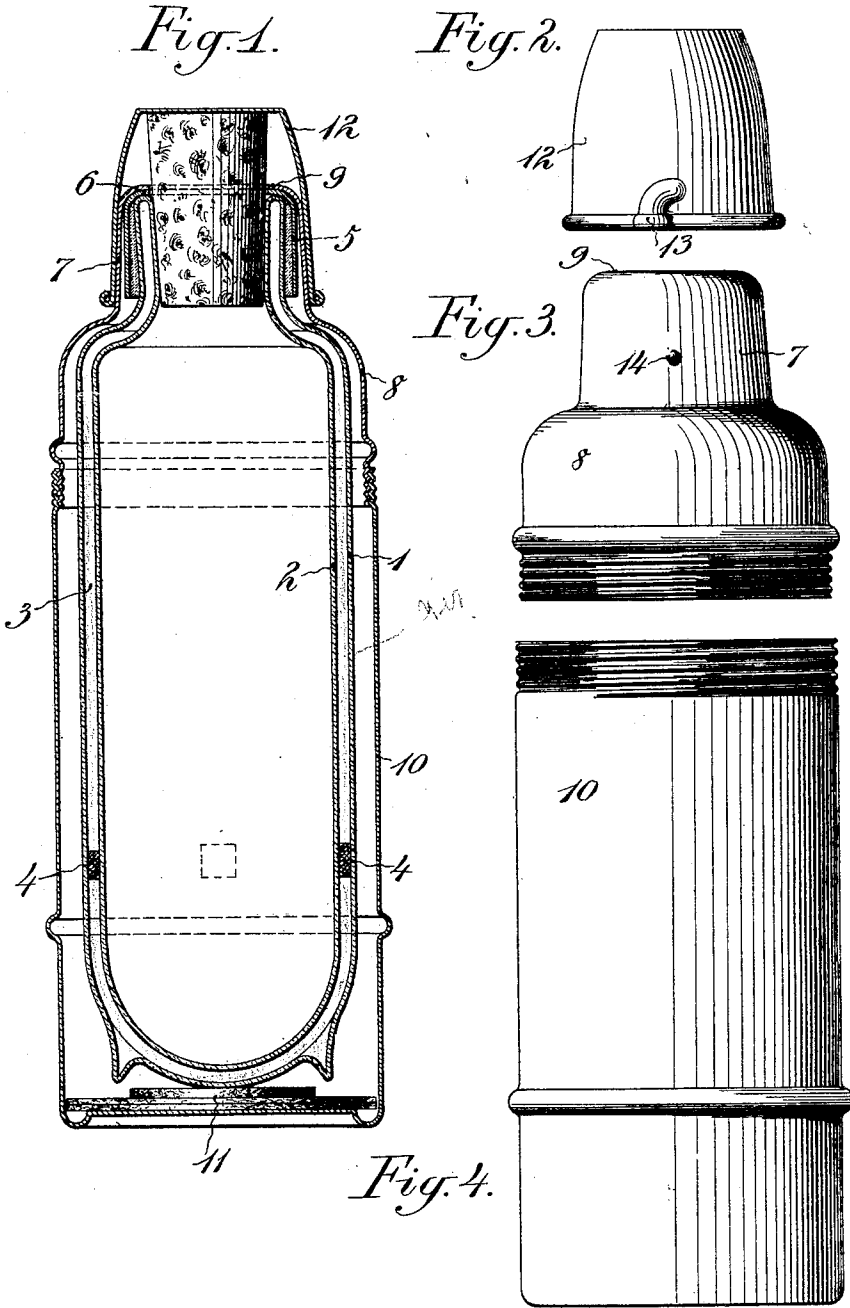


G. R. PAALLEN.
 DOUBLE WALLED VESSEL.
 APPLICATION FILED, JUNE 27, 1908.

930,219.

Patented Aug. 3, 1909.



Witnesses:
 W. G. G. G.
 J. George Barry.

Inventor:
 Gustav Robert Paalen
 by attorney
 Brown & Leonard

U S PATENT OFFICE.

GUSTAV ROBERT PAALEN, OF BERLIN, GERMANY, ASSIGNOR TO AMERICAN THERMOS BOTTLE COMPANY, OF BROOKLYN, NEW YORK.

DOUBLE-WALLED VESSEL.

No. 930,219.

Specification of Letters Patent.

Patented Aug. 3, 1909.

Application filed June 27, 1908. Serial No. 440,670.

To all whom it may concern:

Be it known that I, GUSTAV ROBERT PAALEN, a subject of the German Emperor, and resident of Berlin, Germany, have invented a new and useful Improvement in Double-Walled Vessels, of which the following is a specification.

This invention relates to improvements in a double walled vessel comprising inner and outer walls united with each other only at the mouth of the vessel and inclosing between them a rarefied space, the object being to provide certain improvements in the construction, form and arrangement of the several parts of a jacket for removably inclosing the said double walled vessel, the mouth of the vessel having a protective ring permanently attached thereto.

In the accompanying drawings, Figure 1 represents the vessel and its jacket in vertical central section, Fig. 2 is a detail side view of the detachable cap, Fig. 3 is a detail side view of the upper member of the jacket, and Fig. 4 is a detail side view of the lower member of the jacket.

The outer wall 1 and the inner wall 2 of the vessel are united with each other only at the mouth of the vessel and inclose between them a rarefied space 3. Suitable stiffening blocks 4 are interposed between the inner and outer walls at a distance from the mouth of the vessel for holding the inner wall spaced from the outer wall.

In uniting the inner and outer walls of the vessel at the mouth thereof, it is extremely difficult if not impossible to produce a perfectly even surface. Where this mouth has been subjected to pressure for holding the vessel within its protective jacket, it has frequently happened that the vessel would be broken at the mouth because of this pressure thus rendering the vessel useless. This very serious objection is obviated by providing a protective band 5 which is secured permanently to the neck portion of the outer wall of the vessel by any suitable cement, the said protective band being provided with an inwardly extended lip 6 overlapping and protecting the mouth of the vessel.

The upper member of the removable jacket comprises a neck portion 7 and a shoulder portion 8. The neck portion 7 is provided with an inwardly turned annular lip 9 extending over the lip 6 of the protect-

ive band 5. The lower member 10 of the jacket is removably secured to the shoulder portion 8 of the upper member as, for instance, by providing the two members with screw threaded portions engaging each other.

A yielding support 11 is interposed between the bottom of the vessel and the bottom of the jacket, which yielding support may be of any suitable elastic material, such, for instance, as felt, so that when the lower member of the jacket is screwed into the upper member of the jacket, the vessel will be held in position within the jacket by the pressure of the lip 6 of its protective ring against the lip 9 of the upper member of the jacket.

A suitable cap 12 may be removably secured to the neck portion of the upper member of the jacket as, for instance, by a bayonet joint connection 13, 14.

What I claim is:—

1. The combination with a double walled vacuum vessel of the type set forth, of a band inclosing the vessel near its mouth and having an inwardly turned flange extending over said mouth, and a jacket inclosing said vessel and band and having an inwardly turned flange extending over said band flange.

2. The combination with a double walled vacuum vessel of the type set forth, of a band inclosing the vessel near its mouth and having an inwardly turned flange extending over said mouth, a jacket inclosing said vessel and band and having an inwardly turned flange extending over said band flange, and means interposed between said jacket and vessel for holding said flanges in contact.

3. The combination with a double walled vacuum vessel of the type set forth, of a band inclosing the vessel near its mouth and having an inwardly turned flange extending over said mouth, a jacket inclosing said vessel and band and having an inwardly turned flange extending over said band flange, and an elastic support interposed between the bottoms of said vessel and said jacket for holding said flanges in contact.

4. The combination with a double walled vacuum vessel of the type set forth, of a band inclosing the vessel near its mouth and having an inwardly turned flange extending over said mouth, a jacket inclosing said vessel and band and formed in two sepa-

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5. The combination with a double walled
5 vacuum vessel of the type set forth, of a band
inclosing the vessel near its mouth and hav-
ing an inwardly turned flange extending over
said mouth, a jacket inclosing said vessel and
band and formed in two separable parts, one
10 of said parts having an inwardly turned flange
extending over said band flange, and means

interposed between the bottom of said vessel
and the bottom of the other part of said jacket
for holding said flanges in contact.

In testimony, that I claim the foregoing as 15
my invention, I have signed my name in
presence of two witnesses, this sixth day of
June 1908.

GUSTAV ROBERT PAALEN.

Witnesses:

HEINRICH RANHHOLZ,
WOLDEMAR HAUPT.