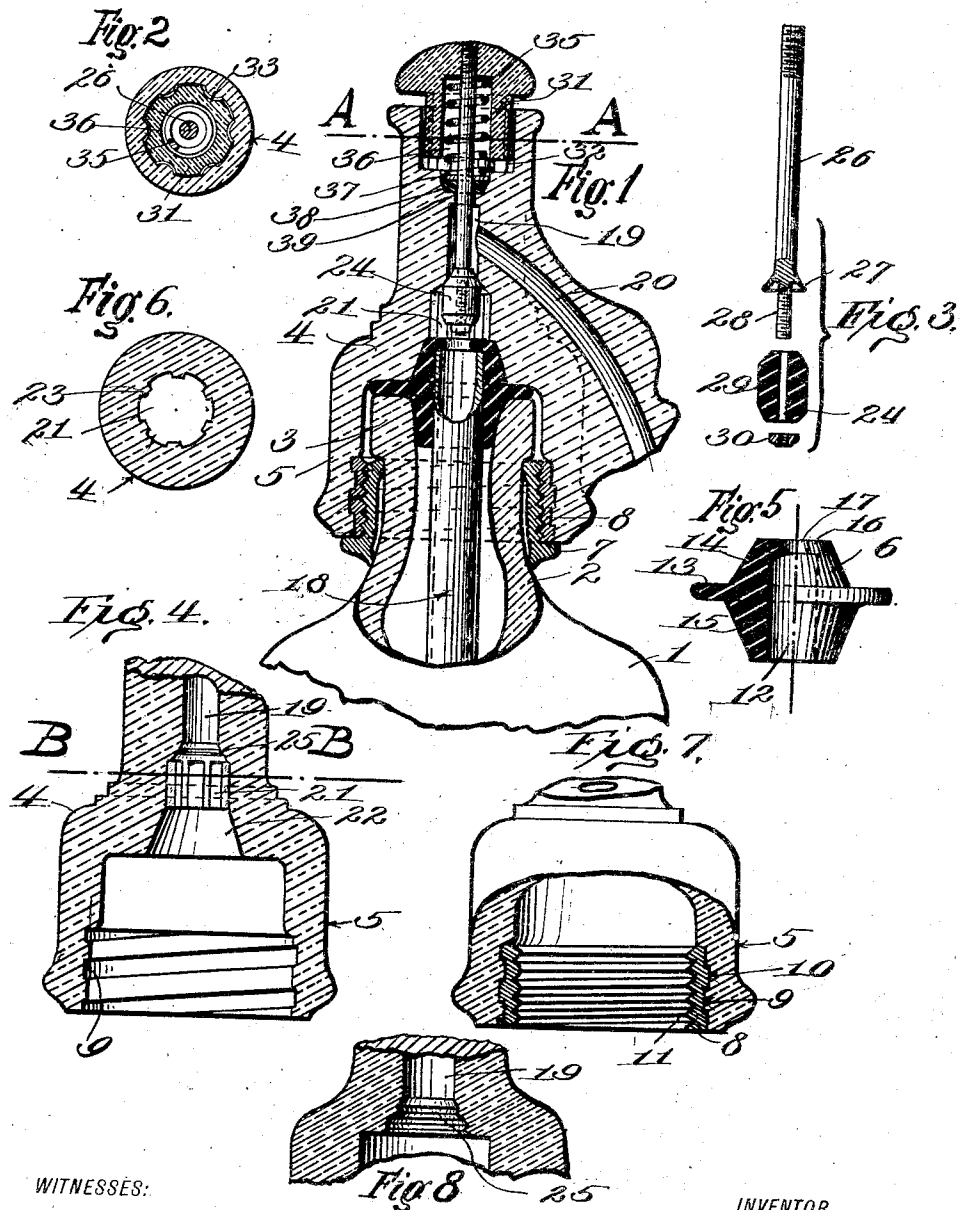


C. DE LUKACSEVICS.
SIPHON HEAD.
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1,061,857.

Patented May 13, 1917



WITNESSES:

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SIPHON-HEAD.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES DE LUKACSEVICS, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented new and useful Improvements in Siphon-Heads, of which the following is a specification.

This invention relates to improvements in siphon heads and its object is to provide a construction embodying certain new details of structure and arrangement for the purposes of securing an absolutely tight fit of the head upon the bottle, and of preventing any escape of gas through the interstices between the related parts or through the pores of the head.

In carrying out the foregoing object and purposes the invention, proposes an improved retaining connection between the head and the bottle neck; an improved sealing gasket between said head and neck; novel and improved relations between the gasket and the parts appurtenant thereto; an improved valve seat construction; and certain other features of detail improvement to be specifically set forth.

A preferred embodiment of the invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a vertical central section of a siphon head in accordance with the invention; Fig. 2 is a section on the line A—A of Fig. 1; Fig. 3 shows in section and in group relation the valve and its appurtenances; Fig. 4 is a sectional detail showing the head construction, the clamping device being omitted; Fig. 5 is a sectional view of the improved sealing gasket; Fig. 6 is a section on the line B—B of Fig. 4; Fig. 7 is a sectional detail showing the head fitted with one of the members of the clamping device; and Fig. 8 is an enlarged sectional detail showing the improved valve seat construction.

Similar characters of reference designate corresponding parts throughout the several views.

The bottle 1 is provided with the neck 2 which has at its upper end the usual circumscribing flange 3 and which also has an opening of slightly flaring character.

The head proper which is preferably of porcelain, is designated by the numeral 4 and its lower end is in the form of an enlarged socket 5 which fits over the neck of the bottle. Between the upper wall of the

socket and the top of the neck an improved sealing gasket 6 is fitted.

The means for securing a tight fit of the head upon the neck embodies a neck ring 7 and a head ring 8; these elements being companions. In prior constructions the socket is provided with molded threads and the threaded neck ring engages directly with the threads of the socket. Where the head is of vitreous material, and especially in the case of porcelain, the threads in the socket are irregular and frequently, when the neck ring is engaged therewith, the socket is caused to crack. The irregularity of the threads in the socket is caused by the changes in form incident to baking, and the cracking of the socket is due to the fact that the neck ring, when it is engaged with said threads, will, on account of their irregularities, produce expansion at different points, the cracking obviously resulting from such expansion. It will be apparent, therefore, that the irregularity of the threads, even when the socket does not crack, will prevent an absolutely tight and efficient connection between the siphon head and the bottle neck. One of the purposes of the present improvements is to avoid the objection stated and in carrying out this purpose the companion rings 7 and 8 aforesaid are employed. The ring 8 is of soft metal and is permanently associated with the socket 5. To establish this association the socket has threads 9 originally molded therein which threads are flat, shallow and of considerable extent. The ring 8 is thereupon cast in the socket and its metal fills the spaces between the threads 9 so that threads 10 are formed in the outer surface of said ring which are in exact conformity to and securely grip the threads 9. A permanent and strong interengagement of the threads 9 and 10 is thus established and such irregularities as may occur in the threads 9 are manifestly of advantage in securing permanency between the socket 5 and the ring 8. The latter is provided on its inner face with threads 11 which correspond to the threads on the ring 7. It will be apparent that the provision of the rings 7 and 8 in conjunction with the manner of associating the ring 8 and the socket 5 is of decisive advantage in that it promotes a secure and tight engagement of said socket upon the neck 2.

The gasket 6 is provided with an axial

opening 12 and with a circumscribing flange 13. The portions of the gasket at each side of the flange are of frusto-conical outline and for convenience may be termed bosses, as such being designated by the numerals 14 and 15 respectively. The upper boss 14 is provided with an annular flange 16 which overhangs the opening 12 and defines a constricted extension 17 of said opening. The siphon tube is indicated by the numeral 18 and its upper portion is fitted in the opening 12. The lower boss 15 fits into the opening of the bottle neck. This opening, as previously stated, is of flaring outline and consequently the boss 15 is wedged, so to speak, between the inclosed portion of the tube 18 and the adjacent surface of the bottle neck. The boss 15 is, on account of its wedging fit just referred to, instrumental in securely sealing the mouth of the bottle and the flange 13 performs a like function in connection with the upper face of the bottle and the adjacent face of the socket 5. In addition to its function as a positive seal, the gasket 6 has the further function of serving as an elastic and yieldable securing means for the tube 18 which, as stated, has its upper portion fitted in the opening 12. In connection with this latter function the gasket is of advantage in absorbing jars and vibrations and in thereby preventing the tube 18 from being easily broken.

The head 4 is provided with an axial duct 19 and with a curved liquid discharge duct 20 extending at an angle from the duct 19. Below the duct 19 said head is provided with an axially disposed valve chamber 21, and between the valve chamber 21 and the socket 5 with a coniform opening 22 in which the boss 14 conformably seats. The wall of the valve chamber 21 is formed with longitudinal ribs 23 which not only center the valves 24 but bear against the upper face of the boss 14 immediately adjacent the flange 16 and thereby serve as a substantial reinforcement for the latter, it being understood that the purpose of the flange 16 is to prevent upward displacement of the tube 18 and to afford an elastic cushion against which the upper end of said tube seats.

The valve 24 consists of a cylindrical rubber plug which has a conical seating end and is normally held against a seat 25 formed between the duct 19 and the valve chamber 21 and shown in detail in Fig. 8. The seat 25 is of conical outline and is provided with two or more comparatively sharp annular ribs which sink into the material of the valve and are thus effective, when the valve is in its closed position, to establish an efficient seal against the escape of gas through the duct 19. The valve seat 25 is ribbed because porcelain is porous and its surface is not of uniform character. Con-

sequently the provision of the ribs on the valve seat promotes a more efficient sealing effect than would be secured were the valve seated against a plain surface.

The valve 24 is carried by a stem 26 which projects axially through the duct 19 and beyond the upper end of the head. The stem 26 is formed at a distance from its lower end with a dished flange 27 against which the valve 24 is tightly held, and below the flange 27 with comparatively sharp threads 28. The threaded portion 28 of the stem 26 passes through an axial opening 29 in the valve 24. This opening is originally of smaller diameter than the said threaded portion 28 and consequently the latter is utilized to cut its own threads in the opening 29, and to thus provide for a secure fastening of the valve. A nut 30 is fitted upon the lower end of the valve stem and adds to the security of the valve.

The stem 26 carries on its upper end a button 31 which works in a recess 32 formed in the upper end of the head 4. Owing to the provision of the ribs on the valve seat it is essential to prevent the valve 24 from turning and for this purpose the button 31 is formed with longitudinal grooves to receive corresponding projections 33 on the wall of the recess 32.

The valve 24 is held to its seat by a spring 35 which is fitted in a recess 36 of the button 31 and which bears at one end against said button and at its other end against a washer 37. The latter is imposed on a gasket 38 which snugly surrounds the valve stem 26 and is fitted in a reduced coniform extension of the recess 32, resting on a web or ledge 39 which separates said recess from the duct 19 and which is provided with an opening conforming to the diameter of the stem 26 and through which said stem passes. The spring 35 is of sufficient strength to hold the valve 24 firmly to its seat and at the same time to put such pressure on the gasket 38 as will cause the latter to hug the valve stem and thereby prevent any gas from escaping through the opening in the ledge 39.

Having fully described my invention, I claim:

1. In a device of the type set forth, the combination with a bottle, of a head having a socket which fits over the neck of the bottle, means for clamping the head on the said neck, a gasket having a boss provided with a central opening, a flange circumscribing the boss and a flange at the upper end of the boss and overhanging the opening, the boss fitting conformably into the socket and the circumscribing flange between the top of the bottle neck and the adjacent face of the socket, a tube depending into the bottle and having its upper end portion fitted in the opening in the boss and

abutting against the underface of the flange which overhangs said opening, the head having an axial duct and having longitudinal ribs which bear against the upper face of the boss immediately adjacent the said overhanging flange, and a spring-held valve working in the chamber and centered by the ribs thereof, the valve controlling the communication of the duct and the tube.

2. In a device of the type set forth, the combination with a bottle, of a vitreous head having a socket which fits over the neck of the bottle, means for clamping the head upon the said neck, a gasket interposed between the socket and the neck and having a central opening, a tube depending into

the bottle and communicating with the central opening, the head being interiorly fashioned to afford an axial duct, a valve chamber below the duct, and a conical ribbed valve seat between the duct and the valve chamber and an elastic rubber valve, spring held against the valve seat, and controlling the communication of the duct and the tube.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CHARLES DE LUKACSEVICS

Witnesses:

B. B. ZIPPERT,

A. MITTLER.