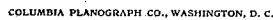


FLUSH CAR DOOR.

Patented Apr. 30, 1912.

**1,024,893.**



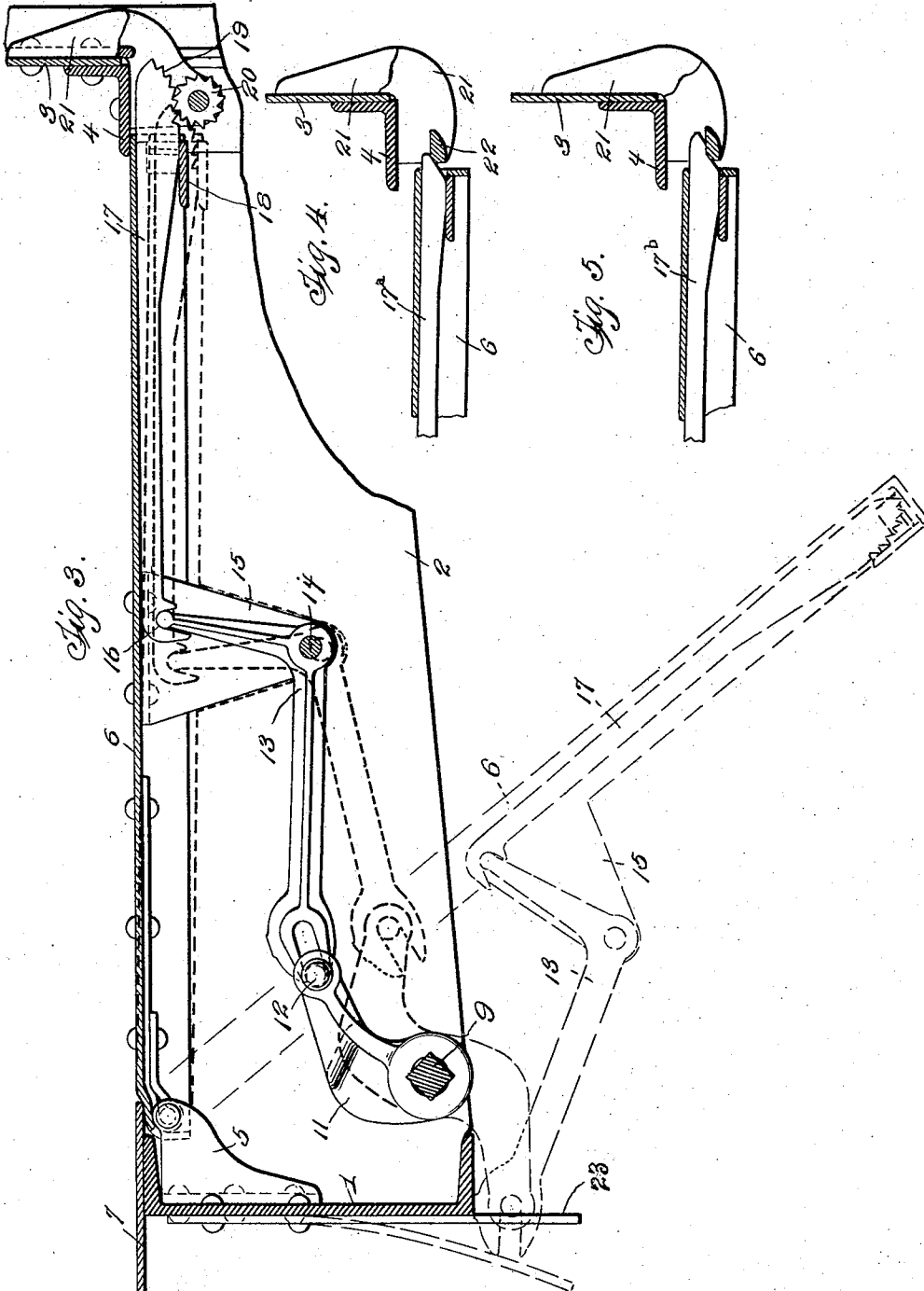
L. G. HANDY.  
FLUSH CAR DOOR.

APPLICATION FILED JUNE 23, 1910.

Patented Apr. 30, 1912.

2 SHEETS-SHEET 2.

1,024,893.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

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## FLUSH CAR-DOOR.

1,024,893.

Specification of Letters Patent.

Patented Apr. 30, 1912.

Application filed June 23, 1910. Serial No. 568,554.

*To all whom it may concern:*

Be it known that I, LEVIN GESSFORD HANDY, residing at Rutherford, New Jersey, and being a citizen of the United States, have invented certain new and useful Improvements in Flush Car-Doors, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and to use the same, reference being had to the accompanying drawings, which illustrate the preferred form of the invention, though it is to be understood that the invention is not limited to the exact details of construction shown and described, as it is obvious that various modifications thereof will occur to persons skilled in the art.

In said drawings: Figure 1 is a plan view, partly broken away and in section, of a portion of a gondola car with my invention applied thereto. Fig. 2 is a side elevational view, partly in section of a portion of the car shown in Fig. 1. Fig. 3 is a sectional view on line 3—3 of Fig. 1. Figs. 4 and 5 illustrate modifications.

One object of the invention is to provide car door operating means positioned wholly below the plane of the door when said door is closed, so as to provide an unobstructed discharge opening when the doors are open and which can be actuated by a shaft carried in a plane below the closed door.

A second and independent object of the invention is to dispense with creeping shafts extending throughout the length of the car, adapted to push the doors to closed position and further, to dispense with gravity latches or hooks for locking said doors in closed position.

Another object is to provide means for positively locking the doors in closed position and to secure positive release of such locking means and for opening of the doors when desired to discharge the load.

Another object is to so connect some of the operating parts positively with the door as to insure not only release of the locking means, but also movement of the door independent of gravity in opening so as to break any "ice seal" which may form in cold weather.

I provide operating means adapted to be supported entirely below the floor line of the car, which operating means may be readily applied to cars in service as well as to cars when building.

To that end the parts are designed to permit of ready application to the car by relatively unskilled labor, and are so applied that when the doors are fully closed said doors must be positively locked in closed position by the same means employed for lifting.

For convenience of description the center or centrally arranged sill or sills is hereinafter called center sill, and the side wall or side plate girder is called side sill because such side wall or girder, whether used merely as a load confining member or as a load supporting and load confining member, in nearly all modern cars, is practically a support for some part of the load or superstructure. So also where the term "positively locking" or "positive lock" is used it expressly excludes such locking means as depend on gravity for some part of its or their operation.

I have given only sufficient illustration to make the construction and operation of my device apparent, but it will be understood that the construction is identical upon either side of the center sills and that any desired number of doors may be employed. I shall, therefore, describe only one of the sides.

Referring to the drawings by numerals—1 indicates the center sill, 2 the body bolsters and cross bearers, and 3 the side sills or girders, as of an ordinary gondola car. The side walls or supporting girders 3 may be of any suitable construction with an inwardly turned horizontal flange as 4 at the lower edge thereof and extending substantially throughout the length of the car, or within the zone of the movable doors.

Arranged to swing upon pivots in suitable brackets 5 supported upon the center sill is a series of drop doors 6. The pivot edges of the doors are over-lapped and protected by the overhanging edges of the center sill cover-plate, as at 7. The free edges of the doors extend, when the doors are

closed, to position beneath the inner edge of the inwardly turned flange 4 of the side girder.

Extending through apertures in the body  
5 bolsters or cross-bearers and supported in suitable bearings 8 adjacent the center sill is an operating shaft 9 which extends beneath all of the doors and to the end of the car as illustrated.

10 A suitable hand-operated or power mechanism, of any suitable type as 10, is arranged at the end of the car and connects with the shaft 9, for operating the same.

Beneath each of the doors 6 and fixed  
15 upon the shaft 9 is a pair of door operating arms 11. The free end of each of the arms 11 is bifurcated and fitted with a pin 12 for engaging the slotted end of one arm of a bell-crank lever 13 so as to form a toggle  
20 connection therewith. The bell-crank lever 13 is pivoted, as at 14, upon a hanger 15, which projects downwardly from the under face of the door 6. The other arm of the bell-crank extends to a point adjacent  
25 the under face of the door and is received in a pocket or notch, as at 16, formed at the inner end of a locking rod 17. The rod 17 is slidably mounted upon the under side of the door and suitably supported and connected thereto at its outer end as by sleeve  
30 18. The inner end moves between and is retained against lateral play by the two members of the hanger 15. The outer end of the rod may be formed with suitably arranged teeth, as at 19, for engaging coöperating  
35 teeth on a roller 20, mounted in a bracket 21, fixed to the lower edge of the side girder.

When desired, a spring plate 23 may be  
40 fixed to the inner face of the center sill and when employed is impinged by the inner end of the lever mechanism and absorbs the shock of the door as it drops to its lowest position.

45 In operation: The rotation of the shaft 9 in a contra-clock direction, Fig. 3, will raise the door from the position shown by dash lines to almost the position shown by the heavy dots, with only slight movement of the bell-crank lever relative to the  
50 door. As the shaft is turned to position shown by heavy dots, the bell-crank is moved upon its pivot so as to bring the toothed end of the locking rod into engagement with the roller 20. Thus far the pin  
55 12 has been in engagement with the end of the slot in the arm of the bell-crank 13. The centers of the shaft 9, pin 12, and pivot 14, are now in alinement, so that the door is raised to the highest position possible  
60 through the direct lifting action of arms 11. A continued rotation of the shaft 9, however, will turn the bell-crank lever about its pivot so as to force the locking rod 17  
65 outwardly. As the teeth 19 on the under

curved face of the end of the rod ride on the roller 20, the door will be forced to the position shown in full lines, where it is positively locked and all strain relieved from the lifting mechanism.

In the construction shown in Fig. 4, the roller 20 is omitted and a stationary support 22 is substituted therefor.

Fig. 5 is similar to Fig. 4 except that the end of the locking rod is stepped so as to more positively support the door when the parts are in the position shown by heavy dots in Fig. 3.

Thus it will be observed that the operating parts are all positively operating parts so assembled that the door may be first closed, as the term is generally understood, and then tightened so as to prevent accidental escape of the load, and, while being moved to their final position, the locking means are brought into coincidence so as to positively lock the doors in final closed position without the interposition of any movable means depending from the car side or side sill. This final closing, or tightening, of the doors is desirable and, where fine coal or grain is carried, quite necessary to prevent accidental discharge of part of the load.

What I claim as new is:

1. In a device of the class described, a door, an operating shaft, a locking bolt carried upon said door, rigid rockable connections between said locking bolt and said operating shaft and means for sliding said bolt longitudinally to positively locked position.

2. In a car of the class described, a door, a fixed socket in proximity to said door, an operating shaft, toggle connections between said shaft and said door, and a longitudinally slidable locking bolt adapted to be actuated by said toggle.

3. In a device of the class described, the combination comprising a door, a latch socket, a latch carried by said door, a bell crank for closing said door and for subsequently thrusting said latch.

4. In a car provided with flush bottom doors, longitudinally slidable locking means, and a rockable bell crank for pushing said doors upwardly to closed position automatically and positively sliding said locking means to lock the doors in such closed position.

5. In a device of the class described, the combination of sills, a series of doors supported in proximity to said sills, an operating shaft beneath said doors, door lifting and locking means including a bell crank lever connecting said shaft with said doors and longitudinally slidable means operable by said bell crank lever for locking said doors in a closed position.

6. In a device of the class described, the

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combination of sills, a series of doors supported in proximity to said sills, an operating shaft beneath said doors, cooperating crank arms connecting said shaft with  
 5 said doors and longitudinally slidable means actuated by said crank arms for locking said doors in a closed position.

7. In a device of the class described, the combination of center sills, a series of doors  
 10 supported in proximity to said center sills, an operating shaft beneath said doors, toggle connections between said shaft and said doors, and longitudinally slidable means, operated through said toggle connection for  
 15 positively locking said doors in a closed position.

8. In a device of the class described, the combination of center sills, a series of doors supported in proximity to said center sills,  
 20 an operating shaft beneath said doors brackets depending from said doors, door closing means rockable in said brackets and operated from said shaft, and longitudinally slidable locking means actuated by  
 25 said closing means for supporting said doors independent of said shaft.

9. In a flush car door operating device, the combination comprising a door, a bracket depending therefrom and a bell crank pivotally supported intermediate its ends, by said  
 30 bracket.

10. In a device of the class described, the combination of center sills and side sills, a series of doors supported to swing from said  
 35 center sills, depending brackets on said doors, an operating shaft, crank arms, bell crank levers pivoted in said brackets and adapted to lift said doors to closed position, locking rod operable by said bell crank levers  
 40 and locking rod engaging means carried by said side sills for supporting the free ends of said doors independently of said operating shaft.

11. In a device of the class described, the combination of center sills and side bearing members, a series of doors supported to swing from said center sills, an operating  
 45 shaft adjacent said center sills, fixed door supporting means carried by said side bearing members and longitudinally movable locking rods operated from said shaft for placing the weight of said doors upon said  
 50 supporting means.

12. In a device of the class described, the combination of center sills, and side sills, a series of doors supported to swing upon one of said sills, an operating shaft, door supporting means carried in proximity to one of said sills, means between said shaft and  
 60 said door for moving said door to said door supporting means, and means operated wholly from said shaft for transferring the weight of said doors from said shaft to said supporting means.

13. In a device of the class described, the

combination of center sills and side sills, a series of doors supported to swing upon one of said sills, an operating shaft adjacent said sill, and positively operable locking means including a slotted bell crank carried by  
 70 said doors and operated wholly from said shaft.

14. In a device of the class described, the combination of center sills and side sills, supporting means carried in proximity to  
 75 said side sills, an operating shaft adjacent said center sills and movable positive locking means slidably mounted upon said doors and operated wholly from said shaft.

15. In a device of the class described, the combination of center sills and side sills, a series of doors supported to swing upon said center sills, an operating shaft adjacent said center sills, slidable locking means carried by said doors, rockable means cooperating with said doors and operated by said shaft for moving said locking means to lock said  
 85 doors.

16. In a device of the class described, the combination of center sills and side sills, a series of doors supported to swing to a horizontal position in the plane of said center sills, an operating shaft adjacent said center sills, a lock member carried by one of said sills, a longitudinally slidable bar and rockable means carried by said doors and operated by said shaft for moving said bar to unlock said doors.  
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17. In a device of the class described, the combination of center and side sills, a series of doors supported to swing upon said center sills, an operating shaft adjacent said center sills, locking means carried by said doors, bell cranks carried by said doors and operated by said shaft for moving said locking means, to lock and unlock said doors.  
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18. In a device of the class described, a door, an operating shaft arranged to support a portion of the weight of the door, a bell crank operable from said shaft, longitudinally slidable positive locking means operable by said bell crank for relieving the shaft of the weight of the door.  
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19. In a device of the class described, a vertically swinging door, means including a bell crank depending from and movable with said door for pushing the same to a partially closed position and means having a cam action for fully closing the door.  
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20. In a car device of the class described the combination comprising a center sill, a door, a longitudinally movable locking bar carried thereby, means between said sill and said bar adapted to move the door to a closed position, said door moving means being adapted to shift said bar to a locking position.  
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21. In a device of the class described, a door, a lever for closing the same, a longitudinally movable locking bar for the door  
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engaged by said lever, and means for moving the lever for successively closing the door and shifting the locking bar to a locking position.

5 22. In a device of the class described, a door, a longitudinally slidable locking bar therefor, a bell crank lever engaging said locking bar, and means for moving said lever for successively closing the door and shifting the locking bar to a locking position.

10 23. In a device of the class described, a door, a longitudinally slidable locking bar carried beneath the door, a lever having an upstanding arm engaging the locking bar, and means for shifting said lever for successively closing the door and moving the locking bar to a locking position.

15 24. In a device of the class described, a door, a longitudinally slidable locking bar carried thereby, and a bell crank lever adapted to successively close the door and project the locking bar to a locking position.

20 25. In a device of the class described, a door, a locking bar shiftably engaging the same, a lever pivotally carried by the door, and pivotally engaging said bar, and means for bodily shifting the lever for closing the door and subsequently swinging the lever for shifting the locking bar.

25 26. In a device of the class described, a door, a bell crank lever cooperating with the door, locking means for the door, and means for imparting a compound movement to the lever for successively closing the door and actuating the locking means.

30 27. In a device of the class described, a door, a lever pivotally carried thereby and having a plurality of arms, locking means for the door adapted to be actuated by one of the arms of said lever, and means engaging the other arm thereof for imparting a compound movement to the lever for successively closing the door and actuating the locking means.

35 28. In a device of the class described, a door, locking means therefor, a bell crank lever pivotally connected with and movable with the door and adapted to close the door and to actuate the locking means, and means for imparting a compound movement to the lever for effecting the door closing and locking operation.

40 29. In a device of the class described, a door, a hanger connected to the door, a slotted lever pivotally carried by the hanger, locking means engaged by the lever, and means for moving the lever for shifting the door, and through the pivotal connection of the lever, for moving said lever into engagement with the locking means.

45 30. In a device of the class described, a door, locking means therefor, a slotted bell crank having a compound movement and means for actuating the same for success-

sively shifting the door and manipulating the locking means.

31. In a device of the class described, a door, a longitudinally slidable locking means therefor, a lever pivotally connected with the door and adapted to be shifted bodily for actuating the door, and to be swung upon its pivot for actuating the locking means.

32. In a device of the class described, a door, locking means therefor, a lever pivotally connected with the door and adapted to be shifted bodily for actuating the door and to be swung pivotally for actuating the locking means, and means having a pivotal and sliding engagement with the lever for operating the same.

33. In a device of the class described, a door, locking means therefor, a lever pivotally connected with the door and adapted to be shifted bodily for actuating the door and to be swung upon its pivot for operating the locking means, and means engaging the lever for shifting the same bodily and swinging the same upon its pivot.

34. In a device of the class described, a door, locking means therefor, a lever pivotally connected with the door and adapted to be shifted bodily for actuating the door and to be swung upon its pivot for operating the locking means, a rotatably mounted operating shaft and means actuated thereby for operating said lever.

35. In a device of the class described, a door, locking means therefor, slotted bell crank depending from the door and lifting means therefor adapted to produce a compound movement of said lever for successively shifting the door and actuating the locking means.

36. In a device of the class described, a door, locking means therefor, a lever pivotally carried by the door and engaging the locking means for actuating the locking means when the lever is moved pivotally, said lever being adapted to be moved bodily for shifting the door, and one arm of said lever being bifurcated, and operating means extending between the arms of the bifurcation of the lever, and having a pivotal and sliding engagement therewith.

37. In a device of the class described, a door, locking means therefor, an actuating shaft, a crank arm carried by said shaft, a lever pivotally sustained by said door and having one arm pivotally and shiftably engaging the crank actuating arm, said lever being disposed for shifting the door and actuating the locking means respectively relative to its own bodily shifting and pivotal movement.

38. In a device of the class described, a door, a bell crank lever connected with and rockable on said door for acting directly to substantially close the door, and means sub-

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sequently actuated by the lever having a cam action for completing the closing of the door.

39. In a device of the class described, the combination of a door and locking means therefor, of a lever pivotally carried by the door for actuating the door and locking means and an independently pivotally mounted arm slidably engaging the lever and adapted to be moved to and from a position with the pivots of the arm and lever in alinement.

40. In a device of the class described, a door, locking means therefor, a pivotally mounted bell crank lever for actuating said door and locking means, and an operating arm pivotally mounted and slidably engaging the lever and adapted to be moved to and from positions at opposite sides of a position with the pivots of the arm and lever in alinement.

41. In a device of the class described, a door, locking means therefor, pivotally mounted bell crank lever for actuating the door and locking means, an actuating shaft, and an arm carried thereby having a slidable connection with the first mentioned lever.

42. In a flat bottom car, a dumping flush bottom door, and pivotally mounted members, including a bell crank for shifting the door, disposed for being moved to a position with their pivots in alinement.

43. In a flat bottom car, a dumping flush bottom door, and pivotally connected members, one of which is pivotally connected with the door, said members being disposed for being moved to and from a position with said pivots in alinement for shifting the door, one of said members having an elongated pivot seat.

44. In a car, the combination comprising a flush dumping door therefor, a member pivotally connected with the door, and a lever directly connected with said member for shifting the member bodily and pivotally.

45. In a flat bottom car, a dumping flush bottom door, a hanger fixed to said door, a bell crank pivotally connected to the hanger, a lever pivotally engaging said bell crank and adapted to be swung for shifting the bell crank bodily and swinging the same pivotally.

46. In a flat bottom car, a dumping flush bottom door, a member having an elongated pivot bearing pivotally connected to said door, a lever pivotally connected to said pivotal member, and an operating shaft carrying said lever and adapted to be actuated for swinging the lever for shifting the pivoted member bodily and swinging the same upon its pivot.

47. In a device of the class described, a door, a bracket depending therefrom, a bell

crank lever pivoted to the bracket, means for bodily shifting the lever and swinging the same upon its pivot, door locking means manipulated by the said lever and cushioning means for receiving the impact of the lever during opening movement of the door.

48. In a device of the class described, a door, locking means therefor, a lever connected to the door and adapted to be actuated for operating the door and manipulating the locking means, and a spring in the path of movement of the lever during opening movement of the door.

49. In a device of the class described, a door, locking means therefor, a bell crank depending from the door and adapted to be actuated for manipulating the locking means and moving the door.

50. In a device of the class described, a door, a bell crank lever pivotally connected with and disposed beneath the door, means for bodily shifting said lever and swinging the same upon its pivot, said lever being disposed for shifting the door during bodily shifting of the lever, and locking means for the door adapted to be actuated by pivotal movement of the lever.

51. In a flush bottom car, center sill, side walls, rigid locking bar engaging means fixed in proximity to said side walls, a swinging bottom door provided with a locking rod, a rock shaft and a rockable bell crank between said rock shaft and said locking rod adapted to lift said door and to actuate said locking rod.

52. In a flush bottom car, center sill, side walls, rigid locking-bar engaging means fixed in proximity to said side walls, a swinging bottom door provided with a longitudinally slidable locking rod, rockable means connected with the under side of said door between the center sill and side wall, cooperating with said rod and cooperating means adapted to lift and to lock said door through said rockable means.

53. In a flush bottom car, center sill, side walls, rigid locking-bar engaging means for a locking member fixed in proximity to said side walls, a swinging door, a bracket on said door and means rockable in said bracket adapted to push said door to closed position and to lock it in engagement with said engaging means.

54. In a flush bottom car, a center sill, side walls, rigid locking-bar engaging means fixed in proximity to said side walls, a swinging door, a longitudinally slidable bar carried with said door and means between said center sill and said bar adapted to push said door to closed position and to slide said bar into engagement with said first mentioned means.

55. In a flush bottom car, a center sill, side walls, rigid locking-bar engaging means fixed in proximity to said side walls, a

- swinging door, a longitudinally slidable bar, a bell crank depending from and movable with said door and means adapted to lift said door and to move said sliding bar to engagement with said first mentioned means.
56. In a flush bottom car, a center sill, side walls, rigid locking-bar engaging means fixed in proximity to said side walls, a swinging door, a bracket on said door, a crank arm rockable in said bracket and movable with said door, a locking member cooperating with said first mentioned means and cooperating means adapted to rock said crank arm to lift the door and to lock it in closed position.
57. In a device of the class described, a door, a slotted bell crank lever for acting directly to substantially close the door, and means subsequently actuated by the lever adapted to lock said door in closed position.
58. In a device of the class described, a door, a latch carried by said door, and means including a bell crank for lifting said door, and for thrusting said latch.
59. In a door operating device, the combination comprising a door, a member pendent therefrom, and a bell crank rockable in said pendent member.
60. In a car the combination comprising a supporting frame, a rigid door locking member connected therewith, a hinged door, an operating shaft below said door when in closed position, a bell crank connected with said door and connecting means between said shaft and bell crank adapted to close and lock said door.
61. In a car construction, the combination comprising a hinged door, a support therefor, a bracket on said door, a bell crank pivoted on said bracket, an operating shaft and rockable means between said shaft and said bell crank adapted to rock said bell crank and shift said door.
62. In a car construction, the combination comprising a hinged door, a support for said door at its hinge side, a rigid door support removed from said hinge, a bracket on said door, a bell crank pivoted on said bracket, a shaft and means connecting said bell crank and said shaft to rock said bell crank.
63. In a door operating means, a door lifting and locking couple comprising a rockable operating arm and a bell crank lever adapted to move in sliding engagement with each other.
64. In a door operating means the combination comprising a bell crank lever and a rockable operating arm coupled therewith in slidable engagement.
65. In a car construction, the combination comprising a door, a support therefor, a bracket on said door, a bell crank rockable on said bracket, a shaft and jointed connection between said shaft and bell crank adapted to operate said door.
66. In a flush bottom car the combination comprising a hinged door, a bell crank connected therewith and slidable actuating means cooperating with said bell crank to actuate said door.
67. In a device of the character described, the combination comprising a bell crank lever and a rockable arm coupled therewith in slidable engagement.
68. In a device of the character described, the combination comprising a bell crank lever, a rockable operating arm coupled therewith in slidable engagement and means for locking said parts in elevated position.
69. In a device of the character described, the combination comprising a bell crank lever, a rockable operating arm coupled therewith in slidable engagement and means for rocking said parts to lift a door.
70. In a device of the character described, the combination comprising a bell crank lever and a rockable arm coupled therewith in slidable engagement, said parts being below the upper surface of the door when in closed position.
71. In a device of the character described, the combination comprising a door, a bell crank lever and a rockable arm coupled therewith in slidable engagement, said parts being below the upper edge of the door when in open position.
72. In a device of the character described, the combination comprising a door, a bell crank lever and a rockable arm coupled therewith in slidable engagement, said parts being supported respectively by the door and below the door.
73. In a flush car-door operating device the combination with a center sill, a side wall and a transverse supporting member connected therewith, a longitudinal rock shaft, a door the hinge of which is substantially parallel with said shaft, and operating mechanism entirely below the plane of said door, when closed, said operating mechanism comprising a bell crank pivoted to the door intermediate the ends of said bell crank and movable with said door and means connecting said lever with said rock shaft to rock said bell crank and close said door.
74. In a car structure the combination comprising a supporting frame, a door connected therewith, an operating shaft, a lateral projection on said shaft, a rigid support connected with said supporting frame, a pivoted member adapted to be actuated by said projection, and movable locking means adapted to be actuated by said pivoted member and be projected into locking engagement with said rigid support.
75. In a car structure the combination comprising a supporting frame, a door connected therewith, an operating shaft, a lateral projection on said shaft, a depending



bracket member on said door, a bell crank connected with said bracket and means engaging said bell crank and said lateral projection adapted to actuate said door.

76. In a car structure the combination comprising a supporting frame, a door connected therewith, an operating shaft, a lateral projection on said shaft, and a bracket on said door, a slotted bell crank pivotally cooperating therewith, and a rigid member adapted to support the door in closed position.

77. In a door operating device adapted to actuate bottom doors of dumping cars, hinged doors, means positioned wholly below the plane of said doors when closed, comprising a fixed bracket depending from said door, a rockable member carried by said bracket, an operating shaft, and a longitudinally slidable locking bolt carried by said door.

78. In a door operating device adapted to actuate bottom doors of dumping cars, means positioned wholly below the plane of said doors when closed, comprising a door, a fixed bracket depending below the plane of said closed door, an operating shaft, a longitudinally slidable locking bolt carried by said door adapted to be projected over a part of said fixed bracket and rockable means carried by said door adapted to actuate said bolt.

79. In a door operating device adapted to actuate a bottom door of a dumping car the combination of an operating shaft, a fixed bracket depending below the plane of said door, and door closing and locking means supported wholly by and movable with the door, comprising a longitudinally movable rocking member adapted to ride over a part of said bracket and a rockable member adapted to actuate said locking member.

80. In a car door operating device, the combination comprising a door, a fixed support for a locking member, a bracket on said door, a rockable member pivoted intermediate its ends in said bracket and adapted to be shifted bodily during closing movement of the door and to be swung pivotally during locking movement of said door, and a locking member movable with said rockable member and cooperating with said fixed support.

81. In a car door operating device, the combination comprising a door, a fixed support for a locking member, a bracket on said door, a bell crank pivoted intermediate its

ends in said bracket and adapted to be shifted bodily during closing movement of the door and to be swung pivotally during locking movement of said door, and a locking member movable with said bell crank and cooperating with said fixed support.

82. In a dump car-door operating device, the combination comprising a door, a support therefor, a rockable member pendent from said door, said rockable member being pivoted intermediate its ends, and being adapted to be shifted bodily during closing movement of said door and to be swung pivotally to lock said door in closed position.

83. In a dump car door operating device, the combination comprising a door, a support therefor, a rigid lock supporting member below the plane of said door when closed, a rockable member pendent from said door and pivoted intermediate its ends, said rockable member being adapted to be shifted bodily during closing movement of the door, and to be swung pivotally for locking said door, and a door locking member movable with said rockable member.

84. In a device of the character described, the combination comprising a door, and a bell crank connected at its angle with said door, said bell crank being adapted to serve as a locking element therefor.

85. In a device of the character described, the combination comprising a bell crank adapted to be connected with a door to serve as a locking element therefor.

86. In a device of the character described, the combination comprising a door, a bracket pendent therefrom and a rockable lever carried by said bracket below the door, when closed.

87. In a device of the character described, the combination comprising a door and a bell crank adapted to serve as a locking element therefor, said bell crank being pivotally pendent from said door and movable therewith.

88. In a device of the character described, the combination comprising a door, a bracket depending therefrom, a lever pivotally mounted in said bracket intermediate its ends and means for closing said door and for rocking said lever for the purpose of locking the door.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

LEVIN GESSFORD HANDY.

Witnesses:

T. H. GIBBS,

FRANK V. COOPER.