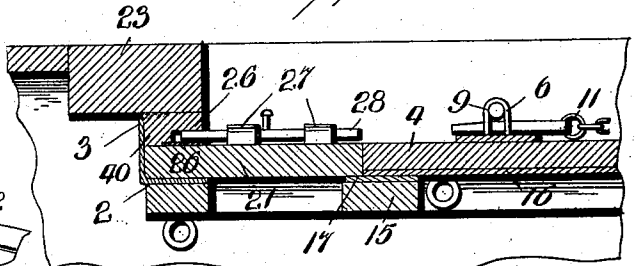
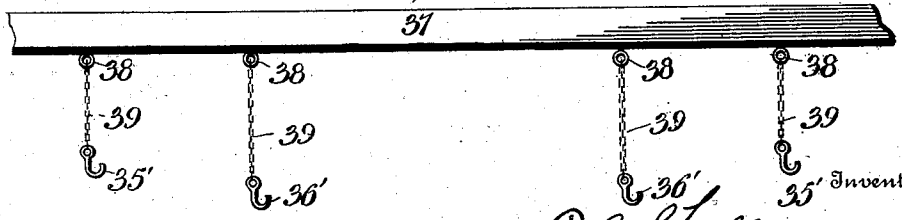


Fig. 4.



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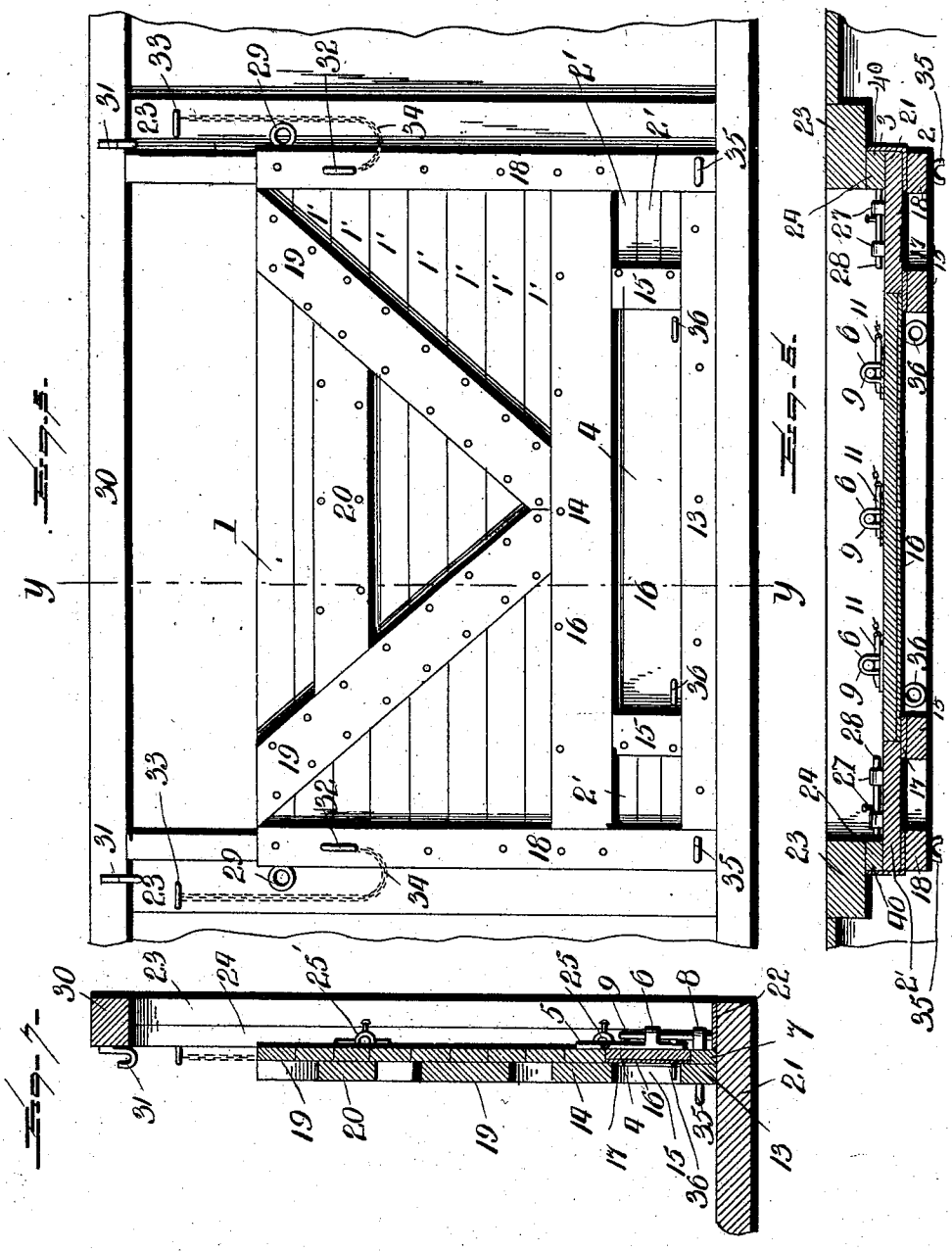
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NO MODEL. 2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

WILSON ALLEN SCOTT AND PHILLIP J. SCHOLL, OF PAUL, NEBRASKA.

CAR-DOOR.

SPECIFICATION forming part of Letters Patent No. 720,289, dated February 10, 1903.

Application filed January 6, 1902. Serial No. 88,556. (No model.)

To all whom it may concern:

Be it known that we, WILSON ALLEN SCOTT and PHILLIP J. SCHOLL, citizens of the United States, residing at Paul, in the county of Otoe and State of Nebraska, have invented certain new and useful Improvements in Car-Doors; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to improvements in box-cars, and particularly that class of box-cars used to hold loose grain, and more particularly refers to the door of the car.

Our grain-door is made with a small door in the lower end thereof, so that the grain can be let out through the small door, so that the large door may be easily pushed up and back and hooked up to the top of the car and out of the way, and thus save the door from being broken. When the door is constructed as described by us, we can make it twelve inches higher than the ordinary car-doors now built and still hook it up to the roof or top of the car the same as other doors are hooked up.

In the accompanying drawings, Figure 1 is a perspective front view of our invention. Fig. 2 is a rear detail perspective view of one wall of the door-opening, facing-beam, base-beam, and metal bar on top of the base-beam. Fig. 3 is an enlarged detail sectional view of part of the door on the line X X of Fig. 1. Fig. 4 is a perspective view of the top rail of the car on the side opposite the door, together with the hooks and chains secured thereto. Fig. 5 is a rear face view of the door. Fig. 6 is a cross-sectional view of the door on line X X of Fig. 1. Fig. 7 is a vertical sectional view of the door on line Y Y of Fig. 5.

Our invention is described as follows:

1 represents the main door, which consists of boards 1′ 2′ and a small door 4. To each end and to the rear face of the door is vertically secured a plate 2, and just at the ends of the door said plates are turned outwardly at an angle of ninety degrees to the door, forming flanges 3. These plates and these flanges extend the entire length of the door from bottom to top. Near the bottom of said main door 1 and situated in said door is a small door 4. Said small door is not so long as the main door is wide. Said small door 4 is hinged to the main door 1 by means of hinges 5. The upper part of these hinges are secured to the front face of the main door and just above the opening for the small door, while the lower part of said hinges are secured to the front face of the small door. The lower part of each of the said hinges is provided with bolt-keepers 6. The lower part of the said main door 1 is provided with a lower cross-beam 7, and immediately under the bolt-keepers 6 and secured to said cross-beam 7 are bolt-keepers 8, and working in said upper bolt-keepers 6 and adapted to have their lower ends thrust down into the lower bolt-keepers 8 are bolts 9. These bolts 9 are secured to the lower parts of the hinges 5 by chains 10. Adapted to work between the bolts 9 and the lower part of the hinges 5 are wedges 11. These wedges 11 are secured to the outer face of the small door 4 by means of chains 12.

Secured horizontally to the rear face and lower edge of the main door is a cross-beam 13, and secured horizontally to the rear face of the main door and just above the opening for the small door 4 is another cross-beam 14. These two beams 13 and 14 are to strengthen the main door and provide means for holding more securely the upper part of the hinges 5 and the lower keepers 8.

Secured vertically at each end of the small door 4 and to the upper and lower cross-beams 13 and 14 are vertical beams 15. To these vertical beams are secured the inner ends of the short end boards 2′, while the outer ends of said short boards are secured to the plates 2. The rear face of the small door 4 is faced with a thin plate 16. The said vertical beams 15 are also faced with a thin plate 17. The inner edges of these beams 15 and plate 17 extend a little beyond the inner ends of the end boards 2′, and therefore the ends of the small door 4 shut against the inner edges and rear faces of the plate 17.

Secured vertically to the rear face of the main door and to each end thereof are upright beams 18. These upright beams are therefore necessarily secured against the rear faces of the plates 2.

Running from the upper edge of the cross-

beam 14 are braces 19, which run out, forming a V. These braces run to the upper edge of the main door, and from each one of these braces and secured thereto and to the main door is a horizontal brace 20.

Referring to Fig. 2, 21 represents the base-sill of the car-door opening. 22 is a metal bar secured on the upper face of said sill. Extending vertically from the base-sill is one wall 23 of the door-opening, and to the rear face of this wall is secured a facing-post 24, and in the edge of this facing-post are bolt-holes 25, and against the rear face of this facing-post and over said bolt-holes 25 are bolt-keepers 26. The other wall of the door-opening is exactly similar and is provided also with a similar facing to that just described. Secured to the outer face of the main door and to each end thereof are bolt-keepers 27, and working in these bolt-keepers are bolts 28. The outer ends of these bolts are adapted to enter the bolt-holes 25 of the facings of the facing-post 24, and by this means the main door is held in place. Secured to each end and near the upper corner of the main door are eyes 29, and to the upper sill 30 of the car and immediately over the eyes 29 are hooks 31. To the rear face of the main door are secured staples 32 and to the inner face of the walls 23 are secured staples 33, and to these staples 32 and 33 are secured chains 34, and to the rear face, lower end, and near each end of the main door are secured eyes 35, and to the lower edge, rear face, and near each end of the small door are secured eyes 36. To the top beam 37 of the car and immediately opposite the doors are secured by means of eyes 38 and chains 39 hooks 35′ and 36′. When the main door is closed, the flanges 3 lap over and fit against the outer edges 40 of the facing-post 24. The purpose of the chains 34 is to keep the door from falling when not secured in place by the bolts 28. When we wish to unload the grain, we open the small door and swing it out and up and secure it in that position by a button 41, and then when enough of the grain has been taken out so that the door is sufficiently loose we push it up and hook the eyes 29 over the hooks 31, and when we wish the door swung back entirely out of the way we swing it back and up and hook the eyes 35 and 36 over the hooks 35′ and 36′, respectively. When the door is closed, the bottom beam 7 of the door rests against the metal bar 22, thus keeping the door from bulging out, and the flanges 3 also keep the door from bulging and also keep grain from getting out at the ends of the door.

We have said that the door is made of boards 1′ and 2′; but we do not confine ourselves to the exact description given and claim the right to manufacture the door of any proper material and of any proper construction that will admit of the attachments hereto described.

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A box-car door, consisting of vertical metal edge plates 2, having flanges 3; vertical beams 18, secured to the rear faces of the plates 2; boards 1′, secured to the rear faces of said plates 2, and short end boards 2′, having one end secured to said plates 2, and the other end to vertical beams 15, which set in a short distance from each end plate 2; cross-beams 13, and 14, secured near the edges of the small door, one below, and one above; metal plates lining said vertical beams, and small door; braces 19, forming a V, and secured to the rear face of the main door; a beam 20, extending between and secured to each of the braces 19; a small door 4, hinges 5, secured to the main door 1, and to the small door 4; bolt-keepers 6, secured to the lower ends of the hinges 5; bolt-keepers 8, secured immediately under keepers 6, and to the lower beam 7, of the main door; bolts 9, adapted to fit into said keepers and secured from being lost by chains 10; wedges 11, adapted to fit in between the outer face of the small door and the inner faces of the bolts 9; eyes 35, secured to the lower corners and rear face of the main door, and adapted to be hooked over hooks 35′, secured by short chains to the side and top sill, opposite the door of the car; eyes 36, secured to the rear face and lower corners of the small door 4, and adapted to be hooked in eyes 36′, secured by short chains to said last-mentioned sill; chains 34, their lower ends secured in eyes in the upper part of the main door and their upper ends to the wall 23, of the car-door; eyes 29, secured to the upper ends and outer edges of the main door, and adapted to be hooked to hooks 31, secured in the upper and side rail, immediately over the door; a button 41, adapted to hold the small door 4, back and against the front face of the main door, substantially as shown and described and for the purposes set forth.

2. In a freight-car, having inner facing beams 24, to the walls of its door-opening, and bolt-holes in said facings, and a metal bar on the base-sill; a door, having plates secured to its ends, and rear face, and turned outwardly at an angle of ninety degrees, forming flanges; said flanges adapted to fit over, and against the outer edges of said facings, the bottom of said door adapted to fit against the inner edge of the bar on the base-sill, and bolts secured to the outer face of said door, and adapted to enter the bolt-holes of the said door-facings, and hold the door in place, substantially as shown and described and for the purposes set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

WILSON ALLEN SCOTT.
PHILLIP J. SCHOLL.

Witnesses:
HENRY SCHOLL,
H. B. SEYBOLD.