

# SAND Charles

(1838 - 1922)

Luxembourg-city

## Patents (details)

### 1 - Improvements in and relating to bottles to prevent them being refilled

GB patent	1897/2962
Application date	14 December 1897

*Many different kinds of constructions have been devised in order to prevent the contents of bottles from being tampered with or adulterated or in order to make a bottle not capable of being refilled when it has once been filled and closed or stoppered. Ball stoppers have often been used for this purpose and the ball stopper device has been arranged with the object of preventing it from being reached by a wire or the like.*

*In the known constructions of this kind, which are extremely complicated and consist of a number of parts, safety caps, protective walls or the like have been rendered necessary in the housing of the locking device in order to make it impossible to get at and to push the ball from its seating by means of a foreign substance from the outside.*

*In the present ball closure device all these expedients are dispensed with. For this purpose the neck itself of the bottle serves as the housing and in such manner that the ball stopper is held off its seating by means of a rod of glass or other suitable material during the filling of the bottle and is allowed to fall on to its seat when the bottle is filled by withdrawing the said rod and fixing it to the bottle by melting it to the neck so that the valve will prevent refilling of the bottle or the dilution of the contents.*

*The drawing illustrates a sectional view of the neck of a bottle through and in the direction of the filling and discharge passage.*

*The neck **A** of the bottle forms the housing or casing for the stopper and there is a zig-zag passage **a** leading to the interior of the bottle for filling the bottle with liquid and for discharging same. This passage or channel is at **a<sup>1</sup>** formed into a chamber in which the ball valve **b** is situated. The valve chamber is made so as to be capable of being divided into two compartments by means of a rod **c** of glass or other suitable material which passes through a corresponding hole in the bottle and the said glass rod is then melted on to and incorporated with the bottle itself after the latter has been filled.*

*If a bottle is to be filled, the rod **c** is withdrawn from the valve chamber **a<sup>1</sup>** and is tilted until the valve **b** assumes the dotted position **1**, the rod **c** is then pushed in and retains the ball **b**. The filling then takes place in the usual manner and when the bottle has been filled the rod **c** is withdrawn from the chamber **a<sup>1</sup>** whereupon the valve is free to roll and does roll when the bottle is in an upright position on to its seat in the neck of the bottle as shown in full lines. The rod is then pressed down and the top is melted down or sealed by means of a blow pipe or in any other convenient manner and the thickness of the glass at this place and the distance of this place from the contents of the bottle permits of this operation without difficulty and in this manner the ball will not then be able to assume the dotted position **1**.*

*The bottle is then treated as any other bottle would be. If the bottle is inclined forwards, the ball assumes the dotted position **2** and the liquid passes away by the passage or channel **a**. If the bottle be then put into an approximately vertical position, the ball stopper rolls on to its seat in the neck and shuts off the contents of the bottle from the outside.*

*The passage **a** for filling and discharging is made double knee-shaped or zig-zag and that renders it impossible for any one to introduce a wire or other foreign substance in order to lift the valve **b** off its seat in the neck. It is evident that instead of there being three turns in the passage **a** as shown there may be more and the upper or any other portion of the passage could be turned in another direction to that shown in order to render the entry of a wire or the like more difficult. Finally the bottle may be provided with a cork **B** or with any other stopper as found most convenient.*

