the top flank of the screw thread **16** when the closure **1** is placed on the bottle neck **2**.

At the upper end of the side wall **36**, there is an annular portion **40** having the same internal diameter as the internal diameter of the thread **38**. The annular portion **40** defines one edge or side of a channel **42**, for receiving the free end or lip of the bottle neck, indicated at **18**.

In accordance with the present invention, there is provided a sealing lip **44**, which is generally circular and is again concentric with the first and second side walls **22, 36**. The sealing lip **44** has a generally cylindrical inner surface, and a conical outer surface or face **46**, which, in section, is inclined at angle 8° to the vertical. The sealing lip **44** together with the annular portion **40** defines the channel **42**.

The bottom of channel **42**, which abuts the end surface **18** of the bottle neck forms an annular sealing surface **43**, which is provided with a textured finish by EDM (electrical discharge machining) of the corresponding surface of a mould for the cap **1**.

The annular portion **40** serves to sandwich a bottle neck between it and the sealing lip **44**. To enable the bottle end surface to abut the surface **43** with the EDM finish, the portion **40** should be relatively shallow in the axial direction.

To reinforce the second side wall **36**, four reinforcing ribs **48** are provided, which are symmetrically disposed about the side wall, as shown in the plan view of FIG. **3**. Each of these ribs is approximately semi-circular in cross-section, and extends parallel to the axis of the closure **1**. The purpose of the ribs **48** is to ensure that the side wall **36** is sufficiently stiff that it will be firmly engaged with the threaded section **14** of the bottle neck and not distort. This ensures that the sealing surface **43** is brought into uniform engagement with the end surface **18** of the bottle neck.

If any part of the side wall **36** is permitted to deform, and applicant has found that this is not an uncommon occurrence with known designs, then this can allow the end of the closure **1** to become displaced away from the neck and surface **18** at a certain point, permitting leakage.

In use, a container would be filled with a desired liquid or other product, and the closure **1** brought into engagement with the bottle neck **2** in known manner. This would usually be effected automatically by conventional machinery. The closure **1** is then screwed down onto the bottle neck **2**. During this action, the curved faces **34** of the projections **30** would cause the projections to be deflected radially outwards as they ride over the teeth **10**. The side wall **22** has sufficient resiliency to permit this action, and the side wall **22** will momentarily be ovalised as the projections **30** are displaced away from one another when they ride over the teeth **10**. Preferably, the starts of the two screw threads **16, 38** are so arranged that, in a fully engaged position of the closure **1**, the projections **30** engage two of the teeth **10**.

In the fully closed position, as shown in FIG. **5**, a first seal is formed between the sealing surface **43**, with EDM finish, and the end surface **18** of the bottle neck. Simultaneously, the conical inner surface **46** of the sealing lip **44** comes into contact with the inner surface of the bottle neck. For this purpose, the bottle neck is made to sufficiently tight tolerances to ensure that this contact occurs. A second seal is therefore formed between the bottle neck and the surface **46**.

In use, in known manner, the user grips the two opposite portions **28** of the closure **1**. This distorts the cap causing the two projections **30** located midway between the mount portion **28** to be deflected outwards. This enables closure **1** to be rotated anti-clockwise. The projections **30** have an axial extent such that one rotation of 180° will be insufficient to raise the projections **30** clear of the teeth **10**. Therefore, the user will have to release and then regrip the closure **1** at a fresh position. This will again distort it as is outlined and it can then be rotated further. The projections **30** should then be clear of teeth **10**, and any further rotation applied to the closure **1** should remove it from the bottle neck **2**.

As the closure **1** does not include any liner or seal, it can be reused as many times as desirable. Many caps employ a liner of expanded polystyrene foam or the like, which will frequently become inelastic or lose its "memory", and hence its sealing properties will be degraded. Here, this is not a problem, the closure **1** can be removed and replaced as many times as desired.

With regard to preferred material, it is preferred for the bottle container to be blow molded from high density polyethylene, although the invention is applicable to bottles formed from any suitable material. It is here noted that since no resiliency is required of the bottle neck or the teeth **10**, a variety of materials can be used, including glass and ceramics. For the closure **1**, it is preferred for this to be formed from polypropylene. Applicant has discovered that by adding a certain amount of talcum powder to the polypropylene, its stiffness can be increased to a desired level, to reduce problems due to unwanted distortion or the like. In particular, this prevents some wanted distortion of the second side wall **36** as the threads are tightened. It has been found that polypropylene filled with from 20–40% talcum powder gives satisfactory results.

We claim:

1. A closure for a container having an externally threaded neck and a plurality of radially extending locking teeth, the closure comprising: a top wall; a first outer side wall including a pair of projections which extend generally axially along the inner surface of the outer wall and project radially inwardly, for engagement with said locking teeth, each projection including a locking surface that is inclined at a relatively small angle to a radius of the closure for locking engagement with the locking teeth and an inclined surface that is at a relatively large angle to a radius of the closure for deflecting the projections over the locking teeth as the closure engages the threaded neck; a second inner side wall located within the outer wall, and including an internal screw thread for engaging the external thread of the neck of a container; and an annular sealing surface located concentrically within and adjacent the second inner wall, the annular sealing surface being generally planar and having a continuous roughened, textured finish, which provides a plurality of contact areas, randomly distributed across the annular sealing surface for, in use, abutting the free end of the neck of a container, to seal and close the container.

2. A closure as claimed in claim **1**, which includes a central sealing lip extending axially from the top wall and concentrically within the second inner wall, which sealing lip includes an outer, conical face, dimensioned to engage and form a seal with the inner surface of a container neck.

3. A closure as claimed in claim **2**, wherein the outer face of the sealing lip is wholly conical.