May 5, 1964 J. P. DARLING ETAL 3,131,741

MULTICOMPARTMENT RECEPTACLE FOR THE INGREDIENTS OF A CONCRETE MIX

Filed Nov. 17, 1961

4 Sheets-Sheet 1

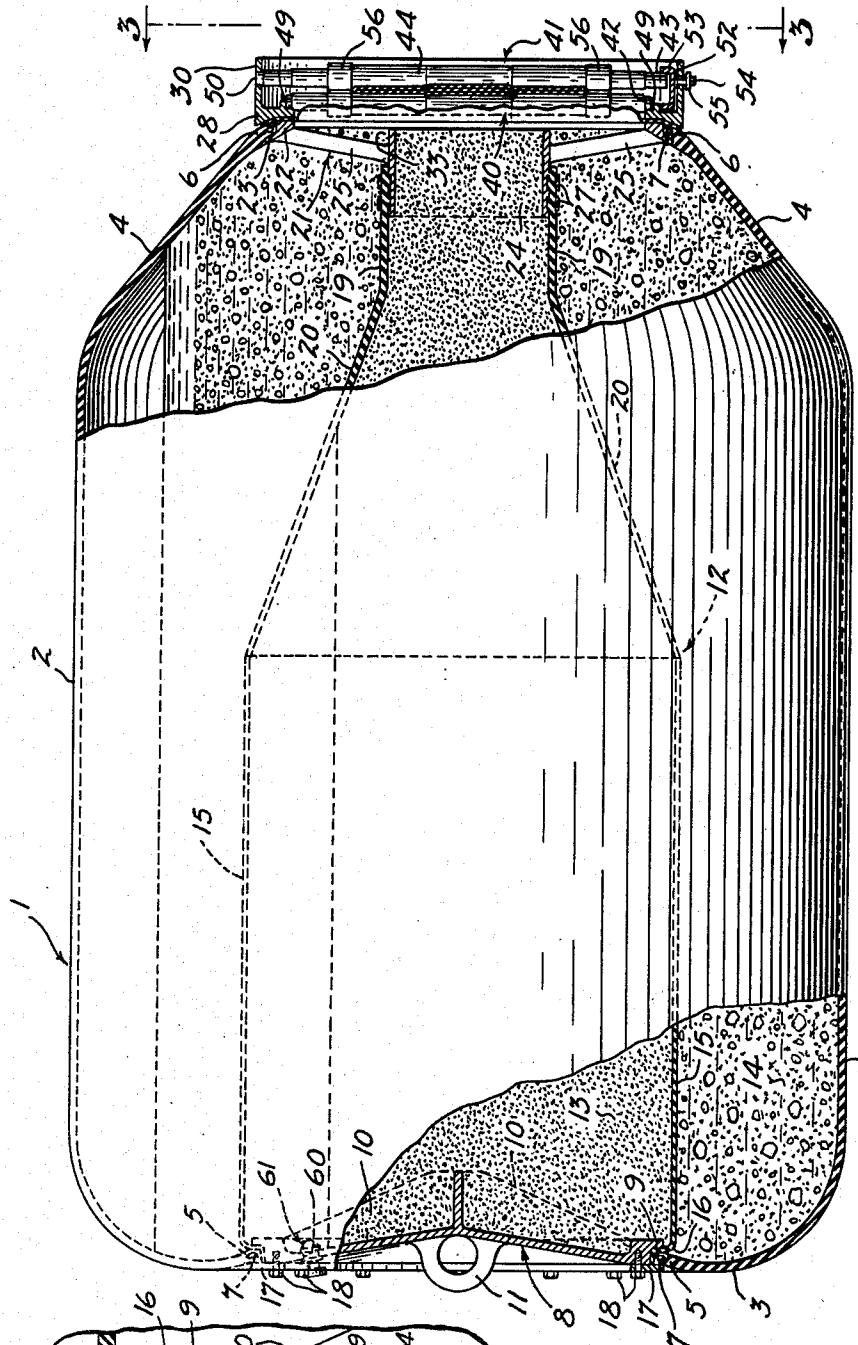


Fig. 1

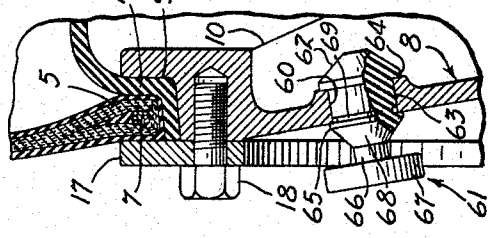


Fig. 2

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Filed Nov. 17, 1961 4 Sheets-Sheet 2

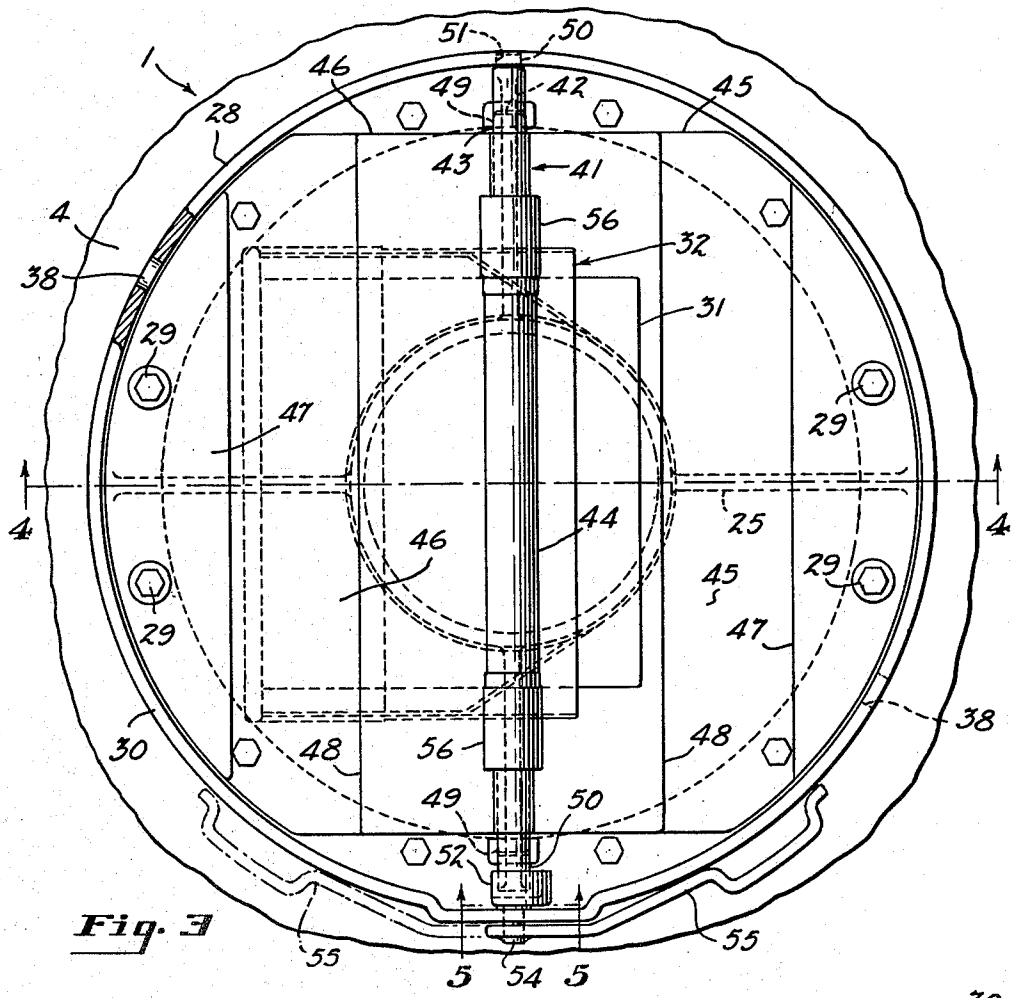


Fig. 3

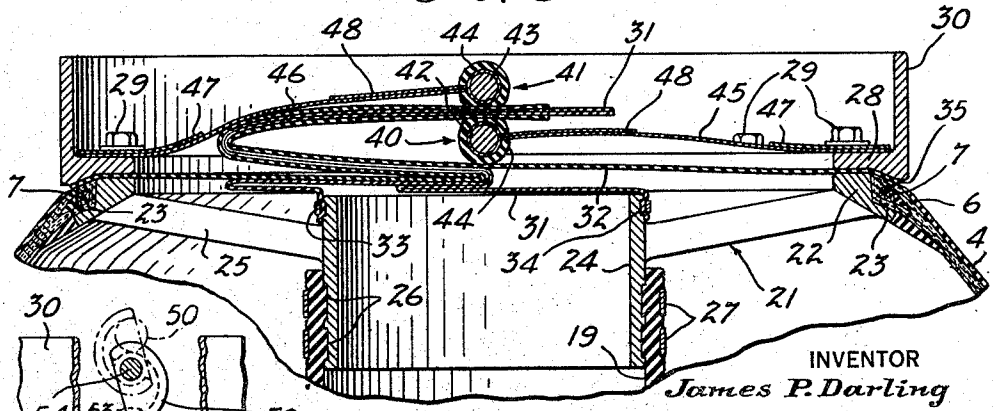


Fig. 4

Fig. 5

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MULTICOMPARTMENT RECEPTACLE FOR THE INGREDIENTS OF A CONCRETE MIX

Filed Nov. 17, 1961 4 Sheets-Sheet 3

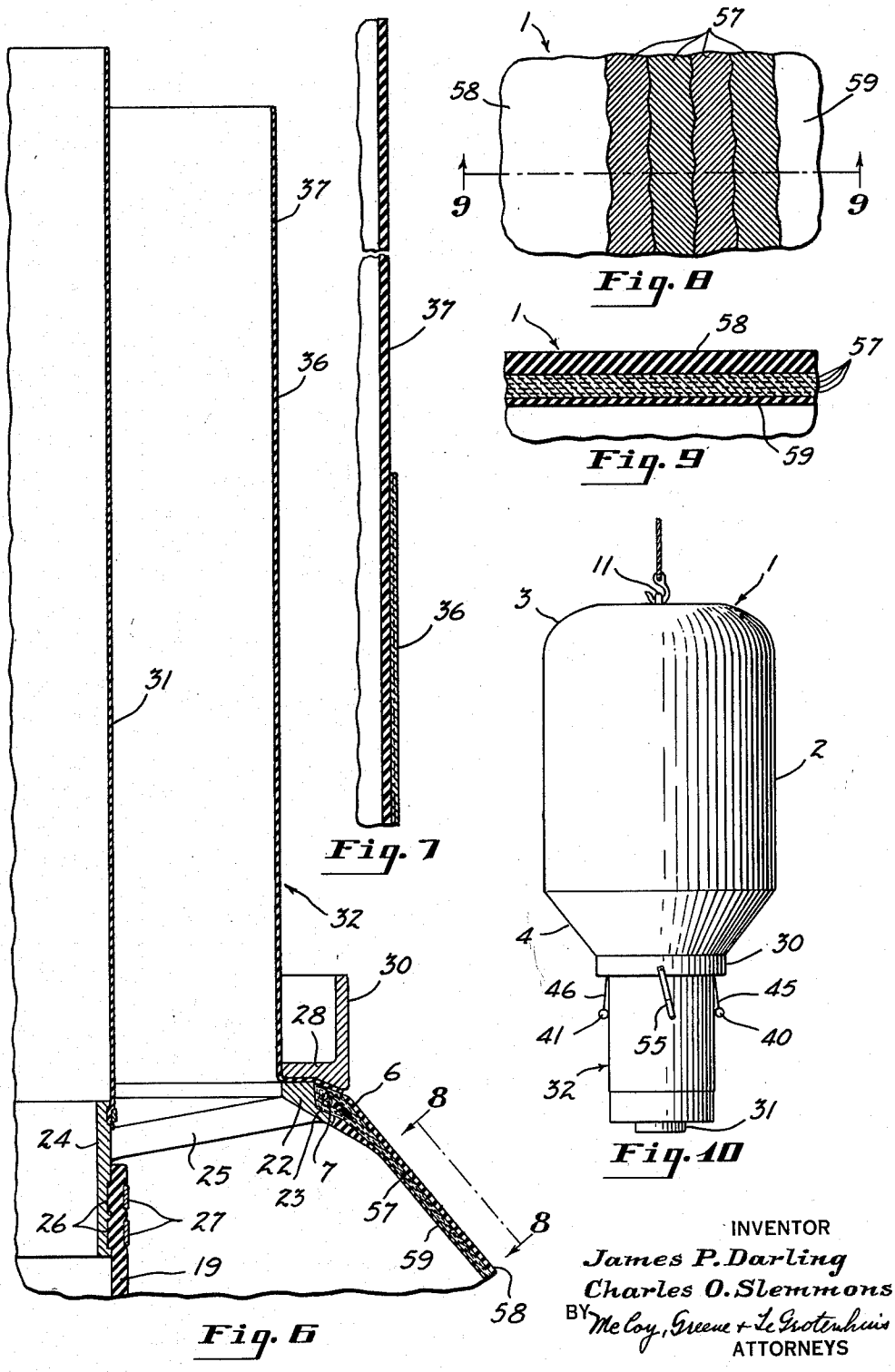


Fig. 8

Fig. 9

Fig. 7

Fig. 10

Fig. 6

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MULTICOMPARTMENT RECEPTACLE FOR THE INGREDIENTS OF A CONCRETE MIX

Filed Nov. 17, 1961 4 Sheets-Sheet 4

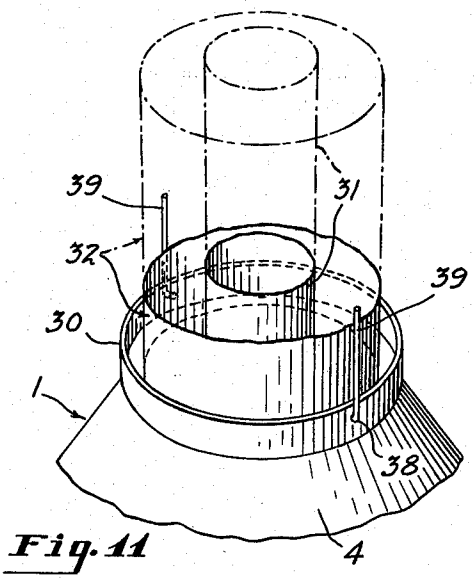


Fig. 11

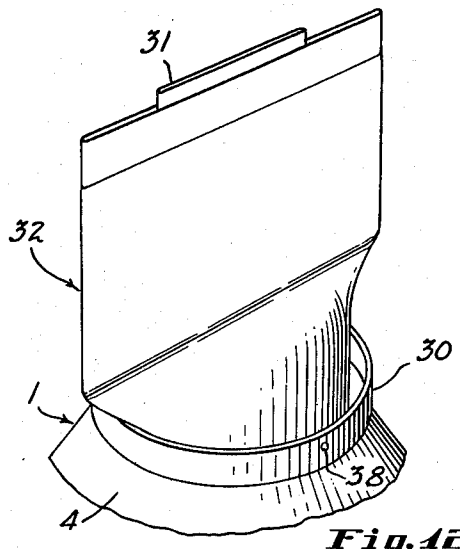


Fig. 12

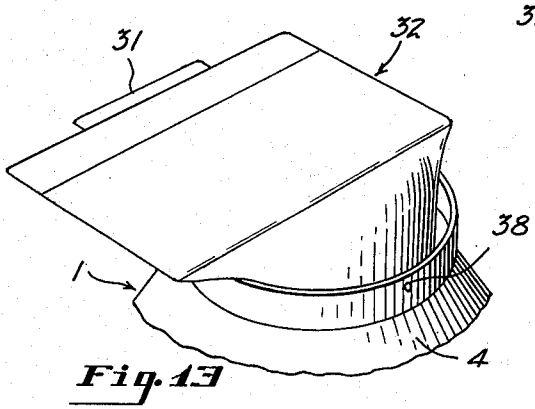


Fig. 13

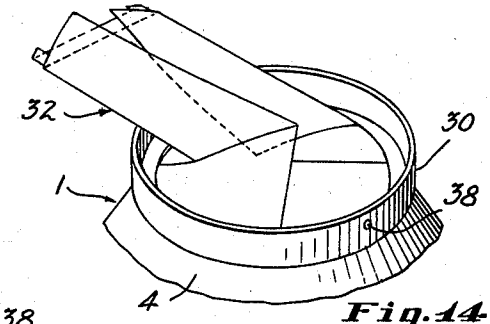


Fig. 14

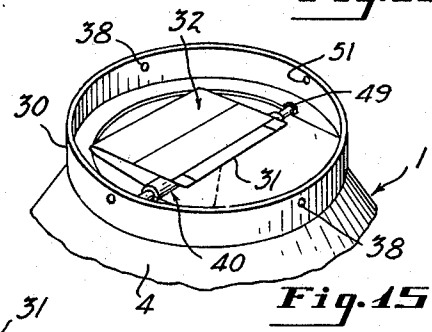


Fig. 15

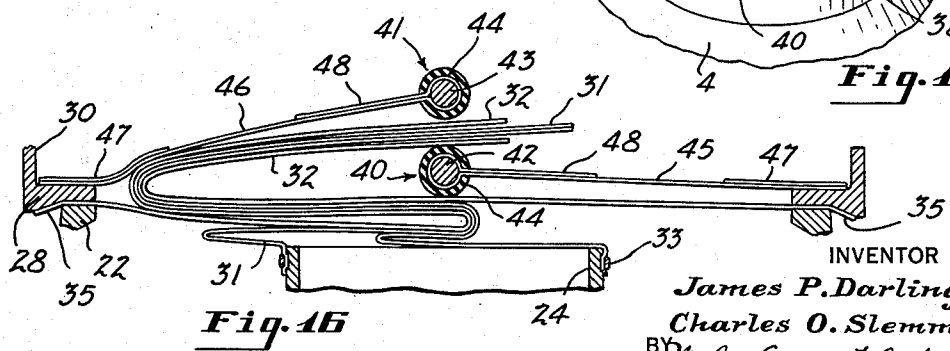


Fig. 16

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MULTICOMPARTMENT RECEPTACLE FOR THE INGREDIENTS OF A CONCRETE MIX

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Filed Nov. 17, 1961, Ser. No. 153,024
15 Claims. (Cl. 150—1)

This invention relates to multicompartment receptacles and more particularly to a multicompartment receptacle for transporting the ingredients of a concrete mix to the place where the concrete is to be mixed and placed.

It is desirable that exact portions of aggregate water and cement be used in a concrete mix and that the cement be stored and handled before the mixing operation in such manner that it is not deteriorated prior to mixture with the other ingredients.

In order to insure the quality of concrete being laid, mixers mounted on trucks are commonly employed to transfer properly proportioned concrete mixes and to either deliver the concrete directly to the forms or to mixers at the place of use. It has also been found to be advantageous to transport measured ingredients of a concrete mix in a multicompartment receptacle in which the cement is in a moisture proof compartment separate from the other ingredients and to discharge the ingredients from the receptacle into a mixer when it is desired to place the concrete.

The present invention provides a receptacle which is of rugged construction, which has a waterproof cement compartment and a compartment for water and aggregate and from which the cement, water and aggregate can be simultaneously delivered into a concrete mixer. The receptacle of the present invention is provided with a strong flexible shock resisting body which will withstand rough usage such as dropping from a truck or railway car and which can be conveniently piled when either filled or empty with other of the containers for transportation or storage.

The receptacle of the present invention has an outer tubular wall which is composed of rubber reinforced with a plurality of plies of tire fabric and which has inwardly extending ends terminating in inextensible beads to which end closures may be connected. The receptacle is divided into inner and outer compartments by an inner tubular wall of rubber which is sealed from the outer wall by connection at its opposite ends to said closures. One of the closures is provided with means such as an integral eye for engagement with a hoist and the other of the closures includes a spider that is provided with separate access passages through which material may be supplied to or discharged from the compartments.

Releasable means is provided for closing the access passages to retain the material in the compartments until it is desired to discharge the material from the receptacle. When the receptacle is suspended from a hoist engaging the eye of the said closure member, the material may be dumped from the receptacle by releasing the passage closing means.

The inner tubular wall has an end of reduced diameter attached centrally to the spider so as to open to a central passage and the outer wall of the receptacle is attached to the periphery of the spider so as to connect the outer compartment to a passage surrounding the central

passage to which the inner compartment is connected. Flexible elongated sleeves arranged one within the other are attached to the spider and form continuations of the spider passages through which material may be discharged from the receptacle or introduced into the receptacle. The sleeves are flexible and may be collapsed, folded and positioned between a pair of clamping bars which serve to seal the passages during transportation of the concrete ingredients. The end portion of the outer wall of the receptacle that is attached to the spider and that forms the dicharge end of the outer compartment when the receptacle is in dumping position is tapered to facilitate discharge of the wet aggregate from the outer compartment and the inner wall is also tapered near the end attached to the spider to facilitate the discharge of cement from the inner compartment.

Reference should be had to the accompanying drawings forming part of this specification, in which:

FIGURE 1 is a longitudinal central section through a receptacle embodying the invention;

FIG. 2 is a fragmentary section on an enlarged scale showing the means of attaching adjacent ends of the inner and outer tubular walls to a closure member;

FIG. 3 is a plan view of the closure at the opposite end of the receptacle;

FIG. 4 is a transverse section taken on the line indicated at 4—4 of FIG. 3;

FIG. 5 is a fragmentary section taken on the line indicated at 5—5 in FIG. 3 and showing the clamp actuating cam in elevation;

FIG. 6 is a fragmentary section on an enlarged scale showing the flexible sleeves through which material may be discharged from or delivered to the compartments of the receptacle;

FIG. 7 is a fragmentary longitudinal section on an enlarged scale through the free end portion of the outer sleeve;

FIG. 8 shows a fragment of the outer wall of the receptacle viewed as indicated at 8—8 in FIG. 7 with parts broken away to show the superposed plies of tire cord fabric;

FIG. 9 is a section taken on the line indicated at 9—9 in FIG. 8;

FIG. 10 is a side elevation showing the receptacle suspended in its dumping position;

FIG. 11 is a perspective view showing the flexible concentric sleeves in extended position;

FIGS. 12, 13, 14 and 15 show successive steps in the folding of the sleeves into position for clamping; and

FIG. 16 is a schematic view showing the sleeves after they have been collapsed and folded to position a portion thereof between the clamping bars.

Referring to the accompanying drawings, the receptacle of the present invention has an outer flexible tubular wall 1 formed of fabric reinforced rubber, the wall 1 having an elongated body portion 2 of substantially cylindrical form and end portions 3 and 4 extending radially inwardly from the body portion. The end portion 3 is bowed axially outwardly and the end portion 4 is of tapering, substantially conical form. The end portions 3 and 4 terminate in beads 5 and 6 which define central openings at the ends of the receptacle and these beads are reinforced with inextensible bead rings 7 such as used in the beads of pneumatic tires. A closure plate 8, which may be a metal casting is attached to the bead 5 at the

axially bulged end of the outer wall and this plate is of circular form having a peripheral seat 9 to receive the bead 5 of the outer wall. The plate 8 is in the form of an inwardly dished disk and is stiffened by means of integral radical ribs 10 projecting from its inner face. The plate 8 is provided centrally thereof with suitable hoist engaging means such as an eye 11 to receive the hook of a hoist cable.

The receptacle has an inner flexible tubular wall 12 preferably of elastic rubber that extends axially of the receptacle to divide the same into an inner compartment 13 and an outer compartment 14 that surrounds the compartment 13. The inner wall 12 has a cylindrical body portion with an inturned end portion 16 which overlies the bead seat 9 throughout its circumference. The bead 5 engages the portion 16 of the inner wall that overlies the seat 9 and the bead 5 and the end portion 16 of the inner wall engaged by the bead 5 are clamped against the seat 9 by means of a flat ring 17 that is attached to the peripheral portion of the plate 8 by means of bolts 18. The end of the inner wall 12 opposite that attached to the plate 8 is cylindrical and of smaller diameter than the body portion 15 of the wall being connected to the body portion 15 by a tapering portion 20 of substantially conical form.

The opening at the end of the receptacle opposite that to which the closure plate 8 is attached is provided with a closure in the form of a spider 21 that has an outer ring 22 provided with a peripheral seat 23 to receive the bead 6 and within the ring 22 the spider is provided with a central tubular axially extending hub 24 that is spaced radially inwardly from the ring 22 and supported by circumferentially spaced rigid members 25 connecting it to the outer ring 22. Access to the interior of the receptacle for delivery of material thereto and discharge of material therefrom are provided by the spider 21 a central passage being provided through the hub 24 and an outer passage through the space between the hub 24 and ring 22. At its inner end the tubular hub 24 is provided on its external face with circumferential grooves 26 and the small cylindrical end 19 of the inner wall 12 fits over the inner end of the hub 24 and is secured thereto by clamping rings 27 which press the elastic rubber of the end 19 into the grooves 26. The bead 6 is clamped to the bead seating ring 22 by means of a ring 28 which is attached to the outer face of the ring 22 by means of bolts 29. The ring 28 is provided with a cylindrical axially projecting flange 30 which provides means by which the receptable may be supported in filling position and which also provides supports for devices employed to close the passages through which material is delivered to or discharged from the receptacle.

Inner and outer flexible collapsible sleeves 31 and 32 are attached to the spider 21, form extensions of the passages through the spider and serve to guide material to or from the passages of the spider. The sleeves 31 and 32 are substantially concentric and the inner sleeve 31 is secured by means of a clamping ring 33 to the outer end of the tubular hub 24, the sleeve 31 being formed of elastic rubber and being of a size to fit over the end of the hub and secured to the hub by means of a clamping ring 33 which presses the rubber of the sleeve into an external groove 34 formed in the outer end portion of the hub 24. The outer sleeve 32 has outturned end portions 35 that are clamped between the rings 28 and 22, the outer sleeve 32 being of a diameter to substantially fit within the ring 28. The sleeve 32 is reinforced by a layer of fabric 36 vulcanized to its exterior face and covering the sleeve from its attached end 35 to adjacent its free end, the fabric covering 36 terminating short of the free end of the sleeve to provide an end portion 37 that is composed entirely of elastic rubber.

Diametrically opposite openings 38 may be provided in the flange 30 to receive suspension members 39 by which the receptacle may be supported in filling position. The receptacle may be filled by suspending it from an overhead support provided with downwardly directed spouts or the like through which cement may be fed into the sleeve 31 and water and aggregate may be fed into the annular space between the sleeve 31 and the outer sleeve 32. The aggregate and water is preferably fed into the outer compartment in successive relatively small increments, a predetermined amount of coarse aggregate being first delivered, then a predetermined amount of fine aggregate such as sand and lastly a predetermined amount of water to distribute the fine aggregate through the coarse aggregate. By so introducing the aggregate and water into the outer compartment, the fine and coarse aggregates are thoroughly wetted and a fairly uniform dispersal of the fine aggregate through the coarse aggregate is obtained, thus reducing the power required for the mixing operation.

The sleeves 31 and 32 are of substantial length and are so formed that they may be readily collapsed and folded flat. A pair of clamping bars 40 and 41 are provided for compressing the flattened tubes to close the passages during transportation of the receptacle. The clamping bars 40 and 41 have core portions in the form of steel rods 42 and 43 and each of the rods has an elastic rubber covering 44 that terminates short of its ends. The bars 40 and 41 are supported by fabric aprons 45 and 46 connected to the bars and attached to diametrically opposite portions of the ring 28. The aprons 45 and 46 are substantially identical and each has a doubled back end portion 47 clamped to the ring 28 by one or more of the bolts 29. Each of the aprons also has an end portion 48 doubled back and wound around one of the steel rods of the clamping bars. To position the sleeves for clamping between the bars 40 and 41, the sleeves may be flattened as shown in FIG. 12 and the flattened sleeves bent over at right angles to the axis of the receptacle as shown in FIG. 13, after which the edges of the larger outer sleeve may be folded back over the flat inner sleeve as shown in FIG. 14 and the doubled laterally projecting flattened body may be bent back upon itself as shown in FIG. 15 to position the outer end portions of the two sleeves between the bars 40 and 41. To facilitate the folding, the inner elastic rubber sleeve 31 may be vulcanized to substantially flat shape and the outer fabric reinforced sleeve may have crease lines molded therein to facilitate the folding.

After the tubes have been folded to the position shown in FIG. 15, with the rubber end portion 37 of the outer tube resting on the inner bar 40 as shown in FIG. 15, the outer bar 41 may be swung to a position parallel to the inner bar 40 and engaging the outer face of the all rubber end portion 37 of the outer sleeve.

The opposite ends of the core rod 42 of the inner bar 40 are seated in open sockets 49 formed in diametrically opposite portions of the outer face of the ring 28 radially inwardly of the flange 30. The core rod 43 of the outer bar 41 is longer than the inner rod 42 and has a reduced end 50 that fits in an opening 51 of the flange 30. The opposite end of the rod 43 is held in place and pressed toward the inner clamping bar 40 by means of a cam 52 provided with an inwardly projecting curved rod engaging flange 53 that is movable into and out of engagement with the end of the rod 43 and which serves to hold the bar 41 in place and to press the bar 41 toward the inner bar 40 to claimp the flattened portions of the sleeves 31 and 32 between the bars. The cam 52 is carried by a stub shaft 54 mounted in the flange 30. By means of a handle 55 attached to the shaft 54 outside the flange 30, the cam 52 can be turned from its clamping position to a releasing position which will allow the clamping bar 41 to fall by gravity to the position shown in FIG. 10 when the receptacle is suspended in dumping position, after which the weight of the material will force the sleeves 31 and 32 to swing downwardly and open for discharge of the material, at which time the inner clamping bar 40 will swing downwardly to the

position shown in FIG. 10, the bars **40** and **41** being suspended in a position exteriorly of the outer sleeve while the material is being dumped.

The rubber covering of the clamping bars **40** and **41** is preferably thickened adjacent the ends as shown at **56**, to assist in holding the clamped sleeves against lateral movements between the bars.

The inner and outer sleeves **31** and **32** can be conveniently positioned for receiving material from concentric funnels and they also serve to restrict flow during discharge into the receiving hopper of a mixer if the material being discharged piles up at the sleeve outlet or due to the failure of the mixer to take the material away as fast as it is delivered.

It should be noted that the inner sleeve **31** is longer than the outer sleeve **32** as shown in FIGS. 4, 6 and 16. The sleeve **31** is made longer than the sleeve **32** for two reasons. First, it is desirable to prevent delivery of water or aggregate into the inner compartment while the container is being filled and second to prevent leakage of water into the inner compartment during shipment or storage of the container. When the sleeves **31** and **32** are supported in their receiving positions as shown in FIG. 6, the cement and water or aggregate may be delivered into the sleeves through concentric funnels and the water and aggregate will be delivered into the annular passage between the sleeves below the open end of the sleeves **31**. When the outlet is sealed by means of the clamping bars **40** and **41** as shown in FIG. 4 the end of the sleeve **31** is positioned a substantial distance beyond the end of the sleeve **32** so that if there should be any leakage of water from the outer compartment **14** it will not be possible for it to seep back through the sleeve **31** into the cement in the inner compartment **13**. When the sleeves are clamped to form the closure the projecting end of the sleeve **31** provides a convenient indication that the sleeves are properly folded.

The foldable sleeves **31** and **32** together with the clamping rods **40** and **41**, their supports in the ring **30** and the actuating cam **52** and operating lever **55** provide a convenient means for sealing the closure at the loading point and for quickly releasing the sleeves to discharge the material from the compartment. The lever operated cam **52** applies a high squeeze pressure to effectively seal the outlet and it also provides convenient quick release which can be safely operated by a man standing on a platform alongside the receiving hopper of the mixer.

The clamp bar supporting aprons **45** and **46** not only serve to support the clamping bars on the container but also provide support for the sleeves **31** and **32** to protect them against damage by the weight of material imposed on them and serve as a shield to protect the sleeves from damage due to contact with rough surfaces or sharp objects.

While the size of the receptacle of the present invention can be varied, it has been found convenient to provide a receptacle having a capacity corresponding to that of concrete mixers most commonly used. Mixers having one and one-half cubic yards capacity are quite common and a receptacle for charging such a mixer would be substantially 48″ in diameter and substantially 76″ in length. In order to enable the receptacle to carry the heavy weight and to withstand rough usage, the outer wall **1** is reinforced with several superposed plies of tire fabric. In order to provide maximum strength with high flexibility, the fabric reinforcement is in the form of tire cord fabric, each ply having its opposite side edges wrapped around the bead rings **7** as in a tire casing and each ply being formed of bias cut fabric with parallel cords extending diagonally from the bead at one end of the receptable to the bead at the other end and the cords of successive plies of fabric having opposite angularity, as in a conventional tire casing. By employing cord fabric reinforcement, the outer wall **1** may be manufactured on a cylindrical drum, differing from the drum

of a tire building machine only in length. As in the building of tire casings the bias angle of the cords is such that the wall **1** may be expanded from the cylindrical form to which it is built on the drum into engagement with the interior of a vulcanizing mold which conforms to the exterior contour of the wall **1** without subjecting the cords to excessive tension.

The wall **1** is provided with an exterior covering **58** of abrasion resistant rubber which is preferably slightly softer than the rubber commonly used in tire treads and of a hardness substantially corresponding to tire side wall stock. To protect the fabric from moisture the wall **1** is provided with an interior covering **59** of elastic rubber which may be considerably thinner than the exterior covering **58**.

The inner wall **12** is preferably formed from an extruded tube having a diameter substantially that of the small end **19** of the wall. The extruded relatively thick walled tube is placed within a sheet metal mold having an internal contour corresponding to the exterior contour of the wall **12** and this uncured rubber tube is then expanded by fluid pressure applied by suitable means such as an expansible air bag into engagement with the wall of the mold and vulcanized while expanded against the interior of the mold. The stretching of the body portion **15** of the wall **12** reduces the thickness of this portion of the tube to about one-half the thickness of the unexpanded portion and the tapering portion **20** gradually increases in thickness from the end of the cylindrical portion **15** to the smaller cylindrical portion **19**. The small end **19** of the inner wall so constructed is relatively thick and rigid and the rigidity extends into the tapered portion **20** adjacent said small end **19** so that the weight of the material in the end of the receptacle when the receptacle is suspended for dumping will not collapse the inner wall and prevent free egress of the cement from the inner compartment.

In order to prevent the creation of a subatmospheric pressure in the inner compartment **13** which might interfere with free flow of the cement from said compartment, the closure plate **8** is provided with a vent opening **60** in which is mounted an elastic rubber plug valve **61** which may be moved from a position sealing the opening **60** to a position permitting flow of air through said opening. The plug **61** has a tapered inner end portion **62** which facilitates the entry of the elastic rubber plug into the opening **60** from the outer side of the cover. The plug **61** has a sealing portion **63** that fits tightly within the opening **60** and which is of an axial width corresponding to the thickness of the closure wall where the opening **60** is located. The plug **61** has a circumferential retaining flange **64** that projects radially a short distance from the sealing portion **63** at its inner end for engagement with the interior of the cover **8** to retain the plug **61** in the opening **60**. A second flexible circumferential retaining flange **65** is provided at the outer edge of the sealing portion **62** to retain the plug **61** against inward movement from its sealing position. Outwardly of the retaining flange **65** the plug has a stem portion **66** that is of less diameter than the opening **60** and that is of an axial length greater than the thickness of the cover **8** at the opening **60**. A head **67** integral with the outer end of the stem **66** is of a diameter greater than that of the opening **60** and is engageable with the exterior of the cover **8** around the opening **60** to limit the inward movement of the plug.

The plug **61** may be inserted into the vent opening **60** by inserting the tapered inner end **62** into the opening **60** and pressing the plug axially into the opening. The axial pressure exerted on the retaining flange **63** will collapse the flange against the sealing portion **64** and compress the rubber sufficiently to permit passage of the flange through the opening to the interior of the cover **8** where it will expand to its normal diameter and the plug will be held in sealing position as shown in full lines in FIG. 2.

Before release of the clamping bars 40 and 41 to discharge the material from the container the plug 61 can be moved inwardly to its venting position by pressure applied manually to the head 67. After the container has been emptied the plug 61 can be pulled outwardly to its sealing position, the stem 66 having a tapered portion 68 which serves to guide the plug into axial alinement with the opening 60 as it is pulled outwardly, a circumferential groove 69 being provided alongside the inner face of the flange 65 to facilitate flexing of the flange 65 when the plug is returned to sealing position.

The closure plate 8 is detachably secured to the container to facilitate access to the interior of the receptacle for repair of the outer wall or replacement of the inner wall. Injuries to the receptacle walls may be repaired by the techniques employed in the repair of pneumatic tires.

It is to be understood that in accordance with the provisions of the patent statutes, variations and modifications of the specific devices herein shown and described may be made without departing from the spirit of the invention.

What we claim is:

1. A receptacle comprising an outer flexible tubular wall having end portions that extend radially inwardly and that terminate in annular beads that define central end openings, said wall comprising superposed plies of tire fabric extending from bead to bead and covered exteriorly and interiorly with rubber, one of said end portions tapering toward its bead, a plate closing the opening at the other end of said wall, said plate being provided with a peripheral bead seat, an inner flexible and elastic tubular rubber wall extending axially of the receptacle and dividing the same into an inner compartment and an outer compartment surrounding the inner compartment, said inner tubular wall having one end overlying said bead seat and a smaller end adjacent the opposite end of the receptacle, means for clamping the larger end of said inner wall to said plate and the adjacent bead to said bead seat, a spider attached to the tapered end of said outer wall, said spider having an outer bead seating ring, a central hub supported within said ring and providing a central passage through said hub to or from the inner compartment and an outer passage between said hub and said ring to or from the outer compartment, means for clamping the small end of said inner tubular wall to said hub, means for clamping the bead at the tapered end of said outer wall to said bead seating ring, and means for opening and closing said passages.

2. A receptacle such as defined in claim 1 in which the beads of the outer wall are reinforced by inextensible bead rings.

3. A receptacle such as defined in claim 1 in which the outer wall is reinforced by superposed plies of bias cut cord fabric, the cords of each ply extending diagonally from bead to bead and the cords of superposed plies in crossing relation.

4. A receptacle such as defined in claim 1 in which the inwardly extending end portion of the outer wall to which the closure plate is attached bulges axially outwardly.

5. A receptacle such as defined in claim 1 in which the outer wall is normally cylindrical throughout the major portion of its length and in which the large and small end portions of the inner tubular wall are normally of cylindrical form and are connected by an intermediate tapered portion.

6. A receptacle such as defined in claim 5 in which the inner tubular wall increases in thickness and rigidity toward its small end.

7. A receptacle comprising elongated outer and inner tubular walls which divide the receptacle into an inner compartment and an outer compartment, said inner and outer walls being tapered adjacent one end of said receptacle to facilitate discharge of material through said end, a closure plate at the other end of the receptacle having hoist engaging means thereon, means for clamping the adjacent ends of said tubular walls to said plate and for sealing the inner compartment from the outer compartment at said end, a spider at the discharge end of said receptacle, said spider having an outer ring attached to said outer wall and a tubular hub spaced radially inwardly from said ring and attached to said inner wall, said hub providing a passage for discharge of material from the inner compartment and said hub and ring providing a passage for discharge of material from the outer compartment, a flexible and collapsible inner sleeve attached to said hub and forming a continuation of the passage from the inner compartment, a flexible and collapsible outer sleeve of larger diameter than the inner sleeve attached to said ring and forming with said inner sleeve a continuation of the passage from the outer compartment, and means for releasably clamping said sleeves to prevent discharge of material from said receptacle comprising a pair of parallel rubber covered rods mounted on the receptacle and disposed transversely of the receptacle axis, and means for pressing one of said rods toward the other to clamp said sleeves between them.

8. The combination with a receptacle having inner and outer tubular walls providing an inner compartment and an outer compartment surrounding the inner compartment, means forming passages opening to said compartments at one end of the receptacle comprising an inner sleeve and means connecting one end thereof to said inner wall to provide a passage opening to said inner compartment and an outer sleeve of larger diameter than the inner sleeve and sourrounding the same and means connecting one end thereof to said outer wall to provide a passage exteriorly of said inner sleeve and opening to said outer compartment, said sleeves being flexible and collapsible and of sufficient length to permit them to be flattened and folded to dispose their flattened free ends across the axis of the receptacle and substantially perpendicular to said axis, and means for releasably clamping the free ends of the sleeves so folded to close said passages comprising a pair of clamping bars and means far releasably supporting said bars in axially spaced parallel relation and substantially normal to the axis of the receptacle to receive the free ends of the sleeves between them and for pressing one of said bars toward the other to clamp the free end portions of the sleeves between them.

9. A receptacle such as defined in claim 8 in which the outer sleeve is formed of elastic rubber having fabric reinforcement at its attached end and throughout the major portion of its length but terminating short of its free end, in which the inner sleeve is composed of elastic rubber and extends to the free end of said outer sleeve and in which the clamping means is applied to free end portions of said sleeves which are composed entirely of elastic rubber.

10. The combination as defined in claim 8 in which the clamping bars are in the form of rubber covered rods.

11. The combination as defined in claim 8 in which the clamping bars are flexibly suspended from the receptacle to fall to positions laterally clear of said sleeves when released.

12. The combination as defined in claim 11 in which the clamping bars are attached to the free ends of fabric aprons that are attached to the receptacle on diametrically opposite sides of said sleeves.

13. The combination defined in claim 12 in which the fabric aprons are of a width to provide a cover for the folded sleeves when they are clamped by the clamping bar.

14. The combination defined in claim 8 in which the inner sleeve is of greater length than the outer sleeve and projects beyond the end of the outer sleeve when the sleeves are folded and clamped.

15. A receptacle having a closure plate at one end and a discharge outlet at its opposite end, means for opening

and closing said outlet and venting means in said closure plate comprising an opening in said plate and an elastic rubber plug valve for opening and closing said opening, said plug valve having a sealing portion of an axial width corresponding to the thickness of the closure plate at said opening and of a diameter to fit tightly in and seal said opening, said plug having flexible circumferential retaining flanges at the inner and outer edges of said sealing portion for engagement with the interior and exterior of said plate to retain said plug in sealing position, said plug having a stem portion of reduced diameter outwardly of

its sealing portion that is of a diameter less than said opening and of a length greater than the thickness of said plate at said opening, and a head of greater diameter than said opening at the outer end of said stem for engagement with the plate to limit inward movement of said plug.

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