No. 864,697. PATENTED AUG. 27, 1907.

E. D. SCHMITT.

BOTTLE SEAL.

APPLICATION FILED JUNE 4, 1907.

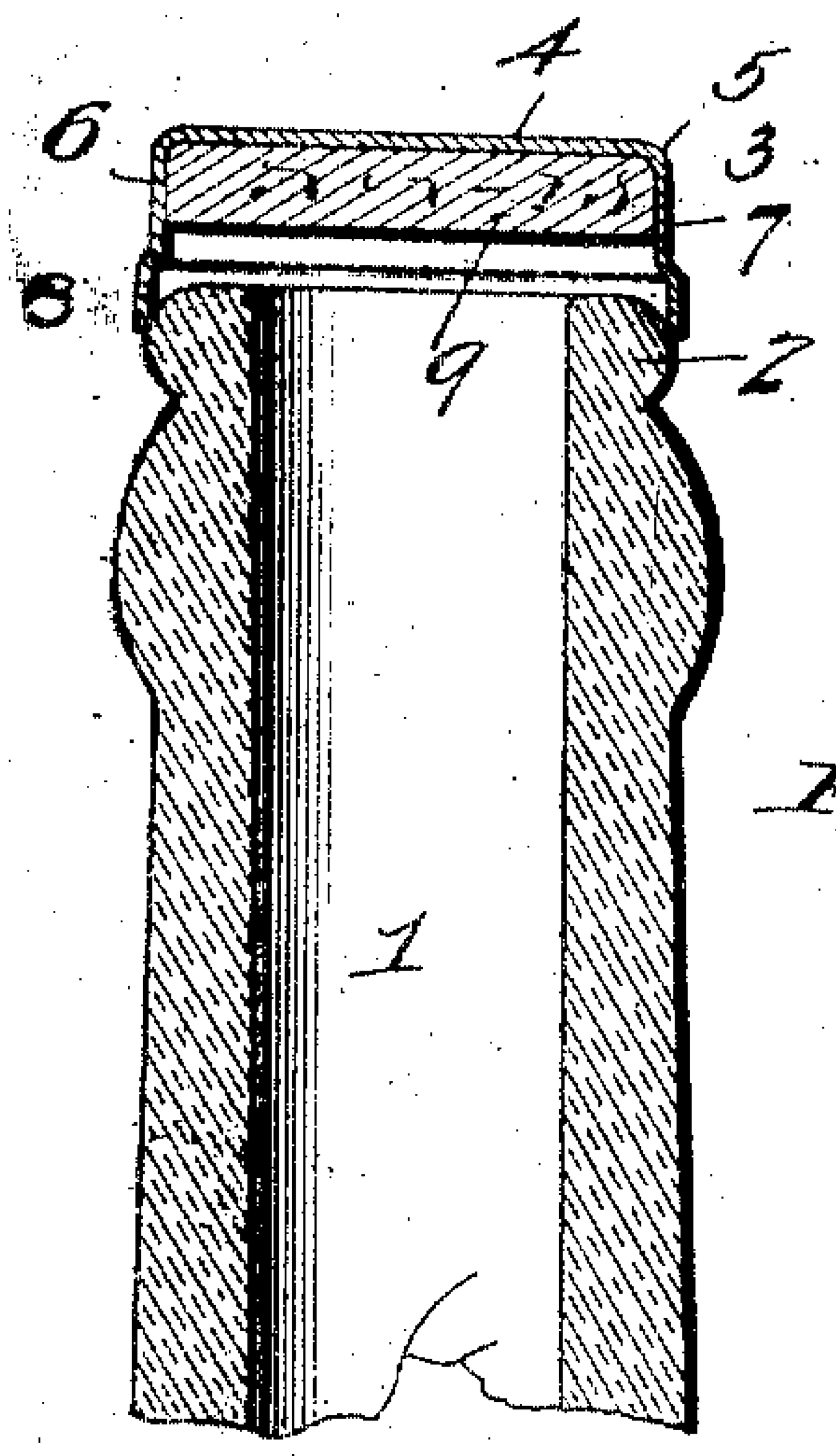

Fig. 1.

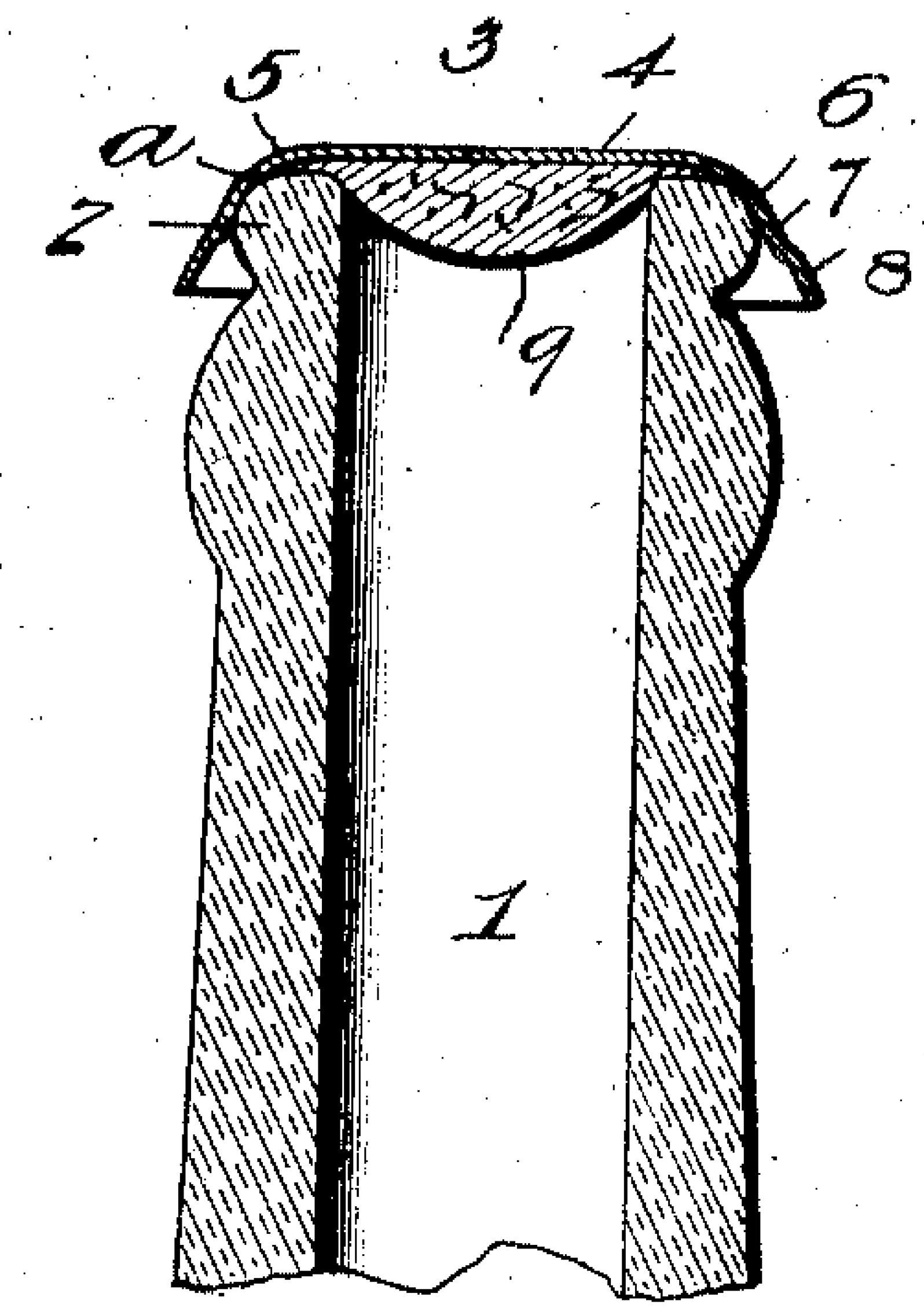

Fig. 2.

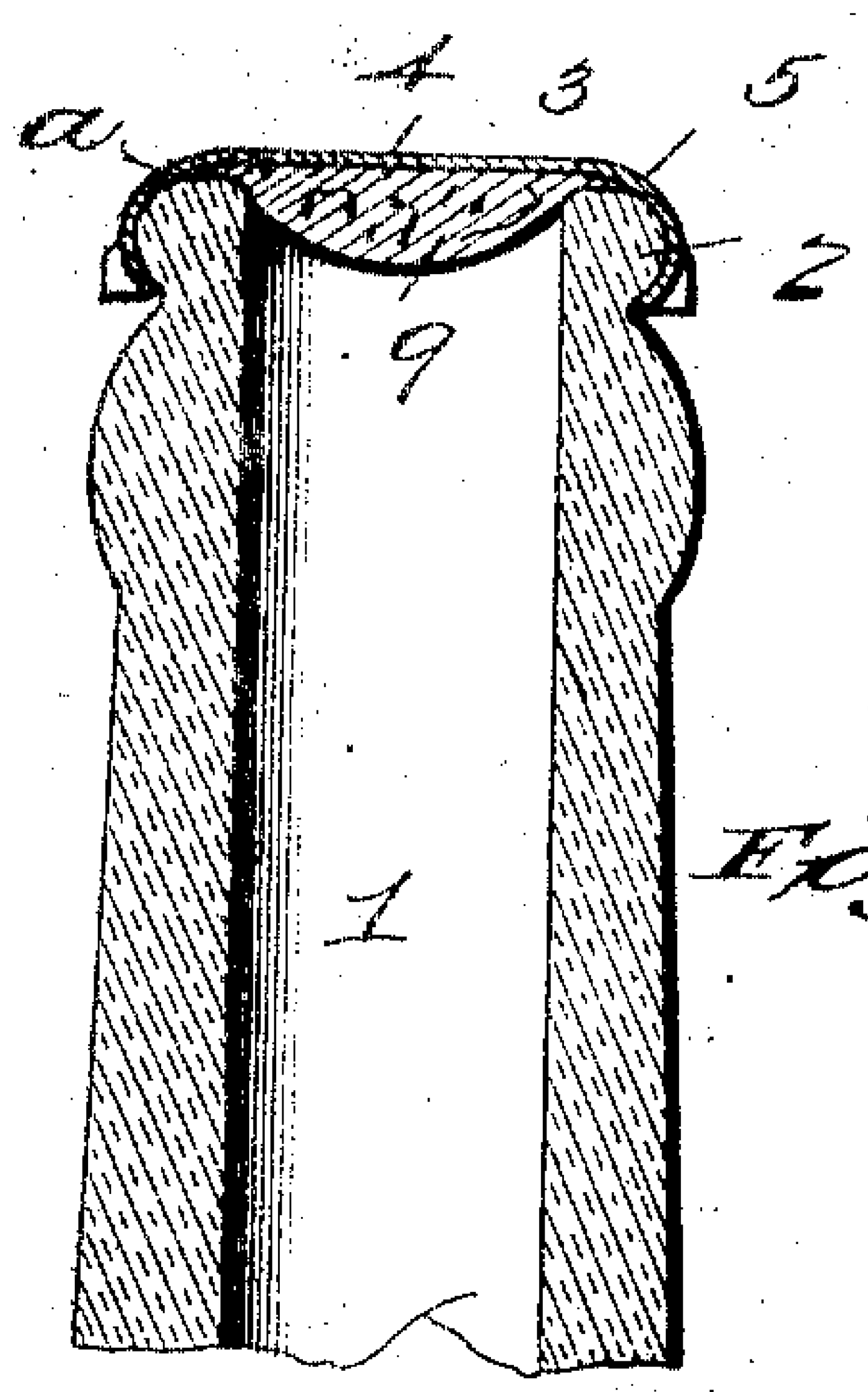

Fig. 3.

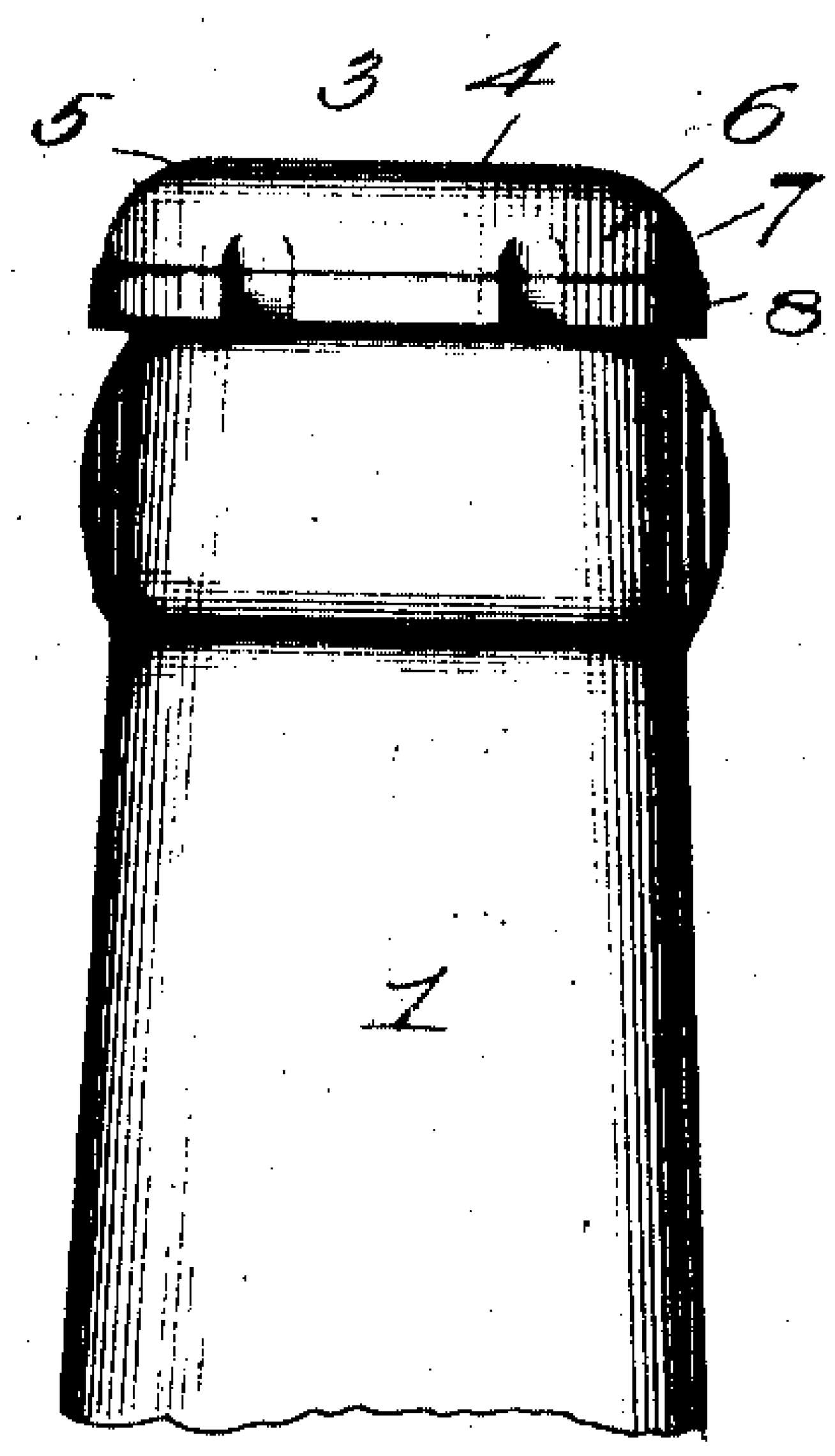

Fig. 4.

Witnesses

[signature]

Frank G Brereton

Inventor

Edward D. Schmitt

By [signature]

Attorney

UNITED STATES PATENT OFFICE.

EDWARD D. SCHMITT, OF BROOKLYN, NEW YORK.

BOTTLE-SEAL.

No. 864,697. Specification of Letters Patent. Patented Aug. 27, 1907.

Application filed June 4, 1907. Serial No. 377,171.

To all whom it may concern:

Be it known that I, EDWARD D. SCHMITT, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Bottle-Seals, of which the following is a specification.

This invention relates to improvements in bottle seals.

In my application filed October 3rd, 1906, Serial Number 337,249, allowed November 19th, 1906, I show a cap whose flange is perfectly straight and whose internal diameter at all points is less than the diameter of the bead on the bottle neck. In this construction, on account of the flaring action that takes place in applying the seal, there is a tendency to split the lower edge of the cap, which tendency in some caps, is sufficient to split the lower portion of the flange at intervals, producing an undesirable ragged edge.

The main object of this invention is the same as that of my former application above referred to, that is to say, to produce a cap in combination with the well known bottle, in which the sealing member or compressible cork disk is prevented from being cut in the application of the seal.

In the construction about to be described, the essential features of my former invention are preserved, while I go a step further and form the lower part of the flange of a diameter slightly greater than the upper part, or more nearly the diameter at its lower edge, of the bead of the bottle, to which the cap is applied. The flange of the seal above the lower edge is considerably smaller in diameter than the bead so that the sealing member is brought to a knife edge, at or slightly beyond the center of the upper edge of the bottle, with the metal of the cap in close contact with the bead, adjacent to the locking member. I find, too, that by making the lower edge of the flange wider than the upper part, the cork disks or sealing members are more readily introduced in the cap and centered therein within the narrower portion of the flange.

In the drawings illustrating the invention: Figure 1 is a sectional view of the upper portion of the bottle, with a seal in juxtaposition thereto; Fig. 2 is a sectional view of the upper portion of a bottle and a seal or cap with the parts in about the position they assume just before the lower edge of the flange is crimped, pinched or indented into locking engagement with the locking shoulder or under surface of the bead on the bottle; Fig. 3 is a similar view showing the seal locked; Fig. 4 is a side elevation of the upper portion of a bottle and seal, showing the latter applied.

Referring to the drawings, the numeral 1 designates a bottle of the kind now in very common use for beer and other beverages, and upon which seals known as "crown" seals are applied. This bottle has an annular laterally extending bead 2, adjacent to its mouth, the under surface of which serves as a locking shoulder or surface.

The numeral 3 designates the cap which I form with an upper flat portion 4, rounded top 5, and flange 6, which flange in the present instance, is of smaller diameter at its upper part as indicated at 7, than at its lower edge, as indicated at 8. The lower portion 8 of the flange may be about of the same diameter or a little smaller, while the internal diameter of the flange above the part 8 is smaller in diameter than the bead of the bottle, so that when the sealing pressure is applied, after the lower part of the flange has been forced over the bead, the upper narrower part will engage the bead and be flared outwardly until the sealing disk 9 engages the upper edge of the bottle, where it is compressed into a reduced edge, extending to a point slightly beyond the center of the upper edge of the bottle, at which point further pressure is transferred from the sealing member to the bead of the bottle, where an auxiliary seal is formed at about point *a*. The lower portion of the flange is then crimped, pinched or indented into locking engagement with the under surface of the bead, producing a firm lock and effecting a perfect seal, which, aside from being proof against internal pressures, or against the escape of the contained liquid, is proof against the admission of outside air to the sealing member, or the entry of insects or foreign substances, which may be injurious to the sealing member.

The widening of the flange at its lower edge serves to more readily start or center the cap in applying it to the bottle, as well as overcoming any tendency to split the lower part of the flange in forcing the cap upon the bottle.

Claims.

1. In a bottle seal, the combination with a bottle, having an annular external bead or locking shoulder adjacent to its mouth, a sealing member of compressible material, a hard metal cap or securing member having a flange, the upper part of which is of normally smaller internal diameter than the bead or locking shoulder upon the bottle, said cap or securing member adapted, when it is applied to the bottle, to confine the sealing member upon the edge of the bottle and to directly engage the bead with said upper portion, and thereby remove further sealing pressure from the compressible sealing member to prevent cutting thereof, the flange of the cap being adapted to be forced into locking engagement with the locking surface of the bead or locking shoulder upon the bottle.

2. In a bottle seal, the combination with a bottle, having an annular external bead or locking shoulder adjacent to its mouth and merging into the upper edge of the bottle, a sealing member of compressible material, a hard metal cap or securing member having a flange, the upper part of

which is of smaller internal diameter than the bead or locking shoulder upon the bottle, said cap or securing member adapted when it is applied to the bottle to confine the sealing member upon the edge of the bottle slightly beyond the central point of said edge to effect a seal, and having its upper portion directly engaging the bead or locking shoulder adjacent to the edge of said sealing member to form an auxiliary seal, and thereby remove a portion of the sealing pressure from the compressible sealing member to prevent cutting thereof, the flange of the cap being adapted to be forced into locking engagement with the locking surface of the bead or locking shoulder upon the bottle.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD D. SCHMITT.

Witnesses:
TITIAN W. JOHNSON,
O. A. SCHMITT.