are contaminated with the particles on rare occasions, even when a conventional purge apparatus is used. After the devoted research and diligent effort, the inventors of the present invention have reached the finding that the rare contaminations with the particles are caused by the purge apparatus. Furthermore, the inventors also found out that, since the container placed in the purge apparatus and the nozzle which discharges the gas into the container contact each other, the friction and impact between the container and the nozzle form the particles; the particles subsequently contaminates the inside of the container, flowing with the gas for purging.

## SUMMARY OF THE INVENTION

According to an aspect, there is provided a purge apparatus comprising: a container to be purged, the container being adapted to store an object therein; and a nozzle which introduces gas into the container without contacting the container, wherein the nozzle includes: a main opening where the gas at a first flow rate is discharged; and a sub-opening which has a collar-shape surrounding said main opening, and where the gas at a second flow rate is discharged in a same direction as a direction of the gas discharged from said main opening, and the container includes a guide which guides the gas discharged from said sub-opening in a direction of the gas discharged from said main opening.

Embodiments of t~~T~~he present invention ~~has been conceived in view of the above findings, and it is an object of the present invention to~~ provide a nozzle which can introduce gas into a container efficiently, while introducing the gas into the container without contacting the container to prevent the particles from being formed.

Disclosed herein ~~In order to solve the problem, the nozzle according to the present invention~~ is a nozzle which introduces gas into a container without contacting the container, the nozzle comprising: a main opening where the gas at a first flow rate is discharged; and a sub-opening which has a collar-shape surrounding the main opening, and where the gas at a second flow rate is discharged in a same direction as a direction of the gas discharged from the main opening.

This forms an air curtain around the main opening with the gas discharged from the sub-opening. Accordingly, it is possible to avoid the gas discharged from the main opening from leaking from the gap between the nozzle and the container expeditiously, allowing efficient introduction of the gas into the container.

According to embodiments of the present invention, even when the container is repeatedly attached to and detached from the nozzle for purging the inside of the container, particles are not formed due to the contact of the container and the nozzle. Furthermore, it is possible to efficiently introduce the gas discharged from the nozzle into the container, which suppresses the amount of wasted gas.