Oct. 27, 1925. 1,558,484

J. G. KINGSBURY

CONTAINER FOR VALVES AND THE LIKE

Filed July 29, 1922

Fig. 1

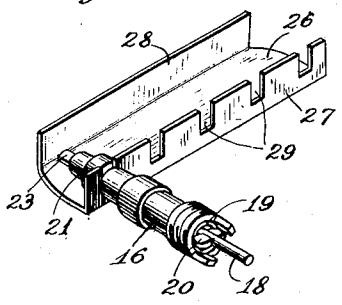


Fig. 2

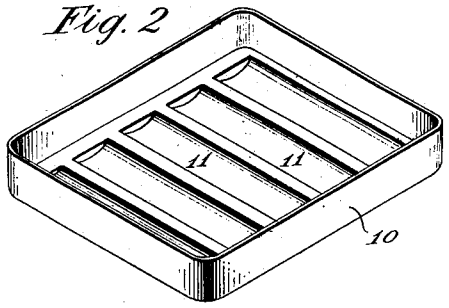


Fig. 3

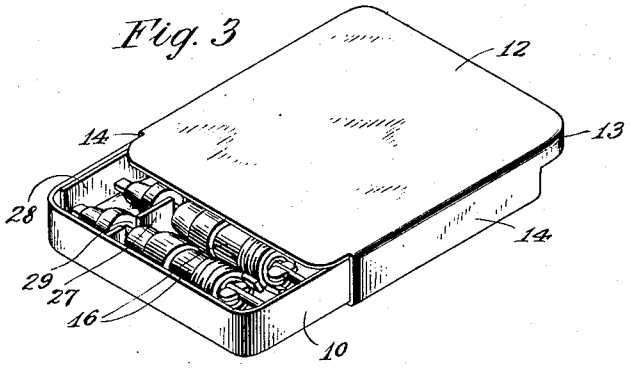


Fig. 4

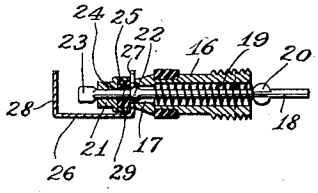


Fig. 5

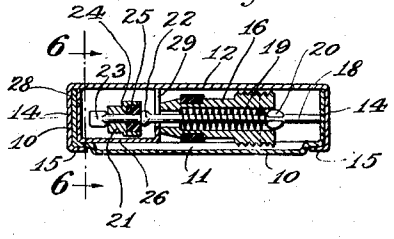


Fig. 6

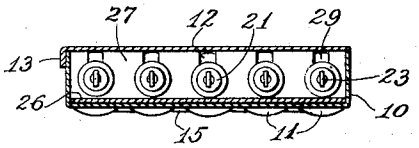
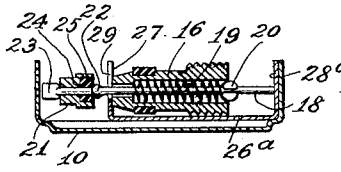


Fig. 7



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UNITED STATES PATENT OFFICE.

JERE G. KINGSBURY, OF BRIDGEPORT, CONNECTICUT.

CONTAINER FOR VALVES AND THE LIKE.

Application filed July 29, 1922. Serial No. 578,336.

To all whom it may concern:

Be it known that JERE G. KINGSBURY, a citizen of the United States, and resident of Bridgeport, in the county of Fairfield and State of Connecticut, has invented certain new and useful Improvements in Containers for Valves and the like, of which the following is a specification.

The present invention relates to an improved container for valves or the like, and to the combination valve-set comprising several such valves and the container therefor. An object of the invention is to provide a container in which the valves will be securely held, although readily removable, when desired; and will be protected against accidental displacement, or contact with each other.

Further objects are to retain the valves in the container so that they will not rattle, and to facilitate their placing in the container. To this end, it is proposed to provide a removable support, to which the valves may be clamped, and then inserted as a unit in the container. The valve of the type contemplated herein, comprises a tubular body and a spring pressed stem carrying a head normally seating upon the end of the body, under the force of the spring. The relative movability of the parts under spring pressure is utilized in retaining the valve in the container. The valve heads of this type of valve, are provided with a rubber seating gasket, and with the containers heretofore in use, this gasket was held in contact with the valve body, while in the container, with the result that the rubber would become distorted and deteriorate, after remaining in the container for a considerable period, so that its utility was greatly impaired. It is another object of the invention therefore, to so retain the valves within the container, that the rubber gasket will be held out of contact with the valve body while in the container.

With the above and other objects in view, an embodiment of the invention is shown in the accompanying drawings, and this embodiment will be hereinafter more fully described with reference thereto, and finally pointed out in the claims.

In the drawings:

Fig. 1 is a perspective view of the removable valve support, showing a set of valves secured thereto;

Fig. 2 is a perspective view of the receptacle portion of the container;

Fig. 3 is a perspective view of the container with the valves therein, and showing the cover partially drawn open;

Fig. 4 is a sectional view of the removable support, showing a valve therein;

Fig. 5 is a sectional view through the complete device;

Fig. 6 is a sectional view through line 6—6 of Fig. 5; and

Fig. 7 shows a sectional view of a modified form of support with valve contained therein.

Similar reference characters indicate corresponding parts throughout the several figures of the drawings.

Referring to the drawings, the container comprises a receptacle 10, of rectangular form, provided in its base with a series of transversely disposed parallel pockets 11, of substantially semi-circular cross section, and presses below the normal bottom of the receptacle. The cover is in the form of a slide member having a flat top portion 12, shaped to conform to the dimensions of the receptacle, and a depending flange 13 upon one end, which when the cover is closed abuts against the end of the receptacle, to form a stop for the cover, to position it in a manner to close the receptacle.

The two opposite side portions of the cover include depending portions 14—14, whose longitudinal edges 15 are turned under the receptacle to slide upon the longitudinal runways along the under side thereof, formed by spacing the ends of the pockets 11 inwardly. This construction retains the two parts of the container in close operative and adjustable engagement with each other.

The pockets 11 receive the valves, as will be presently more fully pointed out, in parallel and spaced relation, and transversely of the sliding direction of the cover, so that they may be exposed and removed singly, when desired, and as clearly shown in Fig. 3.

The valves proper comprise a tubular body portion 16, through the reduced end 17 of which a valve stem 18 is slidable a helical spring 19 being disposed upon the stem, within the bore of the body portion, between the shoulder formed by the reduced end, and a pinched out portion 20 of the

stem. The projecting end of the stem mounts a head 21, between a shoulder 22 and the pinched extremity 23 of the stem, the underside of the head being recessed as at 24, and containing a rubber gasket 25. The gasket 25 is adapted normally to seat upon the end of the body portion to close the valve, and by pressing the end of the stem inwardly the head is lifted to open the valve.

A removable support for the valves (Fig. 1) comprises a channel-shaped sheet-metal member consisting of a base 26, and side portions 27 and 28, the portion 27 having a series of spaced cut-outs 29 therein, and disposed directly above the pockets 11, when the support is inserted in the receptacle. Before such insertion, the several valves of the set are mounted upon the support, first lifting the heads and inserting the stems in the cut-outs. Under the force of the spring 19, the end of the body portion and the head clamp upon the support, as clearly indicated in Figs. 1 and 4.

In this relation the support and the valves may be handled as a unit to be inserted in the receptacle. It should be noted that the length of the valve stem is such that in this position, the head end of the stem is spaced from the side portion 28, and the distance from the said side portion to the other end of the stem is slightly greater than the interior transverse dimension of the receptacle. When inserted in the receptacle the stem must therefore be pressed inwardly, so that it engages the side of the receptacle, (Fig. 5) and moves the valve head from contact with the portion 27 of the support with the advantageous result that the valves are securely held under spring pressure against rattling or becoming loose, and the rubber gaskets 25 are retained out of contact with the surface of the support and the valve bodies. When removed from the container the rubber gasket, which is vital to the proper operation of the valve is undeteriorated, and free from distortion, and will therefore function perfectly.

The valve bodies resting within the pockets 11 prevent displacement or contact of the bodies with each other. The support has the longitudinal edges of its portions 27 and 28 parallel to the sliding direction of the top, so that it is retained within the receptacle until the top is entirely removed. The pockets 11 it will be noted extend equally at each side of the center line, so that the support may be placed at either side, and the pockets will function in the same manner.

In Fig. 7 I have shown a larger and slightly different application of the support, the same being arranged so that the body portion of the valve is positioned between the two side portions 27 and 28^a in a way to be capable of packing in bulk, if desired, irrespective of the box. In this arrangement of nesting and supporting the valves, the bottom 26^a of the support would be made wider and the sides spaced further apart to accommodate the length of the body of the valve and stem between the said sides. When inserting the valve herein the spring actuated valve stem is shoved back and the valve disengaged from its seat the same as in the other form, but is not supported against the side of the box; it engages the side of the holder instead and is supported entirely between the two sides thereof. In this positioning the valve stem freely passes through the cut-outs 29 and the valve is seated against the side 27 while the free end 18 of the stem is positioned and frictionally held against the side 28^a by the action of the valve spring 19. The valves may thus be nested in this form of support, with the valves raised from their seat, and thus placed in the box, if desired, without further adjustment of the valves with relation to either the support or box.

I have illustrated and described a preferred and satisfactory embodiment of the invention, but it is obvious that changes may be made therein, within the spirit and scope thereof, as defined in the appended claims.

I claim:

1. In combination, a container, a valve comprising a tubular valve body, a valve stem projecting from the body at one end, and provided with a head at its other end, and a spring upon said stem permitting lifting of the head and normally retaining the head seated upon the body, and a support for the valve comprising a channel member removably disposed in the container adjacent one wall thereof and spaced from the other wall, and provided in one side with an opening, adapted to be engaged by the valve stem, whereby the body and head clasp upon said support in the removed position thereof, and whereby the stem engages the wall of the container in the inserted position of the support, to retain the valve in the container under spring pressure and to unseat the head.

2. In combination, a support including two spaced apart parallel side walls, one of which has a series of openings, a valve comprising a tubular valve body, a head adapted to normally seat thereon, spring means permitting lifting of the head and normally retaining the head seated, a stem associated with the head and spring and adapted to be positioned in the said opening, said parts being so constructed, proportioned and associated as to permit of the valve being frictionally held between one wall of the support and one wall of the container by the action of the spring.

Signed at Bridgeport in the county of Fairfield and State of Connecticut this 24th day of July, A. D., 1922.

JERE G. KINGSBURY.