

PATENT OF AN AIR CONDITIONING AND FREEZING SYSTEM FOR COUNTERS

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Index

- 1. Current counters systems**
- 2. Novelty of the patent**
- 3. System of the patent**
 - 3.1. Features
 - 3.2. Functioning
 - 3.3. Advantages
 - 3.4. Examples of applications

1. Current vitrines systems

- If opened counter: the proper temperature and humidity conditions are not maintained for the desired shelf life of each product

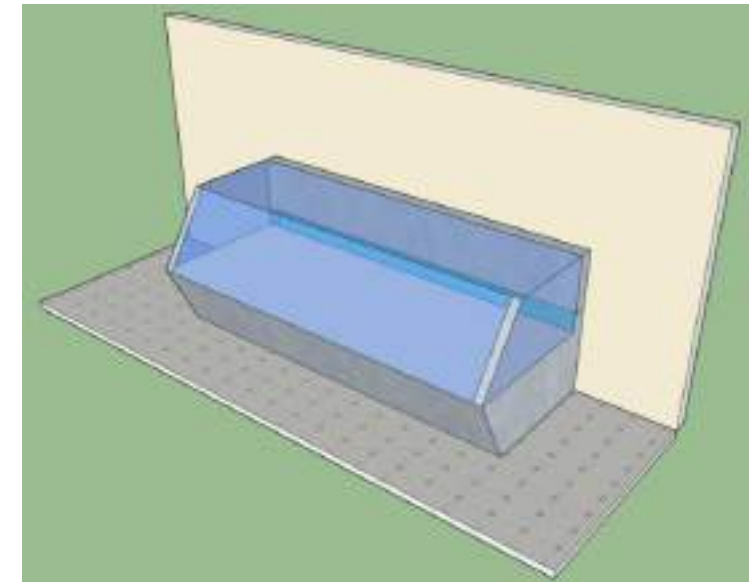
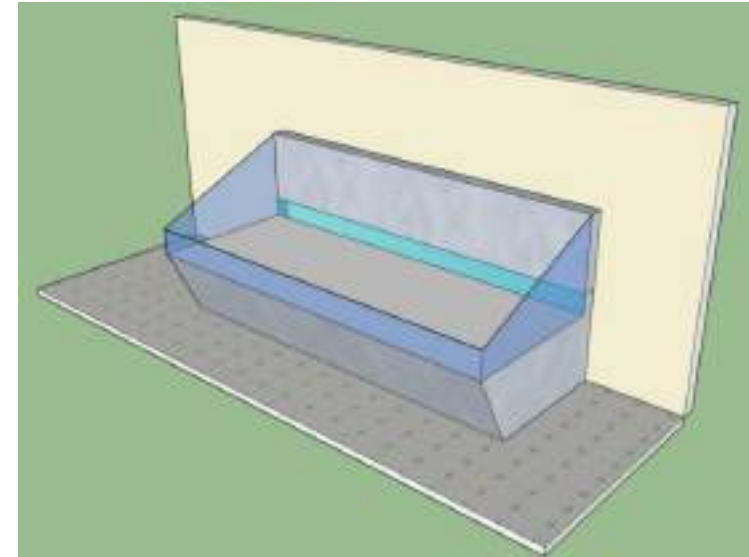


The products are kept for
LESS DAYS

- If closed counter: UNCOMFORT for users opening and closing the lid every time



LESS ATTRACTIVE for the
consumer



2. Novelty of the patent

Products that must be maintained under certain conditions of temperature and humidity



Counter with **air conditioning and freezing system**



Main advantage: ensures certain temperature and humidity conditions of the products even when the showcase is open



Creating an **air-conditioned curtain** over the opening of the vitrine



Prolongation of the exhibition time of the products
PRESERVING their quality and expiration

3.1. Features of the patent system

System for vitrines of all types of food

Cold Drinks and
Soft Drinks

Ready-made meals

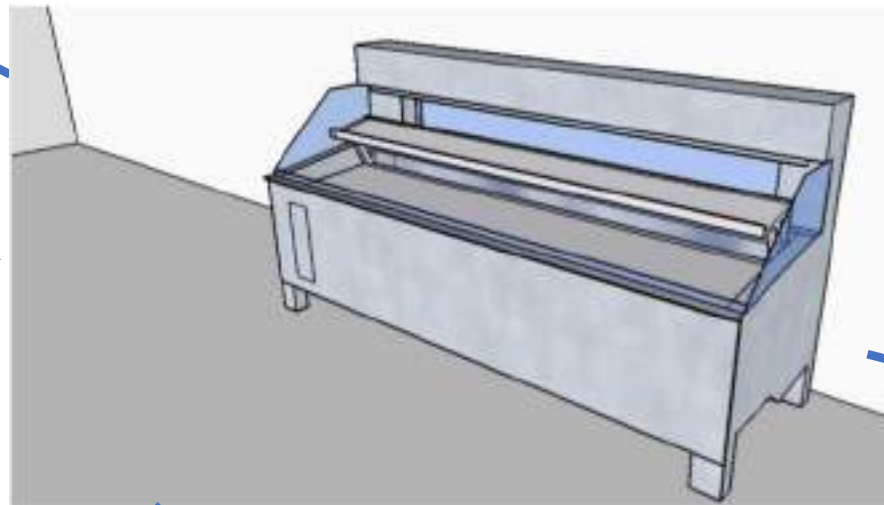
Fruits

Vegetables

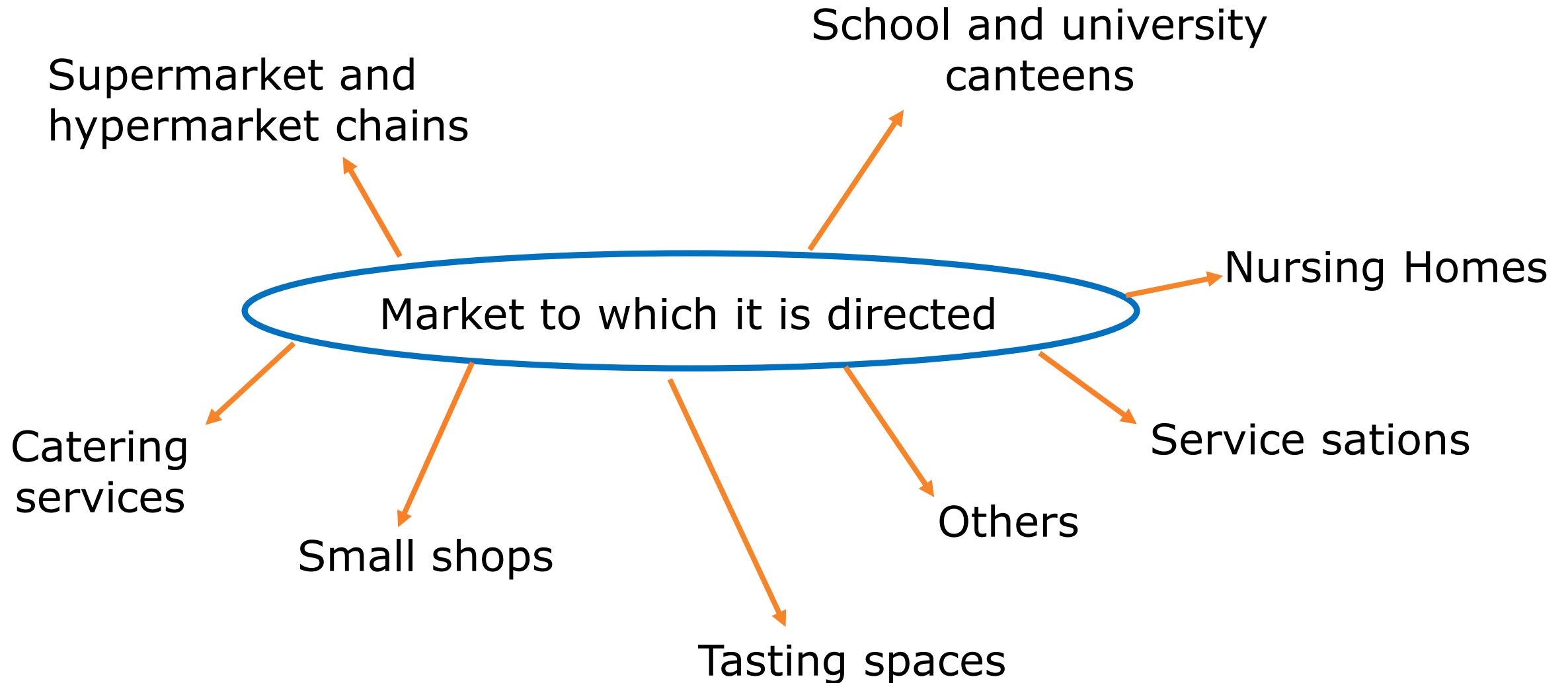
Icecreams

Salty products

Sweet products



3.1. Features of the patent system

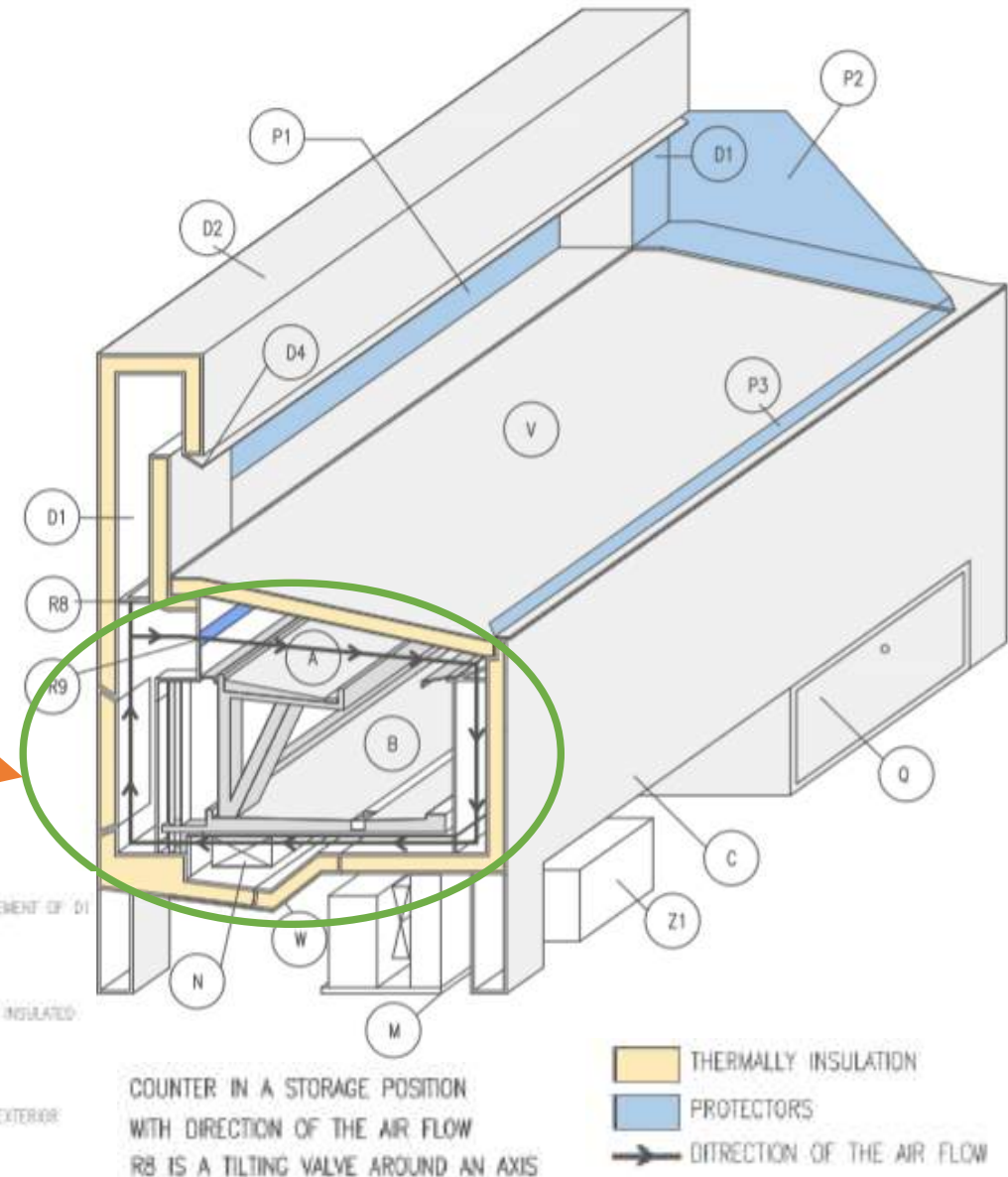


3.2. Functioning of the patent system

- ✓ Support trays with the possibility of **AUTOMATIC DISPLACEMENT** to move from CLOSED TO OPEN POSITION, and VICEVERSA
- ✓ SYSTEM in which the counter can have 3 positions:

Closed Position:

Temperature conditions are controlled only in the storage area.



R8 SEALING SYSTEM (GRD/GATE/VALVE OR SIMILAR IN THE BASEMENT OF D1)
R9 GRILL FOR THE AIR ENTRANCE INSIDE THE COUNTER
W REMOVABLE LOWER THERMALLY INSULATED COVER FOR THE MAINTENANCE
V THERMAL INSULATION COVER
Z1 RESERVOIR SITUATED ON THE EXTERIOR OF THE COUNTER

D2 THERMALLY INSULATED HORIZONTAL CONDUIT (AIR CURTAIN)
D3 LONGITUDINAL GROOVE WHICH EXTENDS THROUGH THE THERMAL HORIZONTAL CONDUIT ALLOWING THE AIR CURTAIN
D4 EXTERIOR PLATE WHICH DIRECTS THE AIR TOWARDS THE FRONTAL RETURN OPENING OF THE COUNTER
M CONDENSING UNIT
N EVAPORATOR

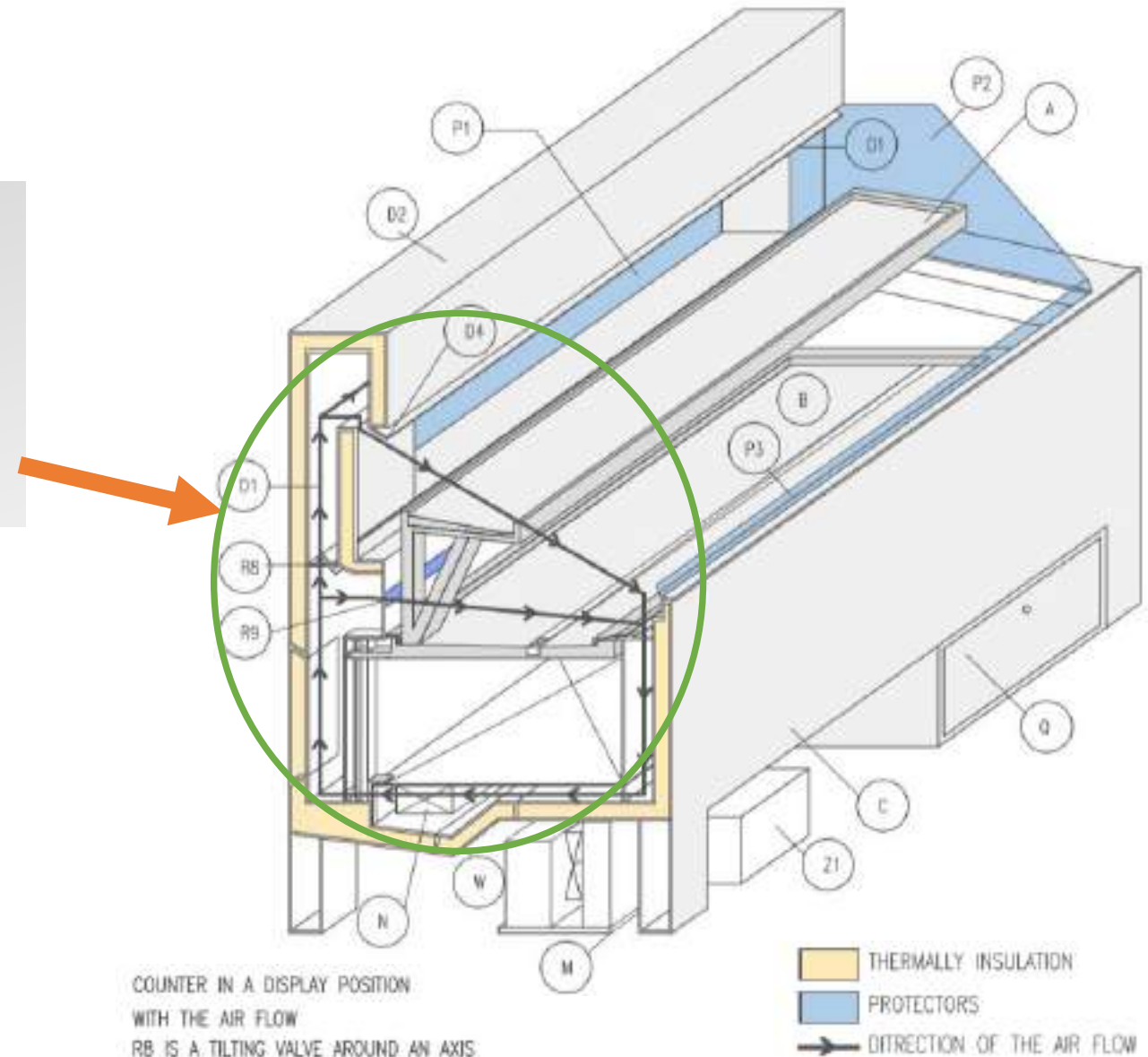
P PROTECTORS
P1 REAR PROTECTOR
P2 LATERAL PROTECTOR
P3 FRONTAL PROTECTOR
Q AUXILIARY STORAGE DRAIN

R8 SEALING SYSTEM (GRD/GATE/VALVE OR SIMILAR IN THE BASEMENT OF D1)
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3.2. Functioning of the patent system

Open Position Mode 1:

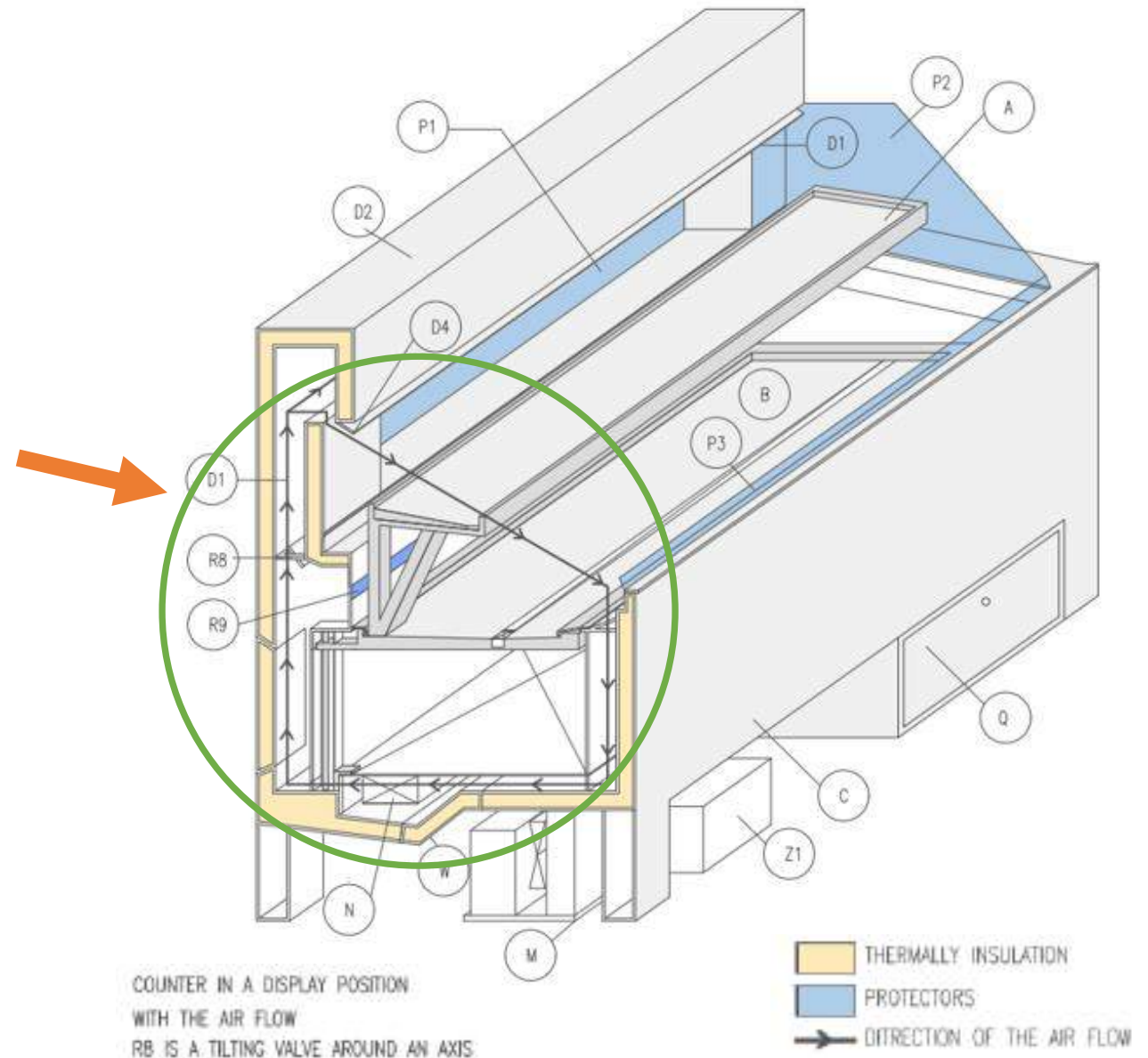
The temperature conditions of the display zone and the storage area are controlled



3.2. Functioning of the patent system

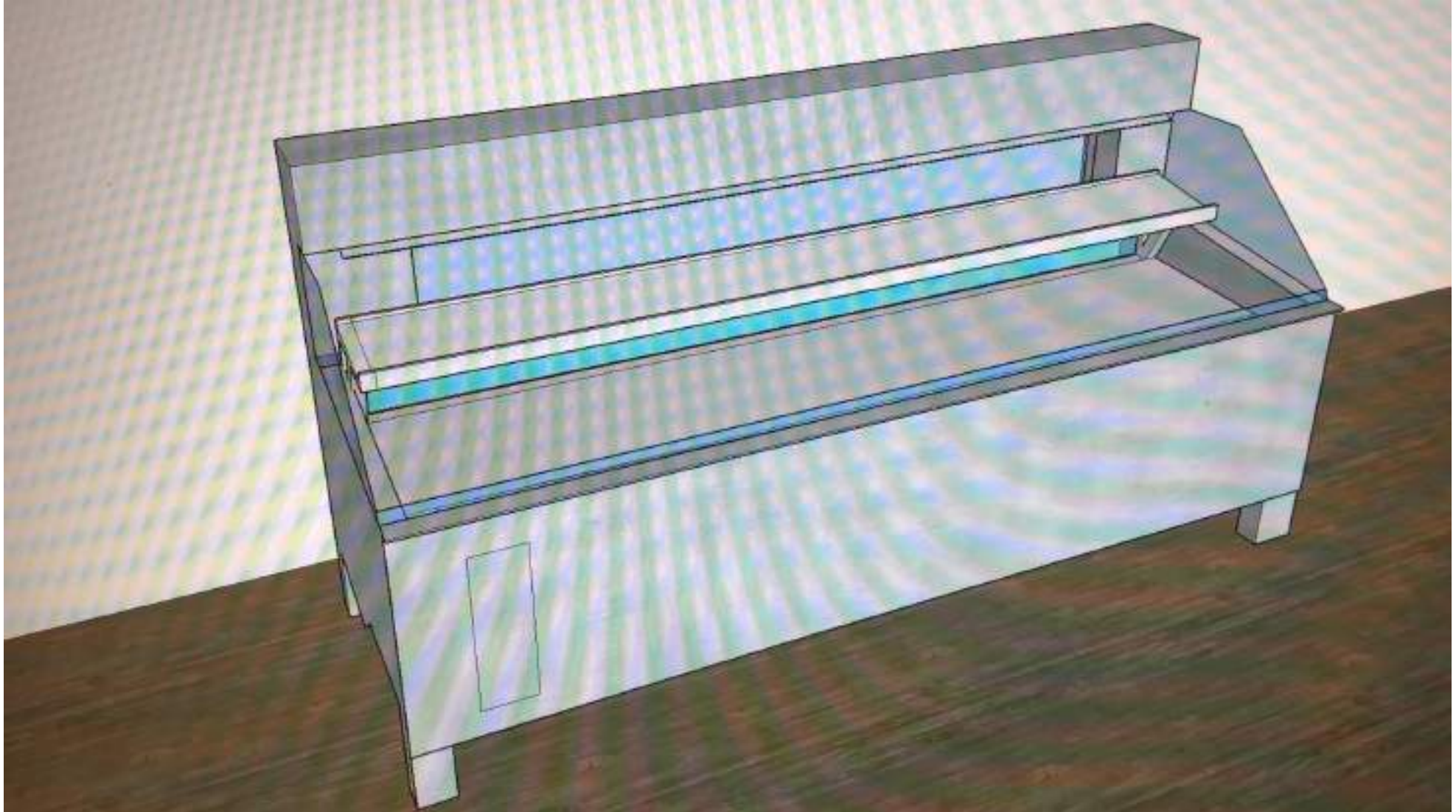
Open Position Mode 2:

Temperature conditions are controlled only in the display zone.



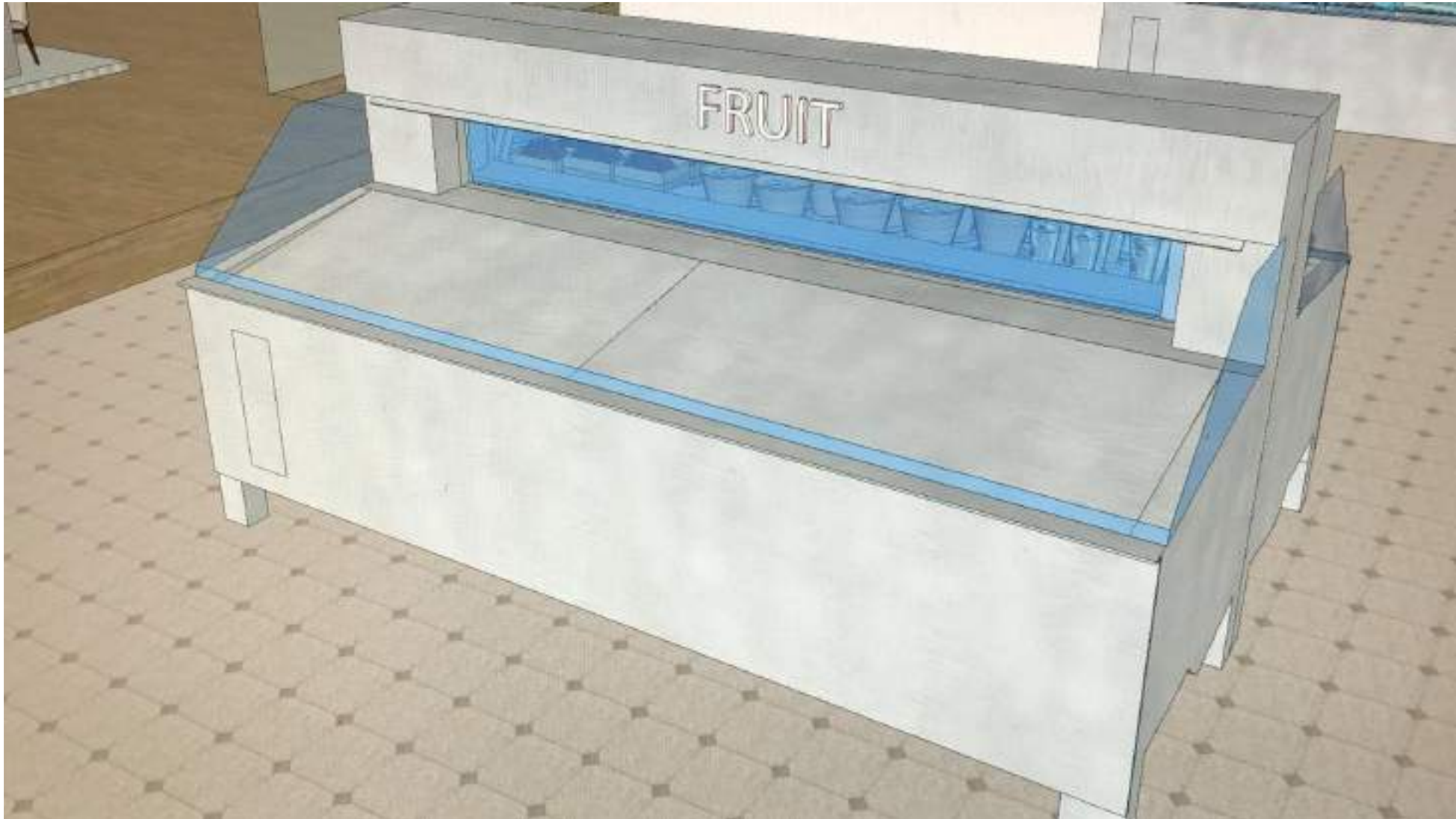
3.2. Functioning of the paten system

✓ Vertical movement of the support trays:



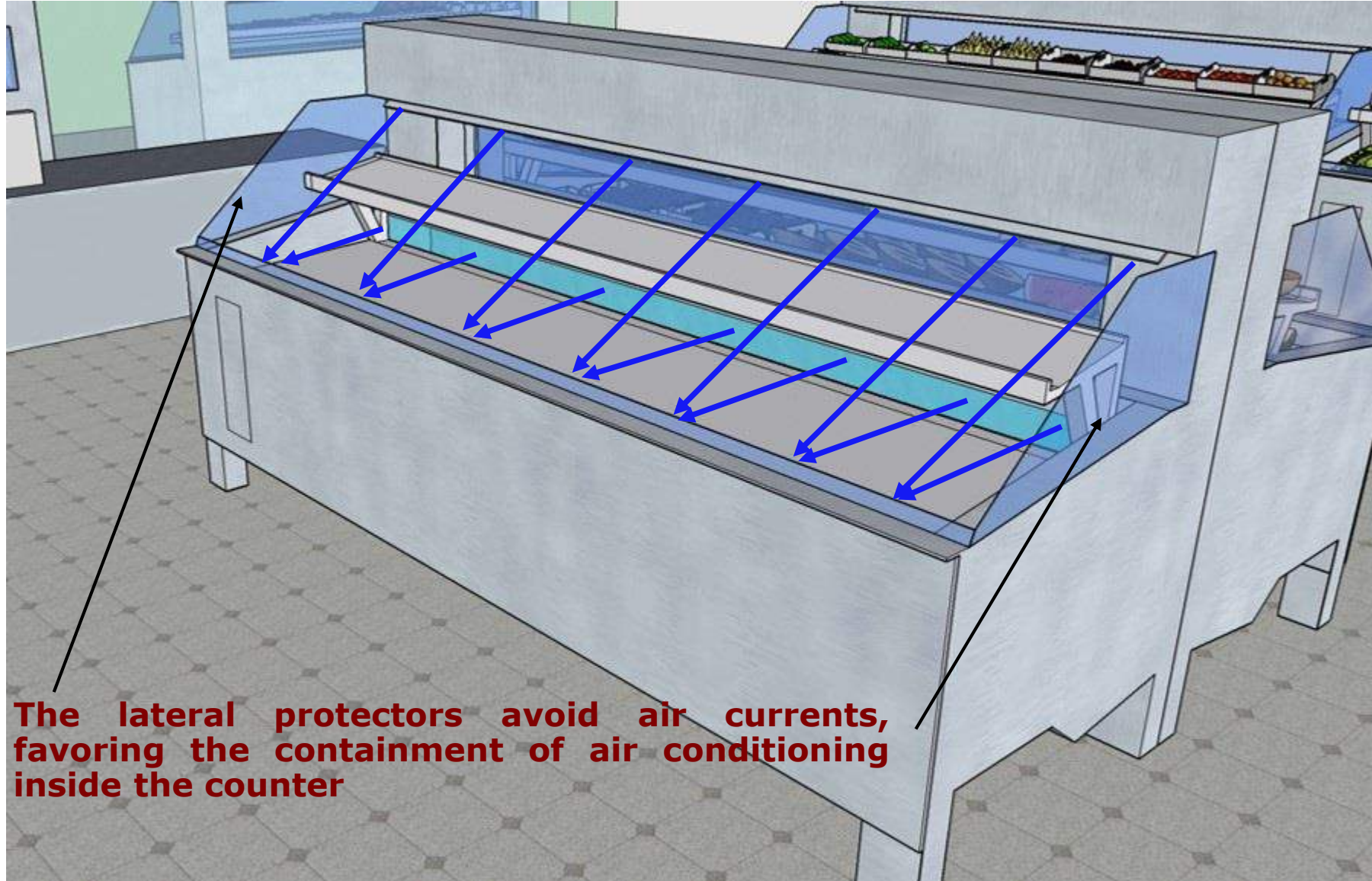
3.2. Functioning of the patent system

✓ Opening and closing of the counter:



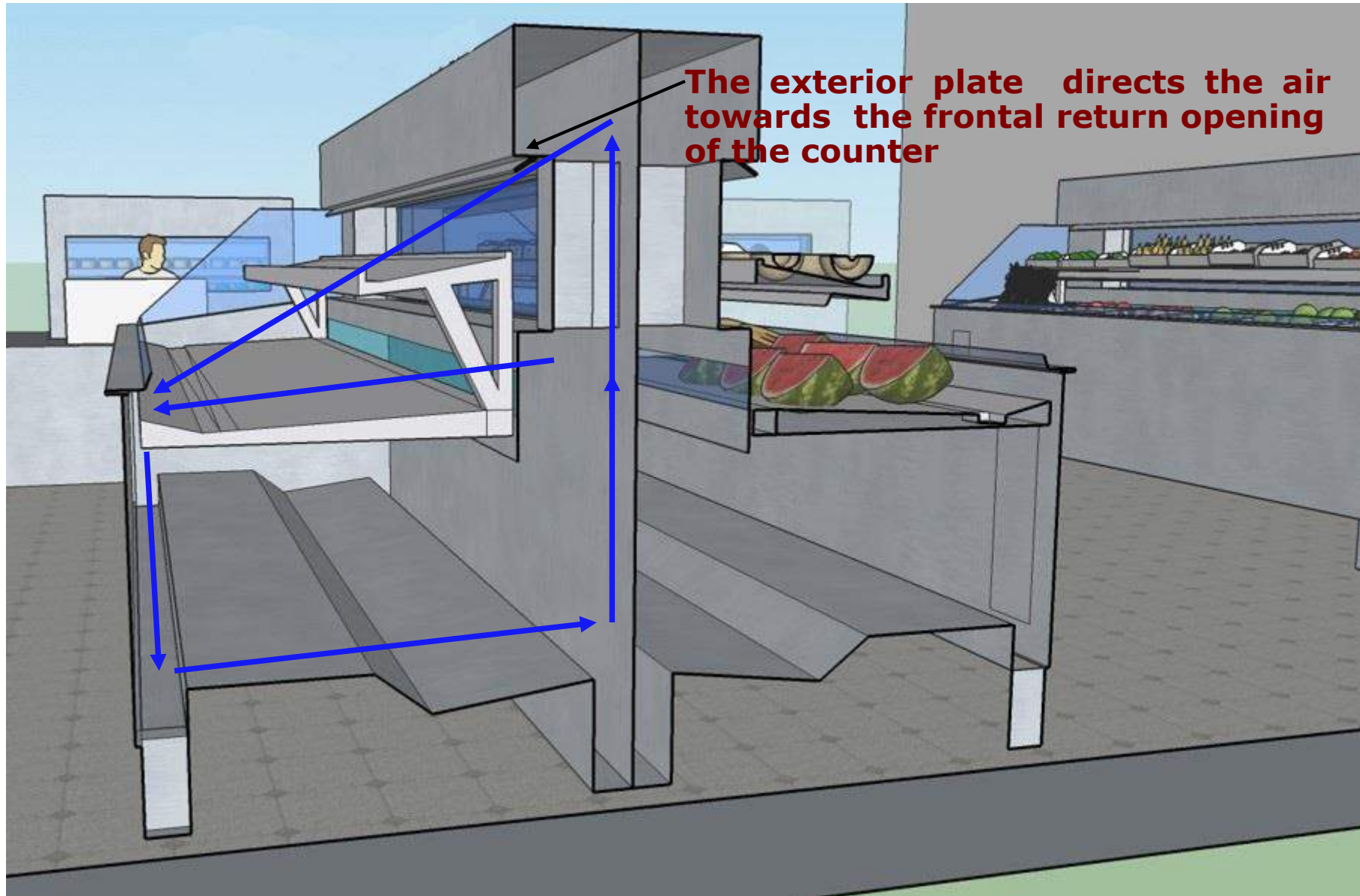
3.2. Functioning of the patent system

✓ Air curtain and conventional refrigeration activated when the counter is in a display position, Mode 1



3.2. Functioning of the patent system

✓ Activated refrigeration when the counter is in a display position, mode 1, cross section



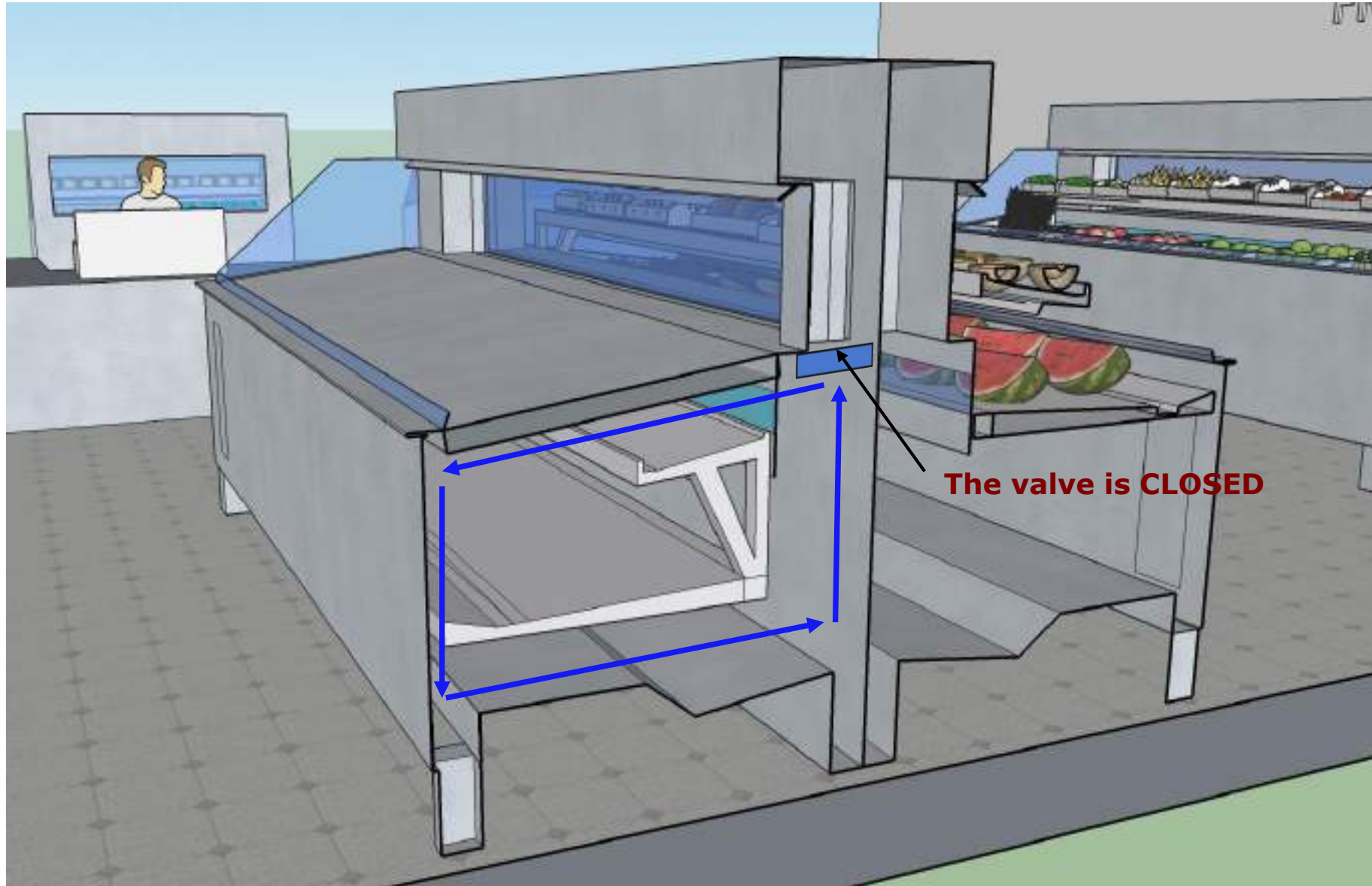
3.2. Functioning of the patent system

- ✓ Air curtain activated when the counter is in a display position, mode 1



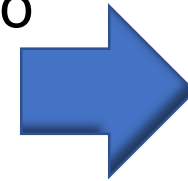
3.2. Functioning of the patent system

- ✓ Refrigeration when the counter is in a store position, acting like a freezing chamber



3.3. Advantages of the patent system

- ✓ Improvement of temperature and humidity conditions
- ✓ Labor savings by not having to withdraw the products on a daily basis
- ✓ Energy consumption savings
- ✓ Heating mode for ready-made meals
- ✓ Improvement of the conservation of each family of products according to their conservation temperature
- ✓ Comfort to be the products more available to the consumer
- ✓ Savings in product losses
- ✓ Savings in space
- ✓ Easy activation of the external air curtain



**GREATER
NUMBER OF
SALES**

3.3. Advantages of the patent system

- ✓ Less cost than the cost of large storage/ freezing chambers
- ✓ No external freezing chamber is necessary in which there is a risk of ice formation on the ground and possible falls of the operators
- ✓ It prevents the fall of food to the ground to not have to move them
- ✓ There is no risk of chemical contamination with cleaning products
- ✓ There is no risk of crossed contamination with another category of food

3.4. Applications of the patent system

- ✓ Exterior area



3.4. Applications of the patent system

- ✓ Supermarket area



3.4. Applications of the patent system

- ✓ Tasting and restaurant area



3.4. Applications of the patent system

- ✓ Tasting area: Activation of the air curtain in a tempered mode



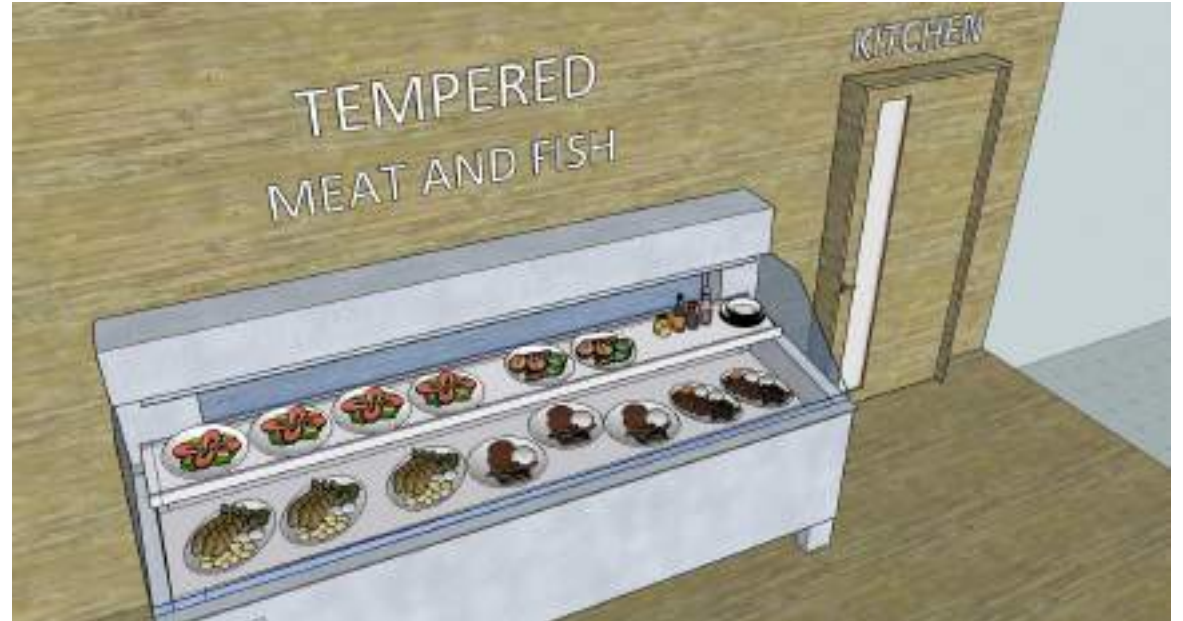
The hot prepared dishes can be cooked in advance, to expose them in the counters, in a comfortable and simple way, avoiding crowds in the kitchen

Being exposed tot he view of the diners, their sale is favored

3.4. Applications of the patent system

the ready made meals hot and warm, come directly from the kitchen, and the heated air curtain keeps them tempered without needing to reheat them when serving

Starters



Main dishes

3.4. Applications of the patent system

- ✓ General Overview

