(No Model.)

A. W. CASH.

MULTIPLE CLAMP CONNECTION FOR FLUID PRESSURE RESERVOIRS.

No. 583,864. Patented June 1, 1897.

Fig. 1.

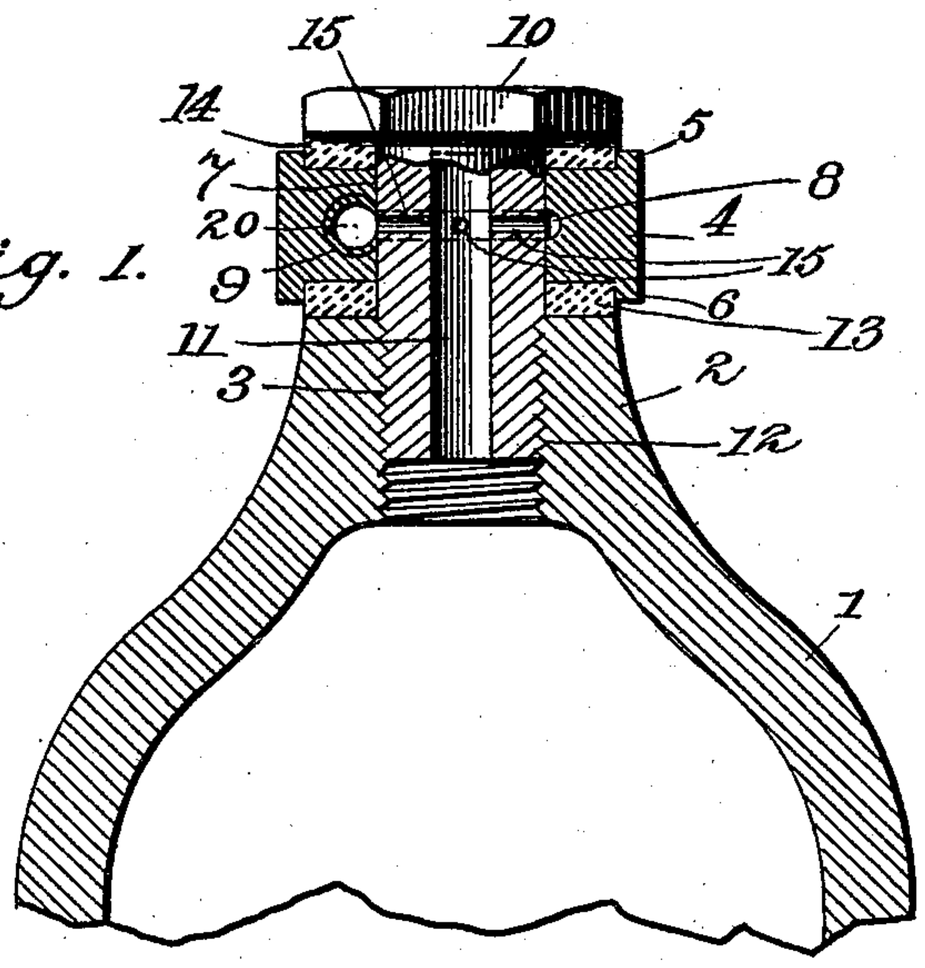


Fig. 2.

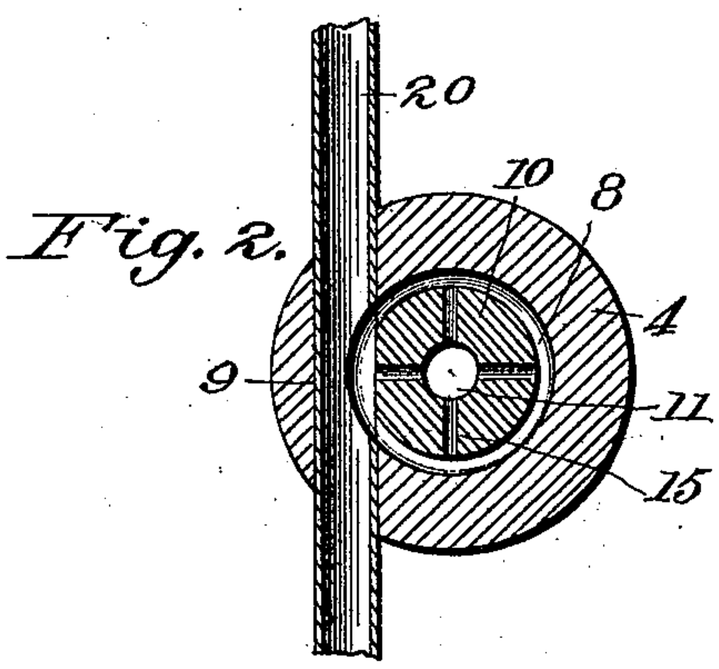


Fig. 3.

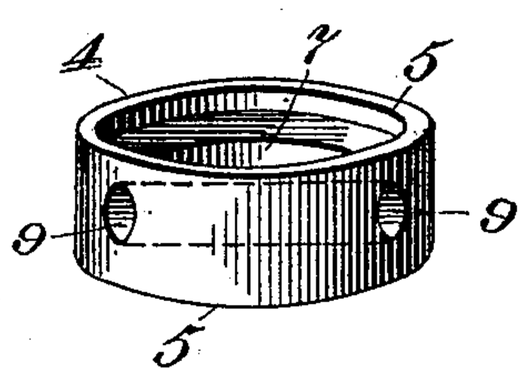
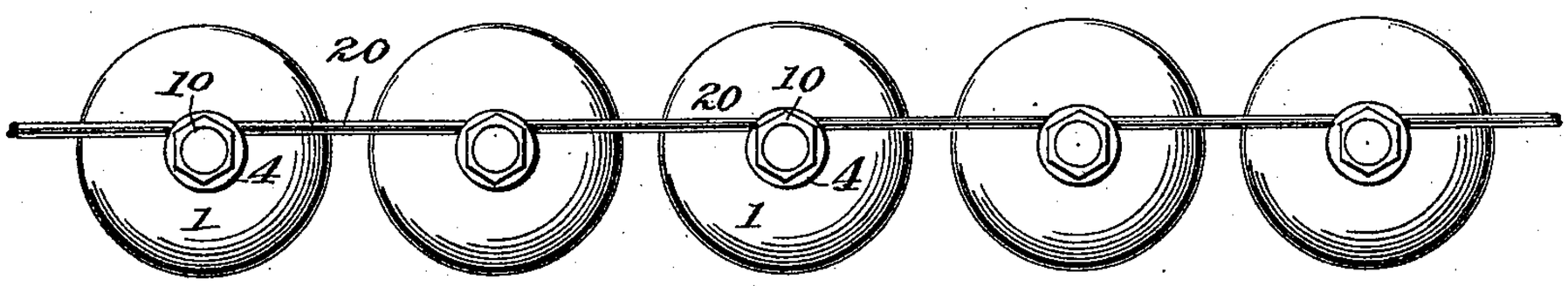


Fig. 4.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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MULTIPLE-CLAMP CONNECTION FOR FLUID-PRESSURE RESERVOIRS.

SPECIFICATION forming part of Letters Patent No. 583,864, dated June 1, 1897.

Application filed June 1, 1896. Serial No. 593,762. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR W. CASH, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Multiple-Clamp Connections for Fluid-Pressure Reservoirs, of which the following is a specification.

The purpose of my invention is to render more practicable the employment of a number of relatively small bottle-reservoirs on compressed-air motor-cars in place of the large single reservoirs now generally employed. To accomplish this, I provide an improved multiple-clamp connection whereby a common charging and discharging tube or pipe is effectively placed into communication with all of the individual bottle-reservoirs. I employ a clamping collar or head adapted to form a continuation of the neck of each bottle-reservoir and having a central opening registering with the throat of the bottle and an opening extending eccentrically through the clamping collar or head and cutting or opening into the central opening. This clamping collar or head is securely fastened to the neck of the bottle-reservoir by means of a hollow bolt or plug, which passes through the central opening of the collar and is threaded into the throat of the bottle. Suitable packing-rings are interposed between the bottle and collar and between the head of the plug and collar to afford a perfectly air-tight joint. Radial ports or openings extend through the wall of the hollow plug to afford communication between the bottle and the eccentrically-extending opening of the clamping-collar. A common charging and discharging pipe passes through the eccentric openings of the clamping-collars of all the reservoirs and is soldered or otherwise securely fastened in said collars. The portions of the tube or pipe which project into the central openings of the collars are cut out to form a communication with the interior of the bottle-reservoir through the hollow plug. The clamping-collars are preferably formed with undercut grooves, while the hollow plug is formed with a number of radial ports communicating with the groove, the groove affording an open passage from all of the radial ports to the common charging and discharging pipe.

In order that my invention may be fully understood, I will first describe the same with reference to the accompanying drawings and afterward point out the novelty with more particularity in the annexed claims.

In said drawings, Figure 1 is an enlarged detail sectional elevation of a bottle-reservoir having my improved clamping device applied thereto. Fig. 2 is a transverse sectional view taken on the line 2 2 of Fig. 1. Fig. 3 is a detail perspective view of the detached clamping-collar. Fig. 4 is a plan representation of a number of bottle-reservoirs connected up according to my invention.

1 is a bottle-reservoir of any desired shape or size, having a neck 2 and an internally-threaded throat 3.

4 is the clamping head or collar, formed with the upper and lower annular flanges 5 6, and a single opening 7, which corresponds in size to the throat of the bottle.

8 is an undercut annular groove formed in the throat of the clamping-collar 4 for the purpose which will presently appear.

9 is a hole or opening drilled eccentrically through the clamping-collar 4 and cutting into the central throat 7 and undercut groove 8 of the collar.

10 is a headed hollow bolt or plug having the central longitudinal opening 11 and the lower threaded end 12.

13 and 14 are leather or other suitable packing-rings interposed between the clamping-collar 4 and the neck 2 of the bottle and the clamping-collar and head of the bolt, respectively. It will be observed that the packing-rings are confined by the flanges 5 and 6 in the collar.

15 are radial ports or openings communicating between the central bore 11 of the hollow plug and the undercut groove 8 of the clamping-collar. The headed hollow plug 10 is adapted to pass through the collar 4 and be screwed into engagement with the internally-threaded throat of the bottle 1, the head of the bolt being formed with angular faces to enable the bolt to be screwed rigidly into position.

20 is the common charging and discharging

tube or pipe, extending through all of the eccentric openings 8 of the collars 4 and soldered or otherwise securely fastened in said openings. It will be observed by reference to Fig. 2 of the drawings that when the pipe 20 has been passed through the eccentric openings its inner wall will project into the throat of the collar 4 and would prevent the insertion of the plug 11. By means of a suitable cutting-tool the part of the tube 20 which projects into the throat of the collar 4 and undercut groove 8 is cut out, as indicated in the drawings, which affords free communication between the tube 20 and the undercut groove 8, the radial openings 15 of the hollow plug forming communication between the groove and the interior of the bottle.

By the above means I am enabled to make an effective air-tight connection between the common charging and discharging pipe and the individual bottle-reservoirs, all of the bottles being adapted to be charged simultaneously and discharged together.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of a bottle-reservoir having an opening extending eccentrically through its neck and cutting into or communicating with the throat of the bottle, with a tube or pipe extending through and secured in said eccentric opening and cut out to form an open communication with the throat of the bottle, substantially as set forth.

2. The combination of a bottle-reservoir having an opening extending eccentrically through its neck and cutting into or communicating with the throat of the bottle, with a tube or pipe extending through and secured in said eccentric opening and cut away in the throat of the bottle to form open communication therewith, and a hollow plug secured in the throat of the bottle and formed with openings which communicate between said tube or pipe and the bottle, substantially as set forth.

3. The combination of a bottle-reservoir, a collar or head supported upon, and forming a continuation of, the neck of the bottle, said collar having a central opening through it corresponding with the throat of the bottle and an opening extending eccentrically through it and cutting or opening into its central opening, a tube or pipe extending through said eccentric opening and cut away to form communication with the central opening of the collar, and a hollow bolt or plug extending through said collar and threaded into the throat of the bottle for securing the collar thereon, said plug having radial openings which communicate between the said pipe and the bottle, substantially as set forth.

4. The combination of a bottle-reservoir, a clamping collar or head forming a continuation of the neck of the bottle and having an opening extending eccentrically through it, a headed hollow plug or bolt screw-seated into the throat of the bottle and securing the clamping-collar thereon, suitable packing-rings between the collar and bottle and between the collar and head of the bolt, radial ports or openings in the bolt communicating between the eccentric opening and bottle, and a pipe or tube extending through the eccentric opening and formed with an opening communicating with the radial openings, substantially as set forth.

5. The combination of a bottle-reservoir, a clamping collar or head forming a continuation of the neck of the bottle and having an undercut groove formed in its central opening, an opening extending eccentrically through it and cutting or opening into the undercut groove of the central opening or throat, a headed hollow bolt or plug extending through the central opening of the clamping collar or head and securely seated in the throat of the bottle for securing the clamping collar or head thereon, suitable packing-rings interposed between the clamping-collar and the bolt and bottle, radial ports or openings extending through the hollow plug and connecting with the undercut groove of the collar, and a tube or pipe seated in the eccentric opening of the screw-collar and having open communication with the undercut groove, substantially as set forth.

6. The combination of a plurality of bottle-reservoirs, with clamping heads or collars having openings extending eccentrically through them which cut into or are in open communication with the central openings of the collars, hollow plugs seated in the throats of the bottles for securing the collars thereon and formed with ports which communicate between the bottles and eccentrically-extending openings of the collars, and a common charging and discharging tube or pipe extending through and soldered or otherwise rigidly secured in the eccentric openings of the collars, said tube or pipe being cut away or formed with openings in communication with the ports of the hollow plugs, substantially as set forth.

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