

Feb. 20, 1945.

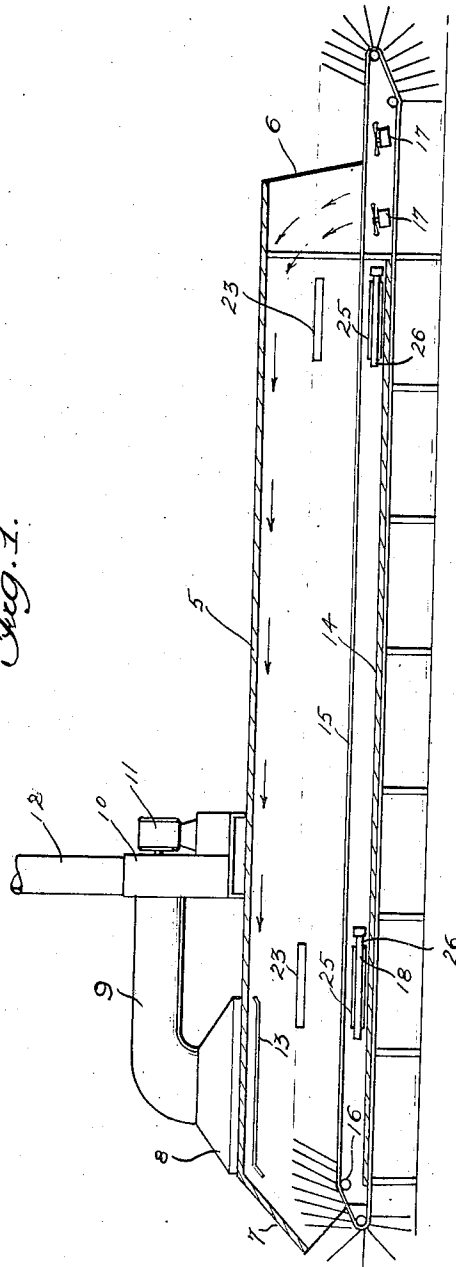
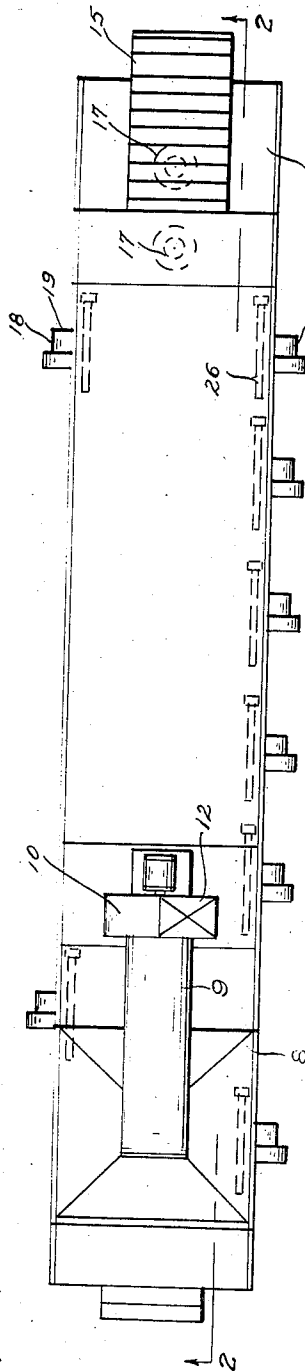
S. ALTAMORE

2,369,706

RECIRCULATING SYSTEM FOR GAS FIRED OVENS

Filed Oct. 22, 1943

3 Sheets-Sheet 1



Inventor

SEBASTIAN ALTAMORE

By

SEBASTIAN ALTAMORE
Clarence A. O'Brien
and Harvey B. Jacobson
Attorneys

Feb. 20, 1945.

S. ALTAMORE

2,369,706

RECIRCULATING SYSTEM FOR GAS FIRED OVENS

Filed Oct. 22, 1943

3 Sheets-Sheet 2

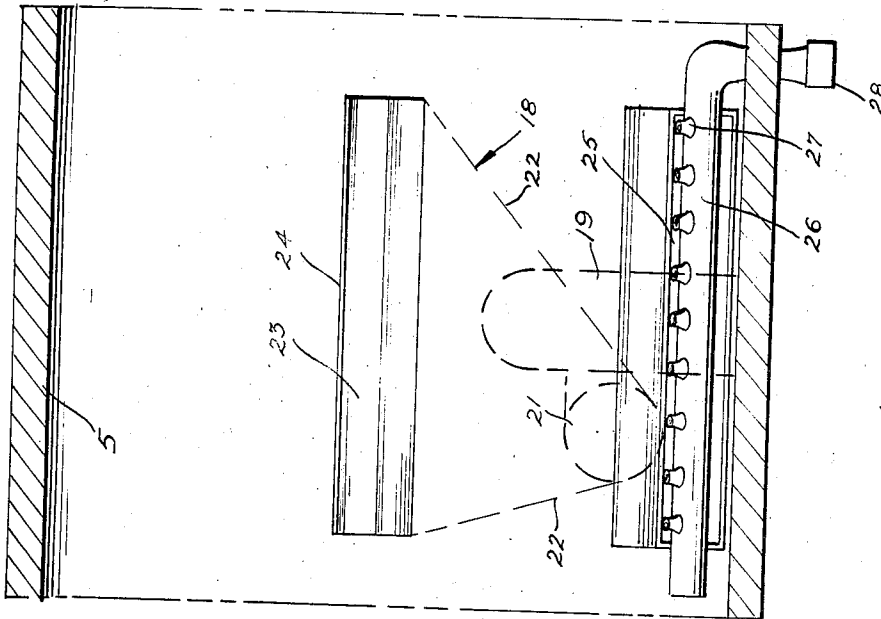


Fig. 4.

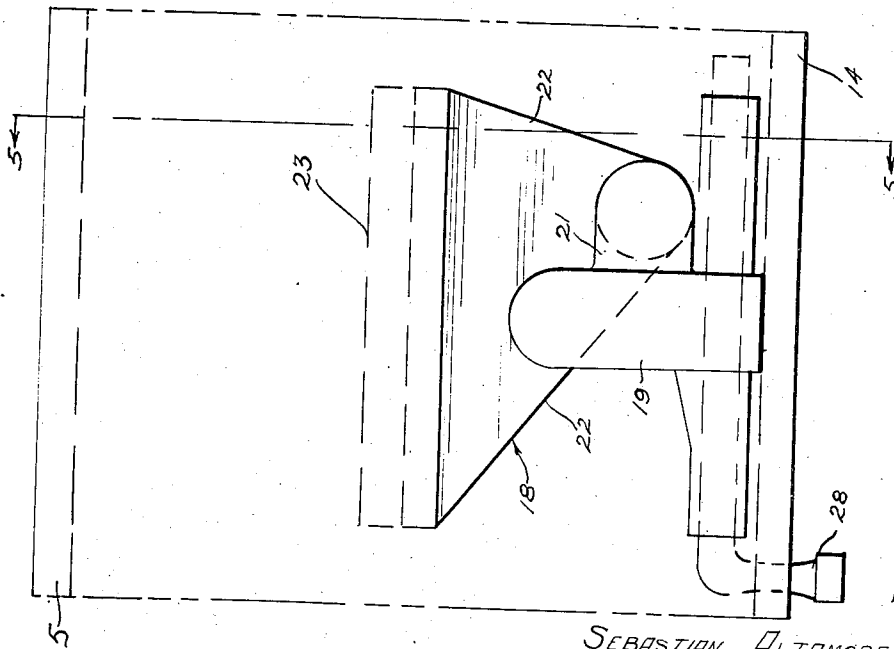


Fig. 3.

Inventor

SEBASTIAN ALTAMORE

By

Clarence A. O'Brien
and Harvey B. Jacobson
Attorneys

Feb. 20, 1945.

S. ALTAMORE

2,369,706

RECIRCULATING SYSTEM FOR GAS FIRED OVENS

Filed Oct. 22, 1943

3 Sheets-Sheet 3

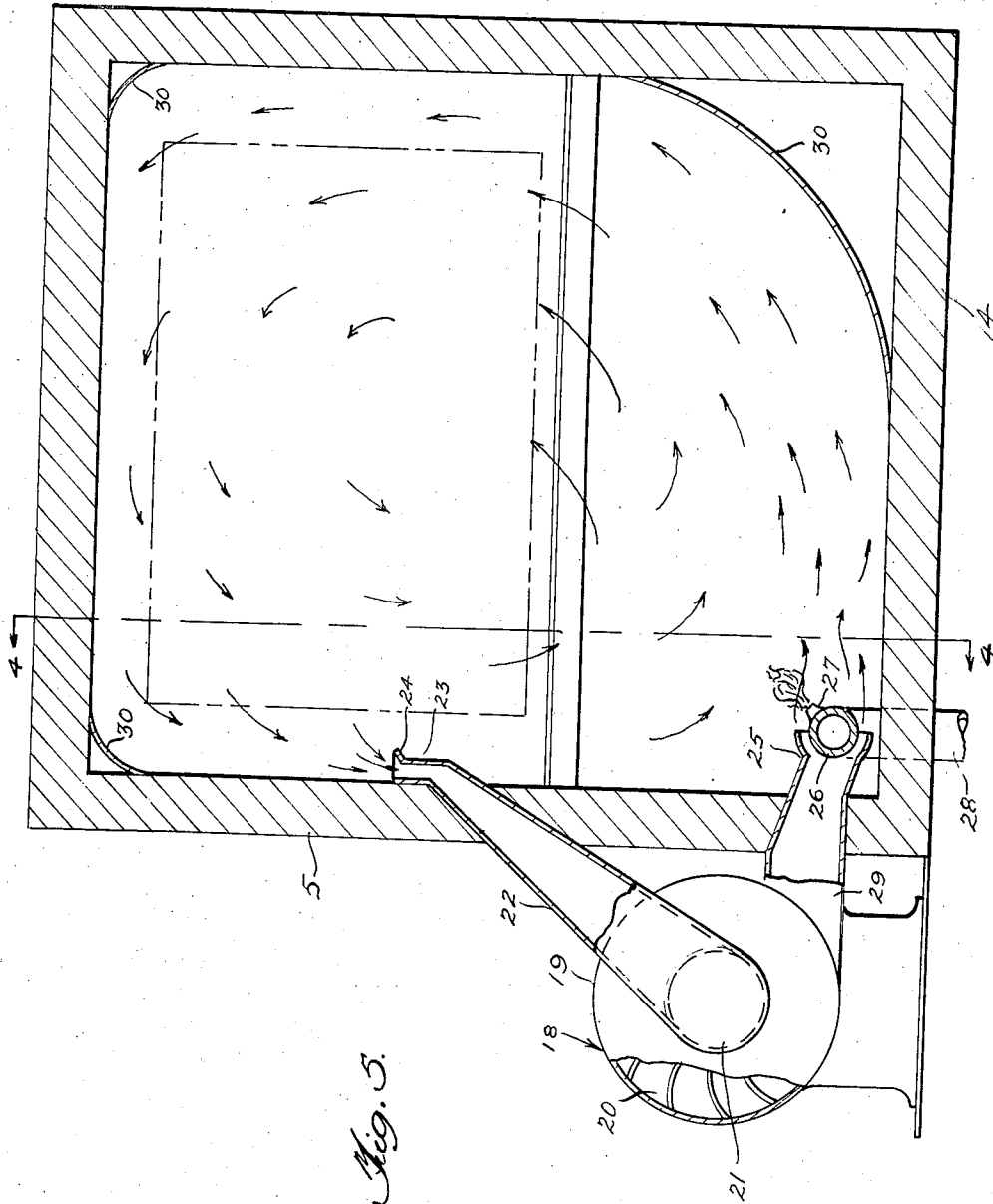


Fig. 5.

Inventor

SEBASTIAN ALTAMORE

By

Clarence A. O'Brien
and Harvey B. Jacobson
Attorneys

UNITED STATES PATENT OFFICE

2,369,706

RECIRCULATING SYSTEM FOR GAS-FIRED OVENS

Sebastian Altamore, Maspeth, N. Y.

Application October 22, 1943, Serial No. 507,347

2 Claims. (Cl. 263—8)

This invention relates to new and useful improvements in recirculating systems for ovens in which work is heated.

The principal object of the present invention is to provide a special recirculating system for heating ovens wherein the heat is equally distributed across the work.

Another important object of the invention is to provide a special recirculating unit for heating ovens which will serve to recirculate heated air in a circular motion across the oven.

Other objects and advantages of the invention will become apparent to the reader of the following description.

In the drawings:

Figure 1 is a top plan view of the improved oven.

Figure 2 is a fragmentary vertical longitudinal view through the oven.

Figure 3 is an outside elevational view of one of the recirculating units shown in relation to a section of the oven shell.

Figure 4 is an inside elevational view of the unit shown in Figure 3.

Figure 5 is an enlarged detailed sectional view taken substantially on the line 5—5 of Figure 3.

Referring to the drawings wherein like numerals designate like parts, it can be seen that numeral 5 denotes an oven shell open at its end 6 and provided with a sloping end wall 7 at its opposite end. At the latter end of the shell 5, the top has a hood 8 from which extends a conduit 9 to a suction-blower 10 driven by an electric motor 11 and from the outlet side of which rises a stack 12. Just under the hood 8 and within the shell 5 is a baffle plate 13.

Numerals 14 denotes a floor for the shell 5 over which travels the upper flight of an endless conveyor 15, the lower flight of which passes under the floor 14, and it will be observed in Figure 2, that the conveyor belt passes over suitable rollers or the like 16.

Cooling fans 17 (motor driven) are located within the end 6 of the oven and this supplies cool air that travels just under the top of the shell 5 and is drawn to the opposite end of the shell 5 by the suction blower 10 acting through the hood 8.

The conveyor 15 carries work through the oven and in the path of circular activities of air set up by heating and recirculating units each of which is denoted generally by numeral 18. This particular unit is shown clearly in Figures 3, 4 and 5.

Each unit 18 consists of a suction blower consisting of a housing 19 in which a fan 20 operates and from the axle portion of this housing 19,

that is, the intake side, an elbow 21 extends and connects to the narrow lower portion of a substantially fan-shaped upwardly tapering conduit 22 which passes through the adjacent side wall of the oven shell 5 and terminates in a narrow elongated mouth 23, one edge of which is bent outwardly to define a deflector lip 24. The mouth 23 is disposed vertically as clearly shown in Figure 5.

Through the lower portion of the same side wall of the shell 5 and for the same unit 18 an elongated mouth 25 is provided and spacially half envelops a gas burner 26 having a plurality of jets 27 and which has a fuel supply pipe 28. A flared conduit 29 connects the mouth 25 with the exhaust side of the suction blower feature of this unit 18.

It can now be seen, that when the units 18 are functioning, and the burners 26 thereof are in operation, the blowers of these units will force across the burners 26, heating the air. The interior of the oven shell 5 has curved baffle plates 30 in the corners thereof to assist in causing a turbulent action of the heated air as it passes in circulation from the mouth 25 through and against the work on the conveyor 5 and then sucked back into the unit by way of the mouth 23 and conduit 22.

This air is recirculated time and again, each time being reheated.

While the foregoing specification sets forth the invention in specific terms, it is to be understood that numerous changes in the shape, size and materials may be resorted to without departing from the spirit and scope of the invention as claimed hereinafter.

Having described the invention, what is claimed as new is:

1. A recirculating system for heating ovens comprising an elongated shell having an open inlet end, a unit at one side of the shell, said unit including a suction blower device, a suction mouth located within the shell and being in communication with the intake side of the suction blower device, an outlet mouth located within the lower portion of the oven and being in communication with the exhaust side of the suction blower device, and heating means within the last-mentioned mouth, and a work carrying conveyor movable longitudinally in the oven shell and through which heated air is circulated crosswise of the shell by the unit, and a forced draft air evacuating unit at the other end of said shell and on top thereof.

2. A recirculating system for heating ovens comprising an elongated shell having an open

REISSUED

inlet end, a unit at one side of the shell, said unit including a suction blower device, a suction mouth located within the shell and being in communication with the intake side of the suction blower device, an outlet mouth located within the lower portion of the oven and being in communication with the exhaust side of the suction blower device, and heating means within the last-men-

tioned mouth, and means for circulating cool air longitudinally through the oven at the upper portion thereof comprising blowers at said open end of the shell and at the bottom thereof, and a forced draft air evacuating unit at the other end of the shell on top thereof.

SEBASTIAN ALTAMORE.