No. 743,659. Patented November 10, 1903.

UNITED STATES PATENT OFFICE.

MARSHALL G. QUACKENBUSH, OF COLORADO SPRINGS, COLORADO.

FLUID-PRESSURE COUPLING.

SPECIFICATION forming part of Letters Patent No. 743,659, dated November 10, 1903.

Application filed March 26, 1903. Serial No. 149,725. (No model.)

To all whom it may concern:

Be it known that I, MARSHALL G. QUACKENBUSH, a citizen of the United States, residing at Colorado Springs, in the county of El Paso and State of Colorado, have invented certain new and useful Improvements in Fluid-Pressure Couplings; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in automatic couplers for steam, air, and fluid hose-pipes for use in connection with air-brakes, steam-pipe connections, &c.; and it consists in the provision of means whereby pipes may be coupled without the necessity of a person going between the ends of cars, as is now commonly the custom and which results in great loss of life and various accidents.

The invention more specifically comprises an automatic coupling apparatus of this character comprising an adjustable funnel-shaped guide member adapted to receive a plunger having ducts which communicate with pipes and in the provision of a device whereby the ducts of the plunger are thrown into communication with fluid-pressure pipes and valves automatically actuated for opening communication between the train-pipes and the pipes upon two cars which have been automatically coupled.

The invention consists, further, in various details of construction and in combinations and arrangements of parts, which will be hereinafter fully described and then specifically defined in the appended claims.

My invention is illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this application, and in which drawings—

Figure 1 is a side elevation of my improved coupler, shown as attached to the draw-head of a car-coupler. Fig. 2 is a top plan view of two couplers connected together, portions of the couplers being shown in section. Fig. 3 is an end view of the coupler, and Fig. 4 is a cross-sectional view on line 4 4 of Fig. 2. Fig. 5 is a detail sectional view showing parts of the invention in side elevation.

Reference now being had to the details of the drawings by letter, A designates the draw-head of a car-coupler, and secured to the under face thereof are the brackets B and C, which support the fluid-pressure-pipe-coupling apparatus. Swivelly mounted upon and depending from the bracket B is a forked yoke D, the arms of which carry a pivotal pin D′, upon which is pivotally mounted a slotted bar E. Mounted upon a pivotal pin E′, which is supported in the walls of the slotted portion E^2 of said bar, is a draw-bar F, having a staple F′ secured to its under edge, to which one end of a spring G is connected, the other end of the spring being fastened in an aperture *e* in the lower tapering end of said bar E. The lower end of the bracket-arm C has an opening through which the draw-bar F has a passage and has a lateral play, the marginal ends of said opening being illustrated by dotted lines C′ in Fig. 2 of the drawings. Said draw-bar F has a head H, having shouldered portions H′ and H^2 on either edge thereof, said shoulders H^2 being slightly concaved, while the shoulders H′ are disposed at an angle, as illustrated in Fig. 1 of the drawings. Links K and K′ are mounted upon pivotal pins K^2 adjacent to said shoulders, and the forward ends of said links are in turn pivoted to a block I, which carries pins I′ adjacent to the shouldered portions of said block I, said shoulders being provided for the purpose of allowing a limited vertical movement to the links. Said block I has secured thereto a cross-bar J, one end of which supports the pipes L and the other end of which is forked to receive the shank portion N of the funnel-shaped guide member N′, said shank portion N being mounted upon a pivotal pin M, Fig. 2 of the drawings, and projecting laterally from one side of the shank portion N is a lug N^2, adapted to bear against a spring-actuated plunger N^3, which is mounted in a hole in said cross-bar J. The inner end of said plunger N^3 has a head adapted to bear against a spring *n*, interposed between said head and the bottom of the hole in which the plunger is mounted, and serves to hold

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UNITED STATES PATENT OFFICE.

ELMER E. REESE, OF ROLLING PRAIRIE, INDIANA.

MAIL-BOX.

SPECIFICATION forming part of Letters Patent No. 743,660, dated November 10, 1903.

Application filed May 15, 1903. Serial No. 157,282. (No model.)

To all whom it may concern:

Be it known that I, ELMER E. REESE, a citizen of the United States, residing at Rolling Prairie, in the county of Laporte and State of Indiana, have invented a new and useful Mail-Box, of which the following is a specification.

This invention relates particularly to improvements in that class of mail-boxes employed in the rural free-delivery system of the Post-Office Department.

The object is to provide a structure which is very simple, so that it may be constructed at small cost and sold at a low price, said structure at the same time being weather-proof, so as to properly protect its contents from the elements, and thoroughly strengthened to withstand hard usage or the attempted forcing of the same by an unauthorized person. To this end a box is provided having very few seams and joints, the latter being covered when the members are closed, said members being surrounded by a strengthening or reinforcing strip, to which hinge connections are made, so that the walls proper are relieved of the most destructive strains and wear.

The preferred form of construction is illustrated in the accompanying drawings, wherein—

Figure 1 is a perspective view of the box. Fig. 2 is a longitudinal sectional view through the same. Fig. 3 is a vertical transverse sectional view. Fig. 4 is a detail bottom plan view of one corner of the box, and Fig. 5 is a detail sectional view showing the side margins of the receptacle member.

Similar reference-numerals indicate corresponding parts in all the figures of the drawings.

In the embodiment illustrated a receptacle member 10 is employed having a semicylindrical wall 11, the side margins 12 of said wall being doubled back against the outer face of the same and having the edges outturned, as shown at 13, to provide front and rear outstanding flanges, which flanges are thus located below the upper edges of the receptacle member. The end walls 14 of this member are preferably in the form of circular disks, the lower portions of said disks being suitably seamed, as shown at 15, to the end edges of the wall 11. The upper portions of the end walls extend above the side edges of the receptacle member. Suitably secured to the outer face of the wall 11 is a transversely-disposed supporting-yoke 16, the terminals of which are outturned, as shown at 17, and rest against the under sides of the flanges 13. The central or lower portion of the yoke is attached by suitable rivets 18 to a bracket 19, which bracket is constructed to be fastened to a post 20 or other suitable support.

A cover member 21 is employed, which is arranged to fit over the open side of the receptacle member, this cover member comprising a semicylindrical wall 22, to the end edges of which are seamed end caps 23, these end caps being adapted to pass over the outer faces of the end walls 14 of the receptacle member, whereby the upper portions of said end walls will be housed within the cover member, so as to serve as supporting means for said member and also thoroughly break the end joints between the members. The side edges of the cover member are also provided with outstanding flanges 24, formed by bending the side margins of the wall 22 outwardly. These flanges 24 are arranged to cover the flanges 13 of the receptacle member, and their outer edges are provided with longitudinal beads 25, inclosing strengthening-rods 26, that project beyond the ends of said beads. Reinforcing-strips 27 are attached to the ends of the cover member and extend transversely across and beyond the same, forming ears 28. The ears are provided with suitable openings, in which are riveted the ends of the strengthening-rods 26. As a result, a reinforcing-frame completely surrounds the cover member and, in fact, the entire box, so as to thoroughly strengthen the same. The flanges 13 of the receptacle member are also provided at their free edges with beads 29, in which are inclosed front and rear strengthening-rods 30 and 31. The rear rod 31 projects beyond the ends of its bead and passing through the adjacent ears 28 of the reinforcing-strips 27 constitutes a hinge connection between the two members. The corresponding front flanges of the members are provided with alined openings 32, and the end of the yoke 16, located directly beneath the same, has a similar open-

opposite ends of said pipes communicate, an inclined member secured to said cross-piece at one end and its other end to said plunger, a pressure-cylinder, a piston-valve mounted therein and pivotally connected to the shank portion of the funnel-shaped member, pipes communicating with a diametrically-disposed passage-way in said cylinder, one of said pipes communicating with a train-pipe and the other with a pipe of the coupler-head, as set forth.

6. A fluid-pressure coupler comprising a pivotal spring-actuated funnel-shaped member having elongated apertures in the side walls thereof, a cross-piece supporting said funnel-shaped member, pipes supported by said cross-piece and having a play in the apertures of the shank portion of the guide member, a latch pivoted in a slot in said shank portion and serving to lock said guide member from lateral movement when uncoupled, a tapering plunger-head mounted on the other ends of said pipes, ducts leading through said plunger and communicating with the opposite ends of said pipes, an inclined member secured between said cross-piece and the plunger, a pressure-cylinder, a diametrically-disposed passage-way through said cylinder, a piston-valve working at right angles to said passage-way pivoted to the shank portion of the funnel-shaped guide, communicating passage-ways between said cylinder and one of said coupler-carrying pipes and the train-pipe, as set forth.

7. A fluid-pressure coupler comprising a plate adapted to be secured to the draw-bar of a car-coupler, a fixed and a pivotal bracket member secured to said plate, a draw-bar pivotally mounted upon said swiveled bracket and guided in an aperture in the fixed bracket, and fluid-pressure coupling mechanism supported by said draw-bar, as set forth.

8. In combination with the draw-head of a car-coupler, a plate secured thereto, a fixed and a swiveled bracket secured to said plate, a bar pivotally mounted upon said swiveled member, a draw-bar pivotally connected to said bar, a spring secured at one end to the latter and at its other end to said draw-head, the lower end of the fixed bracket having a guideway in which said draw-bar has a lateral play, a funnel-shaped guide member, a coupling plunger-head, a cross-piece supporting said funnel-shaped member and plunger-head, and link connections between the same and said draw-head, as set forth.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

MARSHALL G. QUACKENBUSH.

Witnesses:

TILMON L. STANLEY,

E. J. KELSEY.

of the edges of one of the members, and reinforcing-strips attached to the other edges of said member and connected to the rods.

11. In a mail-box, the combination with hinged members, one of said members having beaded edges, of rods inclosed by the beads and projecting beyond the same, and reinforcing-strips attached to said members and secured to the rods.

12. In a mail-box, the combination with hinged members, one of said members having outstanding side flanges provided with beaded edges, of rods inclosed by the beads and projecting beyond the ends thereof, and reinforcing-strips secured to the ends of the member and attached to the projecting ends of the rods.

13. In a mail-box, the combination with a receptacle member having an outstanding flange at one side, said flange being provided with a bead, of a rod inclosed in the bead and projecting beyond the ends thereof, and reinforcing-strips secured to the ends of the other member and having hinge connections with the rod.

14. In a mail-box, the combination with a receptacle member having a semicylindrical wall, the side margins of which are turned back against the outer face thereof and are outturned to provide flanges, of beads located along the free edges of said flanges, rods inclosed in the beads, a cover member fitting over the receptacle member and having outstanding side flanges provided with beads, rods inclosed by said beads, and reinforcing-strips secured across the ends of the cover member and attached to the ends of the rods that are carried by the flanges of said member, said reinforcing-strips having hinge connections with one of the rods of the receptacle member.

15. In a mail-box, the combination with semicylindrical members, of a hinge connecting coacting edges of the members, end walls carried by one member, and circular-disk walls carried by the other member and having their projecting portions fitted within the first-mentioned member and inside the end walls thereof.

16. In a mail-box, the combination with a semicylindrical receptacle member having outstanding side flanges and end disks that project above its side edges, of a cover member that fits over the receptacle member, its side flanges and end walls, said cover member having end walls that overlap and are located outside the end disks, and a hinge connection between the corresponding edges of the members.

17. In a mail-box, the combination with a swinging member, of a signal pivoted to the swinging member and swinging upon its pivot in the same direction therewith, and a stop carried by the swinging member for limiting the swinging movement of the signal in one direction.

18. In a mail-box, the combination with a receptacle member, of a cover member hinged to the receptacle member, a signal pivoted upon one end of the cover member and arranged to swing upon its pivot when the cover member is moved to open position, and a stop carried by the cover member and arranged to engage the pivoted end of the signal to support the same in upright position when the cover is closed and permit its free swinging movement when said cover is opened.

19. In a mail-box, the combination with a semicylindrical receptacle member having outstanding flanges at its side edges, of a cover member hinged to the receptacle member, a supporting-yoke secured to the outer face of the receptacle member and having its ends located beneath the flanges thereof, and a bracket attached to the yoke.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ELMER E. REESE.

Witnesses:
J. A. WAUBAUGH,
W. M. REESE.