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FRUIT RIPENING APPARATUS

Filed Aug. 13, 1929

2 Sheets-Sheet 1

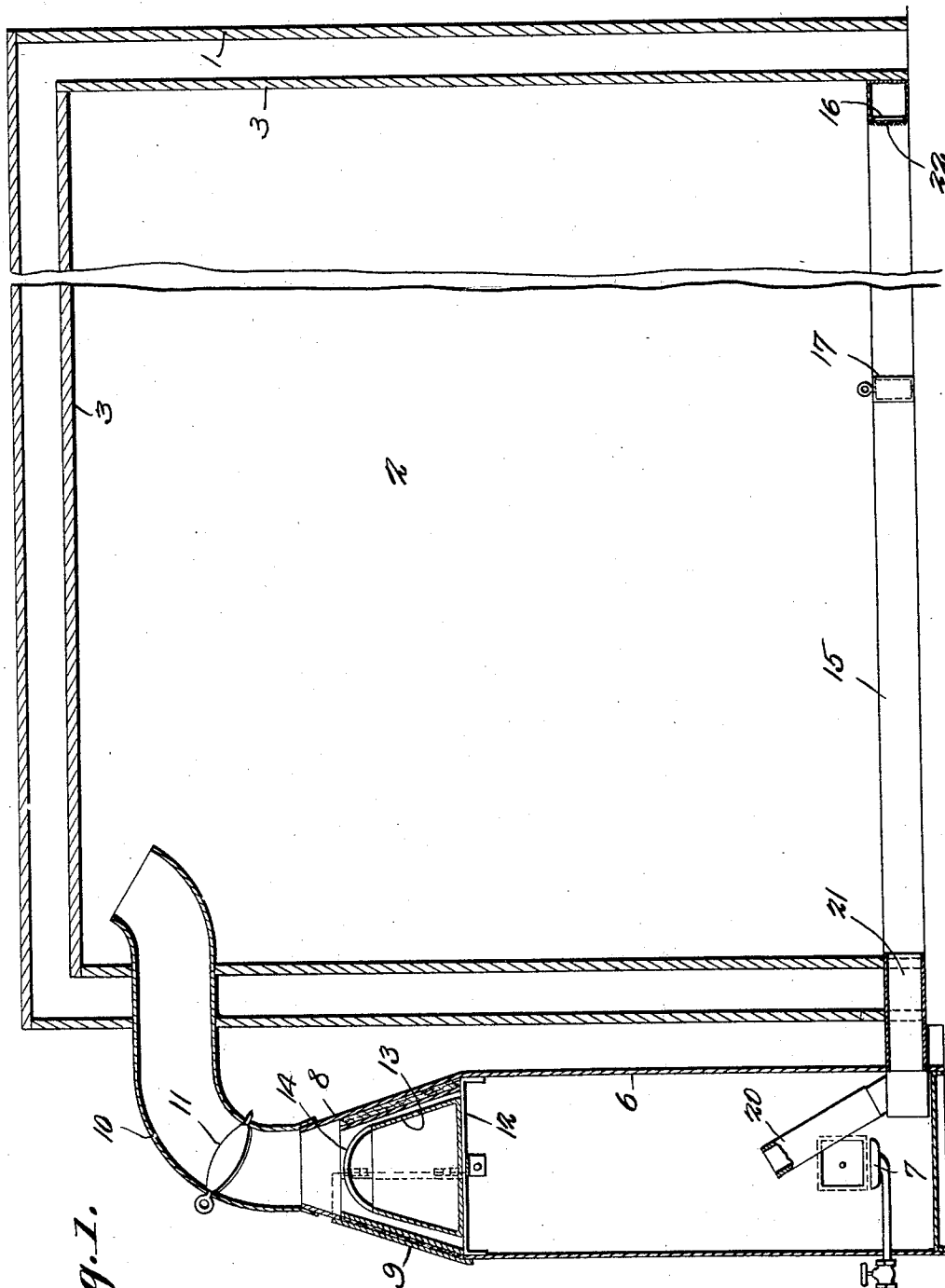


Fig. 1.

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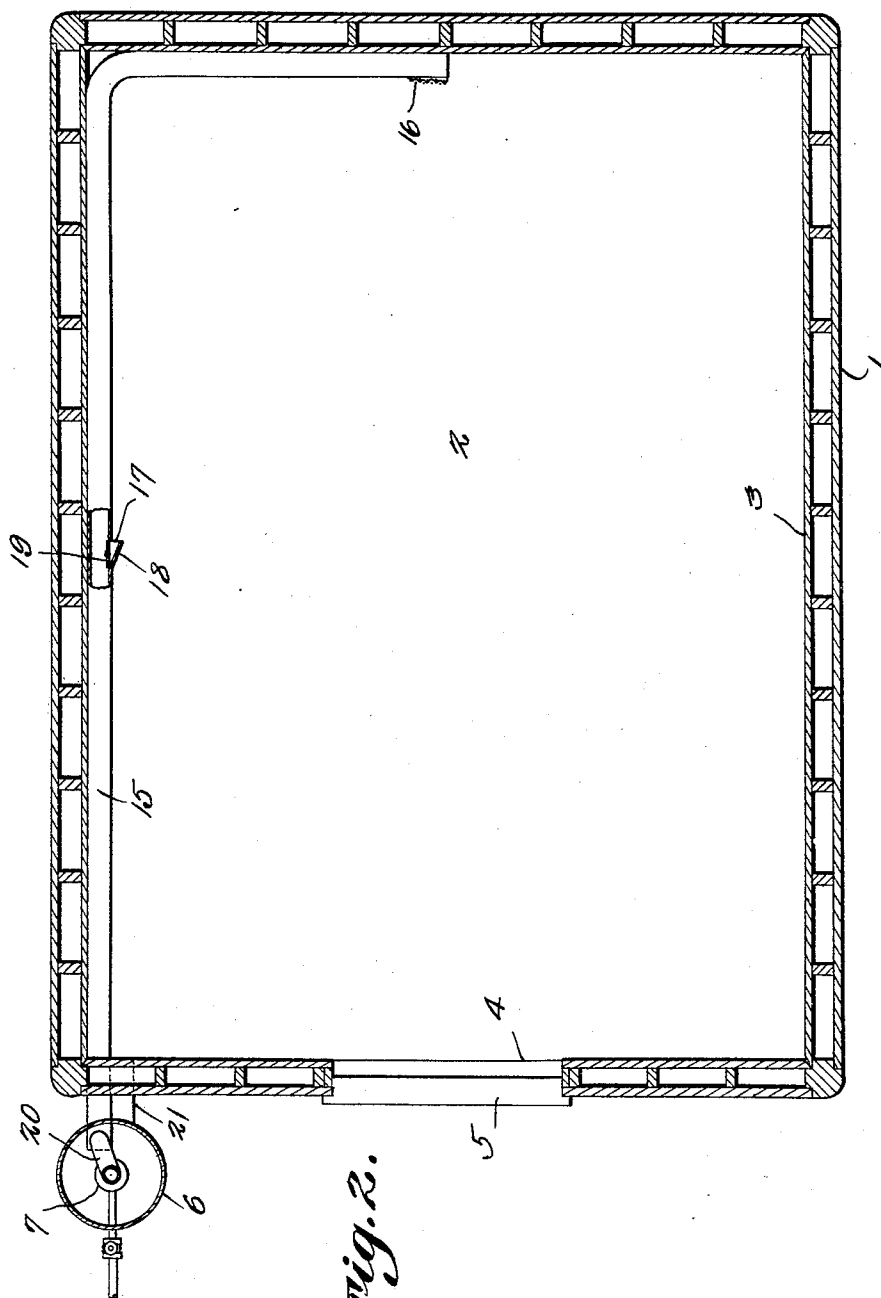
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UNITED STATES PATENT OFFICE

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FRUIT RIPENING APPARATUS

Application filed August 13, 1929. Serial No. 385,674.

This invention relates to apparatus designed for ripening fruits, such as bananas, one of the objects being to provide an enclosure having novel means whereby an efficient circulation of heated air can be set up, there being provision for supplying moisture to the air in proper quantities.

Another object is to provide heating apparatus in which the same air is used repeatedly so that the carbon dioxide is preserved and the ripening process thereby expedited.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed may be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings,

Figure 1 is a vertical longitudinal section through the apparatus, a portion of the ripening room being broken away.

Figure 2 is a horizontal section on a reduced scale.

Referring to the figures by characters of reference, 1 designates an enclosure forming a ripening room 2 the walls of which are preferably formed of a cellular structure for the purpose of insulation, this cellular structure being indicated generally at 3. The ripening room has a door opening 4 adapted to be closed tightly by a door 5, this opening being the only means whereby access may be had to the ripening room.

Located outside of the room is a heater including a drum 6 in the lower portion of which is arranged a burner which can be used for burning gas or oil, this burner being indicated at 7. The upper portion of the drum is tapered as indicated at 8 and is provided with a door 9. An outlet flue 10 extends from the top of the tapered portion 8 and opens into the upper portion of the room 2 at one end, there being a damper 11 in this

flue for controlling the flow of heated air therethrough to the room.

Crossed supporting strips 12 are mounted in the upper end portion of the drum 6 below the door and serve to support a water container 13 adapted to be inserted through the door, when opened. This container has a bail 14 at its upper end by means of which it can be easily lifted.

Extending along one side of the room 2 at the floor thereof is a suction flue 15 one end of which is extended partly across that end wall of the room remote from the drum 6. An air inlet 16 is provided in this flue at or adjacent to the middle portion of the wall remote from the drum and another air inlet 17 is provided in the flue adjacent the center of one side wall. This latter inlet has a deflecting shield 18 at one side thereof disposed at an acute angle to the flue. A damper 19 is located in the inlet 17 and by means thereof the flow of air into the inlet can be controlled.

Flue 15 has an outlet pipe 20 extending from one end thereof and disposed in the lower portion of the drum 6, this outlet pipe overlying the burner 7.

Another air outlet 21 is formed in that wall of the ripening room 2 nearest the drum and opens into the bottom portion of the drum. Thus it will be seen that air is free to leave the ripening room through three outlets, namely 16, 18, and 21, located at three different sides of the room but all positioned close to the floor. All of these inlets can be formed with screen protecting means 22 to prevent large particles from being sucked with the air into the flue.

In practice the fruit to be ripened is positioned properly in the room 2. Thereafter the container 13 is filled with water and inserted through the open door 9 so as to rest on the supporting strips 12. The door is closed and the fuel is lighted at the burner 7. This burning fuel will heat the pipe 20 and cause the air therein to rise rapidly, thereby creating a suction through the flue 15.

The heated air will rise in the drum 6, flow around the container 13, and thence outwardly through flue 10 into the upper portion of the ripening room 2. It will then circulate

late through this room and pass outwardly by way of the outlets 16, 18 and 21, and return to the heater.

Importance is attached to the fact that the fruit in the room 2 is ripened by air and gas which is not replenished. Instead the same air with the carbon dioxide given off by the fruit is used repeatedly, it having been found in practice that by following this procedure the fruit is more quickly ripened than would otherwise be the case.

By manipulating the damper 11 the circulation through the ripening room can be controlled readily. A further control can be effected by manipulating the damper 19.

After a desired amount of moisture has been supplied to the circulating air, container 13 can be removed.

What is claimed is:

The combination with a fruit ripening room, of a drum located outside of the room, a burner in the lower portion thereof, a water container removably mounted in the upper portion thereof, a flue for conducting heated air from the upper portion of the drum to the upper portion of the room adjacent one end of the room, a damper in said flue, a flue having inlets for receiving air from one side and end of the room adjacent the bottom thereof and conducting it to the lower portion of the drum, dampers for said inlets, and a pipe within the drum extending from one end of the flue and inclined upwardly over the burner, said pipe being open at its ends, said room, drum and flues cooperating to form a sealed system for the repeated circulation of the same air or gas throughout the ripening operation.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature.

JAMES O. WALSH.

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