June 20, 1939. A. H. PAYSON ET AL 2,163,056

VACUUM BOTTLE AND SUPPORT THEREFOR

Filed Feb. 18, 1937

Fig. 1

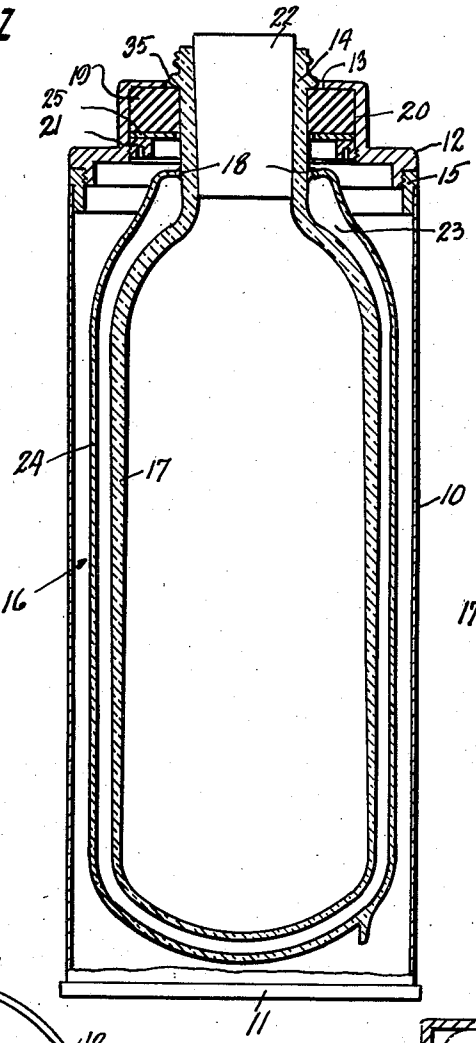


Fig. 3



Fig. 2

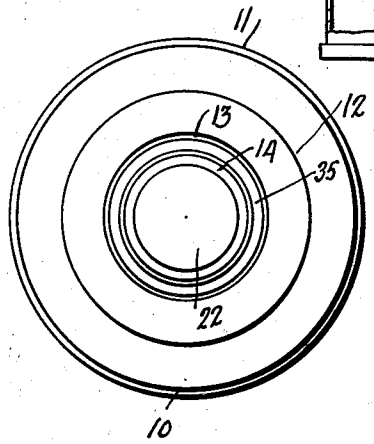


Fig. 5

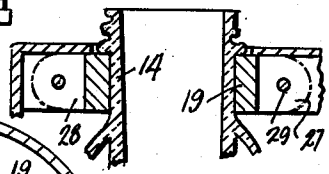
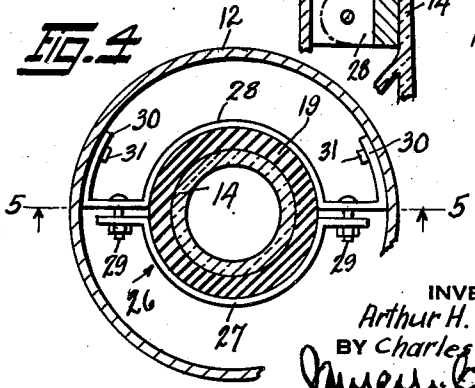


Fig. 4



INVENTORS
Arthur H. Payson
BY Charles O. Duevel Jr.
ATTORNEY

Patented June 20, 1939 2,163,056

UNITED STATES PATENT OFFICE

2,163,056

VACUUM BOTTLE AND SUPPORT THEREFOR

Arthur H. Payson and Charles O. Duevel, Jr., Norwich, Conn., assignors to The American Thermos Bottle Company, Norwich, Conn., a corporation of Ohio

Application February 18, 1937, Serial No. 126,338

1 Claim. (Cl. 215—13)

This invention relates to a vacuum bottle combined with means for supporting the same in a casing in such manner that the assembly may be subjected to unusually rough usage without causing damage to the bottle. Such a combination is particularly desirable where the bottle is intended to be transported by mail, express, or by other method of shipment. The bottle used in such combination is preferably of a construction designed to withstand extraordinary strains and jars where the same is supported in or influenced by the supporting means.

A principal object of the invention is to construct the vacuum bottle in a rigid manner, at the same time preserving all the advantages incident to such bottles.

Another principal object of the invention is to provide a casing and support for the bottle, which support will hold the same in a substantially rigid position in the casing, but with a resiliency combined therewith sufficient to cushion unusual strains or jars on the bottle.

Another principal object of the invention is to form the bottle with extra strength in the area where it will be subjected to carrying strains.

Other objects will be apparent from reading this specification in connection with the accompanying drawing, in which

Figure 1 is a vertical cross-section of a bottle, support, and casing embodying our invention;

Figure 2 is a top plan view of our construction;

Figure 3 is a modification of the joint between the two walls of the vacuum element;

Figure 4 is a lateral cross-section of a modified form of compressing means for the holder; and

Figure 5 is a longitudinal cross-section along the line 5—5 of Figure 4.

Referring now in detail to the drawing in which similar characters refer to like parts throughout, 10 represents the side wall of a casing which, in the embodiment shown, is in cylindrical form, 11 is the base thereof, and 12 the head, which is open at 13 to accommodate the bottle neck 14. A threaded ring 15 is integrally connected interiorly to the casing wall 10, onto which the head 12 is screwed, thus completing the construction of the casing. This casing may be made of metal or other durable material.

The vacuum bottle 16 is constructed of an impervious material, preferably glass, the inner wall 17 and neck 14 of the bottle being thickened as compared with the outer wall 24 of the bottle. The purpose of this construction is to add strength to the bottle where extraordinary shocks and strains to the bottle are most likely to originate. This construction results in a vacuum bottle wherein the portion thereof which is subject to strains or jars is strengthened to withstand the strains or jars to which the bottle may be subjected, and at the same time no thickness or weight is added to the outer wall 24 for the reason that said wall is not subject to such strains or jars. The walls of the vacuum bottle are joined together at 18, as shown, forming the vacuum chamber 23.

In the head 12 and snugly fitting against the bottle neck 14, is a resilient packing ring 19, disposed in the packing chamber 20. A washer 25, is provided at the lower side of the packing ring which is adapted to hold said packing ring in confinement in the chamber 20. This washer is adjustably supported by a compression ring 21. When said compression ring is screwed tight against the washer 25, the pressure thereof will be transmitted to the resilient packing ring 19 resulting in a tight fit thereof around the neck 14 of the bottle. A bead 35 around the bottle neck 14 is provided to extend over a part of the packing ring 19, forming a barrier therefor and to position the bottle in its support, as well as to insure the bottle and its support against possible slippage with reference to each other. Rubber or other resilient material may be used as a packing.

Other means for compressing the packing ring 19 against the bottle neck may be used, an exemplification being illustrated in Figures 4 and 5, in which the compression means are shown in the form of a sectional ring. Referring to Figure 4, one section, 26, of the ring, carries brackets, 30, 30, which are secured to head 12 by the fasteners 31, 31. The other ring section 27 is adapted to be secured to the separate ring section 26, by the bolts and nuts 29, 29. In this form of holder, the bottle neck 14 with the packing ring 19, may be fitted into the separate section 26 of the ring, and then the other section 27 of the ring may be fitted over the opposite side of the packing ring 19, the said ring sections being then bolted to each other to complete the ring. Upon the bolts 29 being tightly secured into place, the packing ring 19 will snugly hold the bottle neck 14 within its grip.

A stopper 22 is provided which extends downward into the neck 14 of the bottle so as to pass through a lateral plane which includes the upper part of the vacuum chamber 23, thereby insuring full efficiency for the vacuum element in this type of bottle.

In Figure 3 is shown a modification of the joint between the wall sections of the vacuum

element wherein the outer wall **24***a* meets the inner wall **17***a* at a smaller angle than is shown at **18**.

We have shown and described what we believe to be the best embodiment of our invention. We do not wish to be limited in patent protection, however, to such embodiment, but what we desire to secure by Letters Patent is set forth in the appended claim.

We claim:

A vacuum bottle comprising a double wall body portion and a single wall neck portion extending therefrom, said neck portion and inner wall of the body portion being thicker than the outer wall of the body portion, the vacuum chamber of the body portion overlapping the lower part of said neck portion, a casing, means for suspending in said casing said vacuum bottle by said neck portion, a detachable head for said casing, having an opening therein through which the bottle neck is adapted to protrude, said head cooperating with the bottle neck to form a packing chamber, means for compressing the packing against the bottle neck consisting of a bi-sectional ring, one section being secured to the wall of the packing chamber, securing means adapted to fasten the other section to the first named section, said bi-sectional ring being adapted to surround the bottle neck, the packing being positioned between said ring and bottle neck, and means for tightening said ring on said packing and thereby compress the same.

ARTHUR H. PAYSON.
CHARLES O. DUEVEL, JR.