The present invention relates to improvements in bottle necks and closures therefor and its principal object is to provide a bottle neck and a closure for the same particularly adapted to maintain a tight seal for the contents of the bottle and to facilitate the dispensing of a liquid from the bottle especially in cases in which the liquid is dispensed in minute quantities and in exact amounts as in medicine bottles.

My invention has particular reference to those bottles in which a screw top is used as a closure, and one of its objects is to provide an enlarged contact surface between the neck of the bottle and a washer interposed between the neck and the top for insuring a better seal for the bottle.

A further object of the invention is to provide an annular pouring lip for the bottle neck which allows the liquid to be dispensed without spilling and which causes the liquid upon the termination of the pouring operation to flow back into the bottle instead of running along the outside thereof.

A further object of the invention is to facilitate the pouring operation by providing an annular groove underneath the pouring lip within which the edge of a spoon or the like may be accommodated during the pouring operation.

A further object of the invention is to combine the features set forth heretofore so that the groove and the enlarged contact surface for the washer cooperate in defining the pouring lip and in facilitating the pouring operation.

Further and other objects of the invention will appear as the specification proceeds.

The preferred form of my invention is illustrated in the accompanying drawing, in which:

Fig. 1 shows a vertical section of the upper portion of a bottle and the cap applied thereto;

Fig. 2 an outside view of the bottle neck;

Fig. 3 a vertical section through a slightly modified form of bottle neck and cap, and

Fig. 4 a vertical section through another modified form of bottle neck.

While I have shown only the preferred forms of my invention I wish to have it understood that various changes or modifications may be made within the scope of the claims attached hereto without departing from the spirit of the invention.

Referring to the drawing in detail, the bottle 1 which may be of any suitable form and of which only the upper portion is shown, terminates in the neck 2 which latter is provided on the outside or the outer surface with an annular collar 3, a thread 4 above the collar, an annular groove 5 above the thread and an annular pouring lip 6 above the groove.

The thread 4 may be of any suitable form and pitch and is shown in the drawing as comprising a spiral slightly in excess of a single turn so that the ends overlap. The thread is spaced from the top of the bottle neck by the groove and the pouring lip.

The groove 5 may be of any desired cross-section and is shown in Fig. 1 as being of angular 10 section, with its upper edge merging into the pouring lip 6. The latter surrounds the entire upper edge of the bottle and is rounded in its outer face, and its periphery is substantially in alignment with the base of the thread. The inner edge which is tapered as at 7 and it will be noted that the taper and the upper portion of the groove coat in defining a relatively thin and outwardly flaring rim section leading to the pouring lip.

The cap 8 has a flange 9 sufficiently long to pass over the groove and to extend to the collar 3 and is threaded in its lower portion, as shown at 10, for engagement with the thread of the bottle neck. It has a washer 11 preferably made of cork or a cork composition and this washer is made to overlie the upper edge of the bottle neck when the cap is screwed home. The washer is in the form of a complete disk and has a central downward extension 12 having a tapered edge 13 fitting the taper of the inner edge of the bottle neck so as to seat thereon. It will be noted that due to this construction the contact area between the washer and the bottle is increased considerably and the danger of leakage decreases correspondingly.

The advantages of my invention will be readily understood from the foregoing description. The tapered seat for the washer makes the bottle leakproof and at the same time the taper aids in forming the pouring lip and in leading the liquid to the pouring lip when the bottle is tilted. The groove 5 is used to receive the edge of a spoon or other bottle into which the liquid is to be poured and at the same time aids in shaping the pouring lip and prevents liquid from running down the outside of the bottle neck during and immediately after the pouring operation. The lip itself which partly forms the product of the taper and the groove but has an independent rounded outer edge causes the liquid to flow evenly and smoothly and guides liquid still adhering to the bottle back into the same after the pouring operation. The effect of capillary attraction tending to draw...
the liquid along the outside of the bottle is eliminated altogether.

Fig. 3 shows a slightly modified form insofar as the groove 3' is rounded and the inner edge of the bottle neck is formed with a stepped seat 7' while the washer is stepped accordingly to fit on the inside of the bottle neck. The view of Fig. 4 shows a further modification, in which the inner edge of the bottle neck is concaved to accommodate a registering washer.

I claim:
1. A bottle neck having an inner surface, an annular groove in the outer surface, a pouring lip parallel and horizontal top and bottom faces and a rounded outer edge, and a frusto-conical inner edge leading to the top face and substantially in parallel relation to the upper portion of the groove so as to provide a thin rim section leading to the pouring lip.
2. In combination, a bottle neck having an inner surface, an outer surface, an annular groove in the outer surface, a pouring lip above the groove having a horizontal top face, a shaped inner edge leading to the top face and a cap for the bottle neck having means for fastening the same to the neck below the groove and having a washer overlying the top face of the bottle neck and provided with a pre-formed inner section seated on the shaped inner edge of the bottle neck.

FRED L. MILLARD.