No. 698,217. Patented Apr. 22, 1902.

A. S. NEWTON.

SANITARY TRAP.

(Application filed Mar. 1, 1900.)

(No Model.)

Fig. 1.

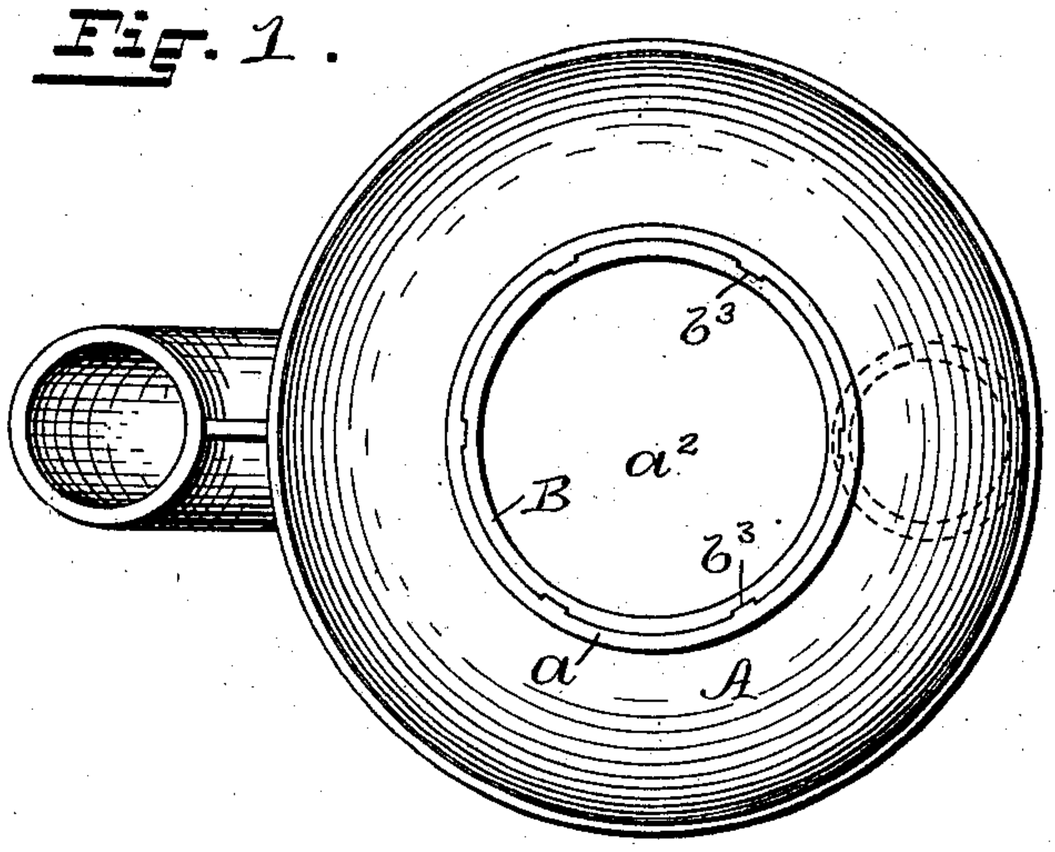


Fig. 2.

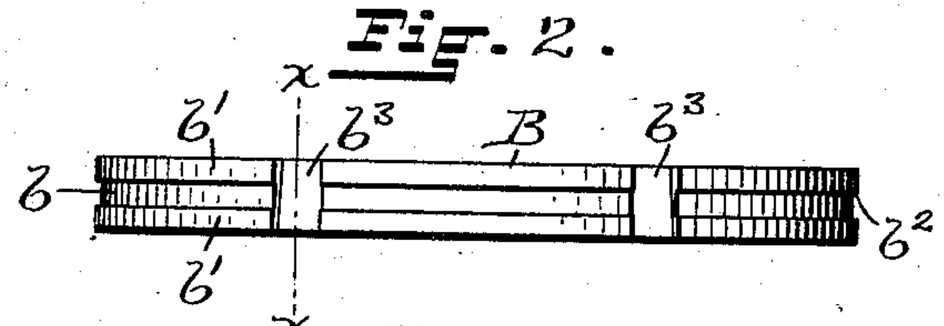


Fig. 3.

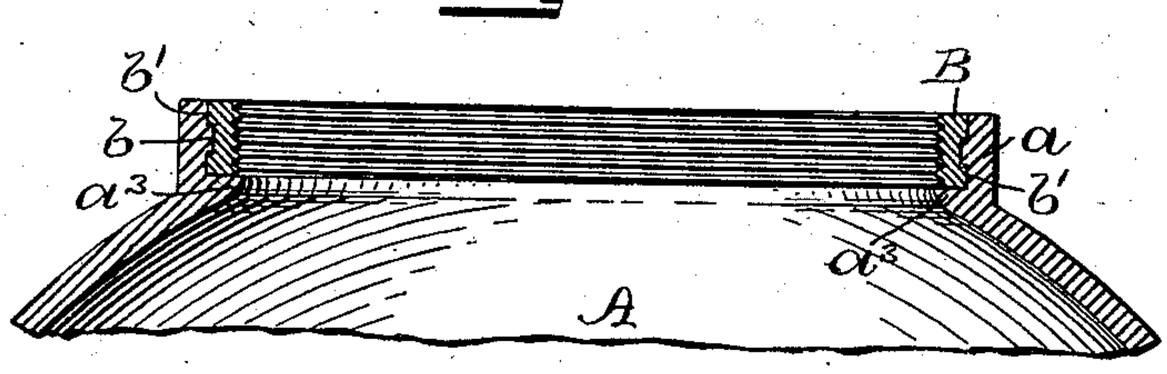


Fig. 4.

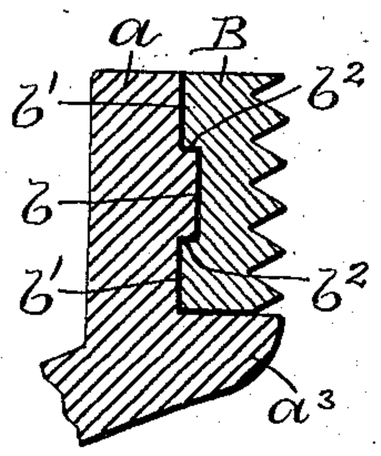


Fig. 5.

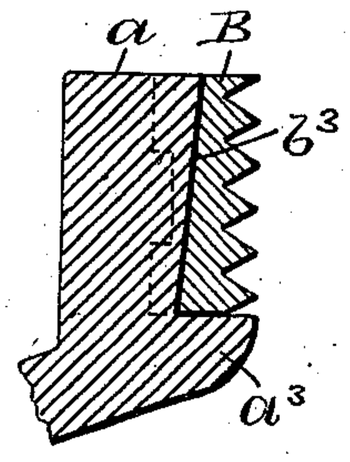
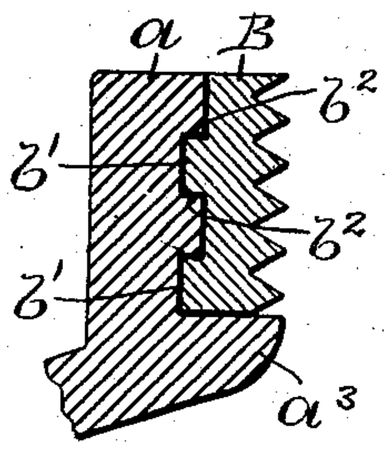


Fig. 6.



WITNESSES:

Chas. H. Luther Jr

A. E. Hagerty.

INVENTOR:

Albert S. Newton

by Joseph A. Miller & Co.

Attys.

UNITED STATES PATENT OFFICE.

ALBERT S. NEWTON, OF PROVIDENCE, RHODE ISLAND.

SANITARY TRAP.

SPECIFICATION forming part of Letters Patent No. 698,217, dated April 22, 1902.

Application filed March 1, 1900. Serial No. 6,896. (No model.)

To all whom it may concern:

Be it known that I, ALBERT S. NEWTON, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Sanitary Traps, of which the following is a specification.

Sanitary traps and similar devices having a body made of lead, brass, or other soft cast metal have to be provided with an internally-screw-threaded opening adapted to receive a cap or other externally-screw-threaded fixture.

The object of this invention is to secure a harder, more rigid, and a stronger screw-thread connection; and to this end the invention consists in the peculiar and novel construction whereby a hard-metal screw-threaded ring is secured in the opening of the vessel, as will be more fully set forth hereinafter.

Figure 1 is a top view of a sanitary trap provided with my screw-threaded ring. Fig. 2 is a side view of the ring. Fig. 3 is a sectional view of a vessel the opening of which is reinforced with my improved ring. Fig. 4 is a section, on an enlarged scale, showing the manner of securing the hard-metal ring to the neck surrounding the opening of the vessel. Fig. 5 is a section on the line X X of Fig. 2, and Fig. 6 is a section of a modified form of the connection between the ring and the neck.

In the drawings, A indicates the vessel, *a* the neck or portion of the vessel surrounding the opening a^2, and B the internally-screw-threaded ring, which is made of a harder metal than the metal of the vessel, having also a greater tensile strength than the metal of the vessel, so that it will not stretch or enlarge when a cover or other fixture is secured to the screw-threaded ring and the vessel is under internal pressure.

When a screw-threaded cover is secured to an internally-screw-threaded neck, the inclined surfaces of the screw-threads in contact with each other exert a lateral strain on the neck when the vessel is under internal pressure and first tend to enlarge the diameter of the internally-screw-threaded neck and then strip the edges of the screw-threads. With my ring of harder and stronger metal this strain is resisted by the ring.

To secure the ring to the vessel, I provide the ring with a groove *b* or with one or more projecting ribs b' b'. The groove or the rib or ribs I provide with rectangular shoulders b^2, and to assist in holding the ring B against rotation under strain I provide the ring with the preferably-inclined seats b^3 b^3. In the preferred form I extend the metal of the vessel to the diameter of the opening in the ring B, so as to form the annular lip a^3. I now cover the peripheral surfaces of the ring B and also the lower edge of the same with a suitable solder and preferably with a flux, such as is used and well known to facilitate the uniting of the metals. I now place the so-prepared ring into a mold and cast the metal of the vessel into the mold and around the ring. The molten metal on coming in contact with the solder unites with the ring, filling the groove or grooves and the seats, and in cooling becomes firmly secured to the ring. When strain is exerted on the internally-screw-threaded ring, the metal of the neck *a* resists the strain, the strength of the ring B resists all expansive lateral strain, and the shoulders b^2 b^2 resist the internal strain exerted on the ring.

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

In a sanitary trap, the combination with the body of the vessel the annular lip a^3 and the neck *a*, of the hard-metal ring B the groove *b*, the ribs b' b' and the seats b^3 b^3 on the ring, the metal of the neck extending into the seats and the recesses between the ribs, whereby the ring is secured to the vessel, as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALBERT S. NEWTON.

Witnesses:
J. A. MILLER, Jr.,
B. M. SIMMS.