

PROJECT #3 ABSTRACT

Drink Fountain Bottles and System for Refrigerators

Drink fountain systems for refrigerators would be a convenient way to dispense drinks (such as carbonated drinks, fruit juices, milk, mineral water, beer, etc.) with numerous advantages:

- 1. Convenience in dispensing drinks and organizing additional items in the newly-offered space economy**
- 2. Energy efficiency, by the subsequently lesser need to open the refrigerator to get a drink**
- 3. Reduction in solid waste generation, with usage of big economy bottles (5 liters to 10 liters) that can be reused (up to 50 to 100 times)**
- 4. Savings in packaging costs**

The reusable fountain bottle will be rectangular in shape with a specially designed extended mouth that has a stopper with two passages, liquid and air passage. The design is such that it can be used for every kind of drink, carbonated drink which is under pressure and non carbonated drink where air replacement is necessary for smooth flow. Moreover carbonated drinks will retain gas till the last drop in the bottle.

New refrigerators will be designed to accommodate fountain bottles with almost no additional cost for this modification. Old refrigerators doors can be replaced or modified, along with some changes in the shelving arrangement, to accommodate fountain bottles. When no fountain bottle is placed in the refrigerator, all flaps will remain closed. The construction of the flaps will be such that they will completely cover and insulate the bottle mouth portion, extended outside the refrigerator.

How to ensure cleaning of bottles before refilling?

Who will clean empty bottles before refilling? Basically it should be the responsibility of customers to return clean bottles. They can rinse empty bottles with hot water, and preferably keep them filled with a dilute solution of dish cleaning detergent/baking soda/soda ash etc. The drink filling company should also wash bottles before refilling. Alternatively the drink/milk company can set up filling units at big food stores and customers may be required to bring thoroughly cleaned bottles for refilling.