May 1, 1923.

1,453,260

V. E. ADLAND ET AL

DRYROOM TUMBLER

Filed Oct. 31, 1921

2 Sheets-Sheet 1

Fig. 1.

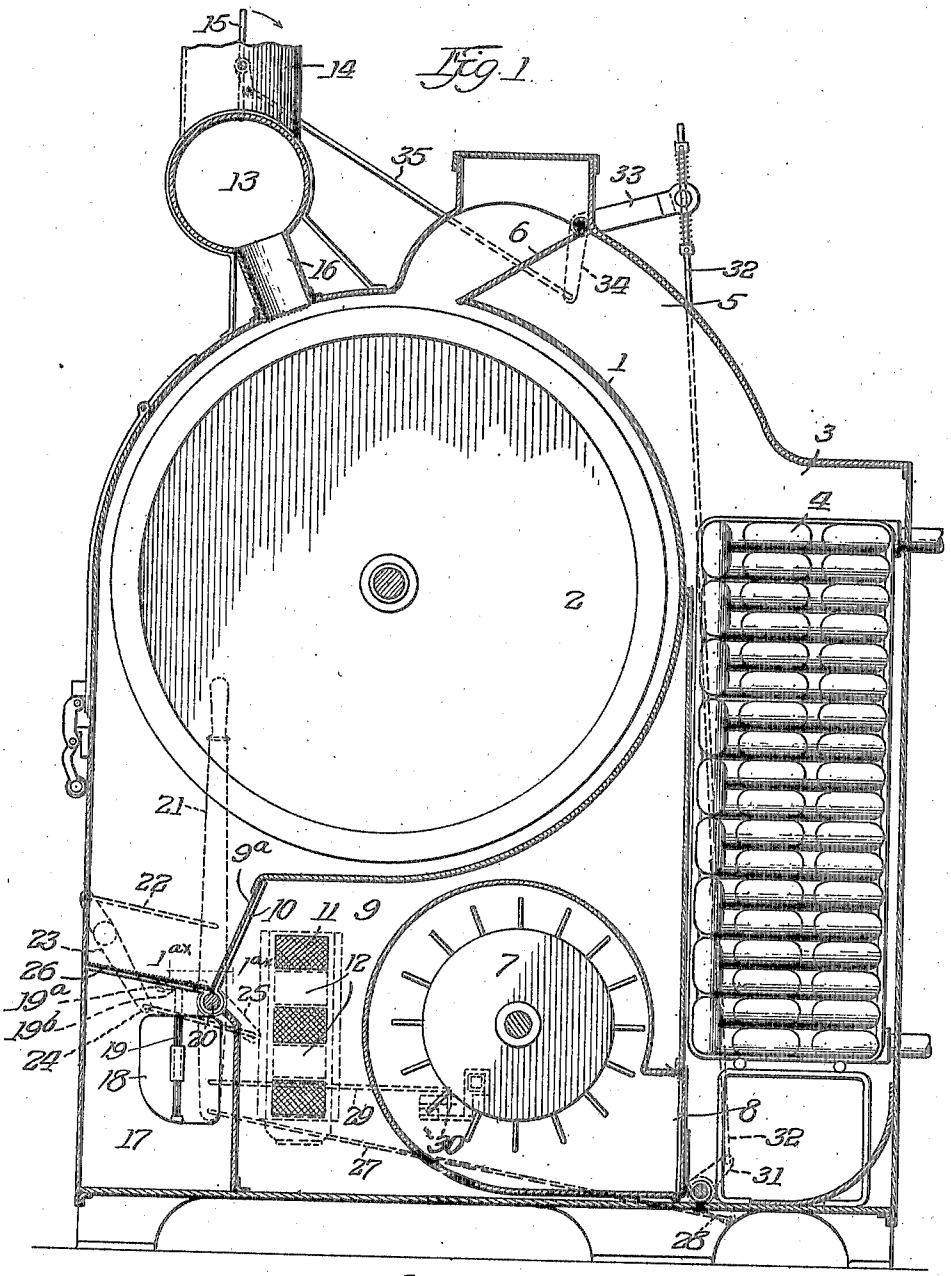
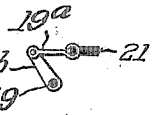


Fig. 1a



Witness:

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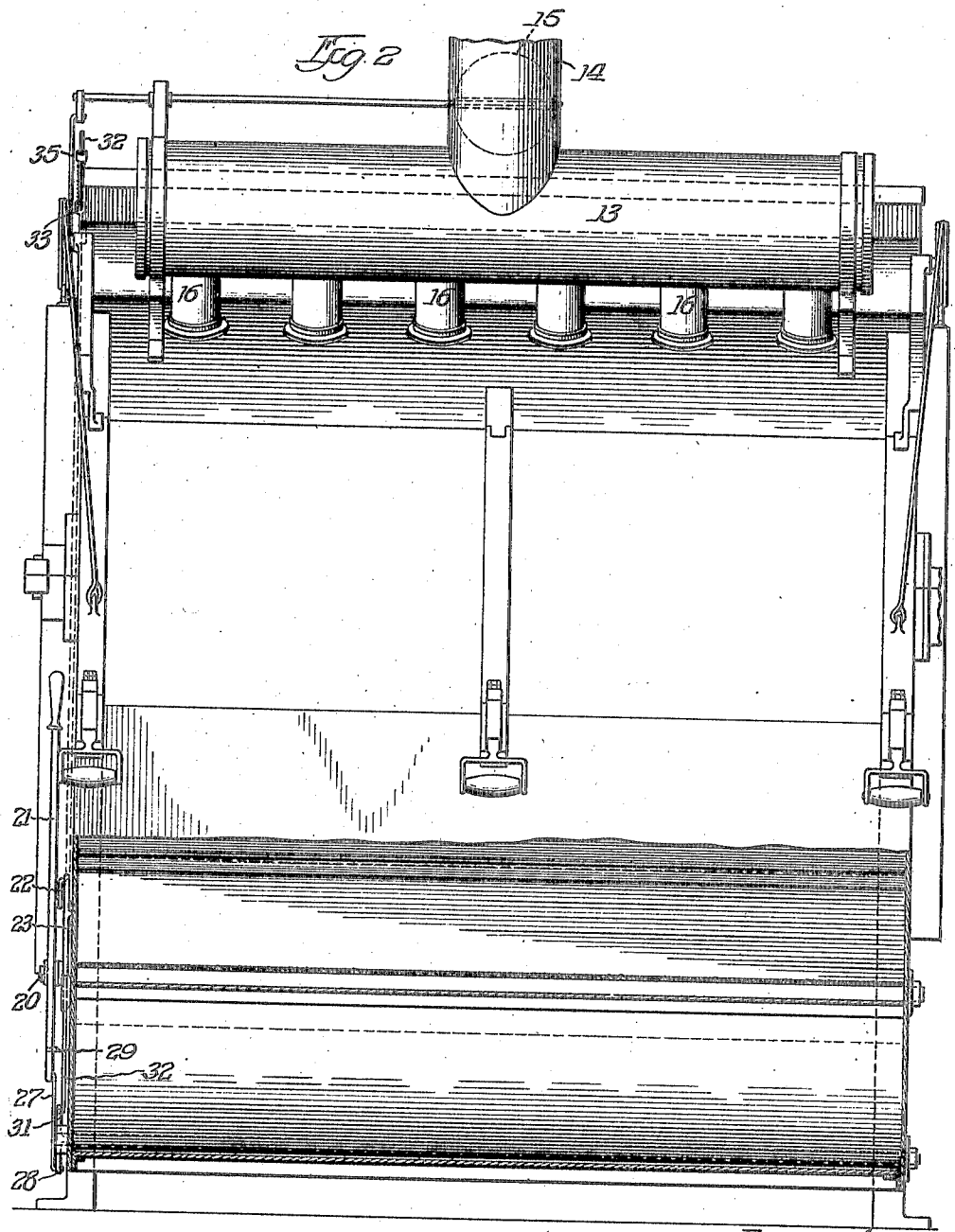
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Fig. 2



Witness:
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Patented May 1, 1923. 1,453,260

UNITED STATES PATENT OFFICE.

VICTOR E. ADLAND AND LESLIE H. KAMPER, OF CHICAGO, ILLINOIS, ASSIGNORS TO TROY LAUNDRY MACHINERY COMPANY, LTD., OF CHICAGO, ILLINOIS, A CORPORATION OF NEW YORK.

DRYROOM TUMBLER.

Application filed October 31, 1921. Serial No. 511,652.

To all whom it may concern:

Be it known that we, VICTOR E. ADLAND and LESLIE H. KAMPER, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have jointly invented certain new and useful Improvements in Dryroom Tumblers, of which the following is a specification.

This invention relates to dryroom tumblers of that class in which means are provided for causing a current of hot air for drying purposes and a current of cold air for aerating, deodorizing, and freshening purposes to traverse the rotary tumber at will, such, for instance, as illustrated in application Serial No. 364,648, filed March 10, 1920, by Leslie H. Kamper, Victor E. Adland, and William Bartholomew.

The object of the present invention is to improve the details of construction of a machine of this type, in order to obtain better distribution of the cold air and better control of the valves which open and close the various air circulating passages.

The invention will be fully understood from the following detailed description with reference to the accompanying drawings, and the novel features thereof will be particularly pointed out in the claims.

In said drawings—

Figure 1 is a vertical transverse section; Figure 1^a a detail view in section on the line 1^{ax}—1^{ax} of Figure 1; and Figure 2 a front elevation partly in section of a machine embodying the several features of the invention.

1 represents the casing containing the rotary tumbler 2, to which clothing or other articles are introduced after being subjected to dry cleaning or other cleansing process. At the back of the machine is the usual air heating chamber 3 with coils 4. This chamber has a discharge flue 5 controlled by valve 6 which delivers hot air to the top of the tumbler 2, and said chamber receives its supply of air from the fan 7 past the valve 8 at the bottom of the machine. Fan 7 is located in an intake chamber 9 which is adapted to receive air that has passed the tumbler 2 through a port 9^a controlled by a valve 10, also fresh air through outside port 11, the capacity of which can be regulated by slides 12.

In order to deliver fresh air to the tumbler 2, an air trunk 13 is mounted upon the top of the machine and provided with a feed pipe 14 controlled by valve 15, and a plurality of distributing pipes 16 which deliver over the tumbler 2 in position to direct a number of streams of air downward upon the clothing as they are tumbled within the tumbler. For free escape of this cold fresh air and unobstructed flow through the tumbler, a discharge chamber 17 is provided in the bottom of the machine which is separate and distinct from the intake chamber 9. This chamber is provided with an outlet port 18 controlled by butterfly valve 19. In order to control the flow of air through the several passages, the valves 6, 8, 10, 15 and 18 are connected for simultaneous operation by a system of levers and connecting rods which will now be described.

Fulcrumed at a suitable point, for instance, upon the shaft 20 is a lever 21 connected by rod 22 with a lever 23, which is in turn connected through rod 24 with an arm 25 rigidly connected with the valve 10 so that when the lever 21 is thrown in opposite directions valve 10 will be opened and closed. Mounted to partake of the movement of the valve 10 is a screen 26 which assumes a straining position across the top of the independent discharge chamber 17 when the valve 10 is closed and cold air is flowing through the tumbler, but assumes a straining position over the port 9^a when valve 10 is open, thereby being adapted to collect the lint that is borne by the air from the tumbler 2 for both the drying and aerating operations. Also connected with lever 21, above its shaft 20, is a rod 19^a connected to an arm 19^b on the shaft 19 in order to open and close the valve 18. Also connected with the lever 21, and located at its lower end, is a rod 27 which leads to an arm 28 rigid with the valve 8; also a rod 29 which leads to belt shifter 30 (not of my invention and not requiring detailed description) so that the fan 7 may be stopped and started accordingly as the valves 8 and 10 are closed or opened.

Rigid with the arm 28 is an arm 31 which is connected by rod 32, extending substantially vertically at the back of the machine, to an arm 33 which controls the valve 6. Rigid with arm 33 is an arm 34 connected by rod 35 with the damper valve 15 in the fresh air supply pipe 14.

The valve operating connections are so disposed that whenever the lever 21 is thrown to the right in Figure 1 and the valves 10, 8, and 6 are open and the fan controller 30 has started the fan, valves 15 and 18 will be closed and the screen 26 will lie across the port 9^a; but when the lever 21 is thrown to the left, valves 10, 8, and 6 will be closed, fan controller 30 will stop the fan 7, valves 15 and 18 will be opened, and screen 26 will lie across the air passage to the discharge chamber 17.

Among the important features of the invention are the location at the top of the machine of means for delivering a plurality of streams of fresh air, the location of the discharge for fresh air at the bottom of the machine, the separation of the chambers 9 and 17 so that the chamber 9 may have its means for controlling intake of air for diluting the hot air that is circulated without complication with the discharge of fresh air, and the general direction of the valve controlling connections which extend across the bottom of the machine from front to rear, thence up at the back of the machine to the top, and thence forward across the top.

I claim:

1. A dryroom tumbler having a casing and a tumbler therein for goods to be dried, means for supplying both drying and freshening air to the tumbler, and independent means for receiving from the tumbler the respective kinds of air thus supplied.

2. A dryroom tumbler having a casing and a tumbler therein for goods to be dried, means for supplying both drying and freshening air to the tumbler, and independent means for receiving from the tumbler the respective kinds of air thus supplied; each of said air receiving means having its own independent means of control.

3. A dryroom tumbler having a casing and a tumbler therein for goods to be dried, means for supplying both drying and freshening air to the tumbler, and independent means for receiving from the tumbler the respective kinds of air thus supplied; the means for receiving drying air being adapted to return the same for circulation through the tumbler.

4. A dryroom tumbler having a casing and a tumbler therein for goods to be dried, means for supplying both drying and freshening air to the tumbler, and independent means for receiving from the tumbler the respective kinds of air thus supplied; the means for receiving drying air being adapted to return the same for circulation through the tumbler, and having means independent of the fresh air inlet for admitting fresh air to dilute the drying air that is returned to circulation.

5. A dryroom tumbler having a casing and a tumbler therein for goods to be dried, means for supplying both drying and freshening air to the tumbler, and independent means for receiving from the tumbler the respective kinds of air thus supplied, there being a common air screening means movable into the path of either the drying air or fresh air outlet.

6. In a dryroom tumbler, the combination of warm and fresh air supply passages respectively delivering to the tumbler at top, warm and fresh air receiving means at the bottom of the tumbler, valves controlling the respective passages which deliver air at the top of the tumbler, valves controlling the flow of air through the respective means at the bottom of the tumbler, and a common actuating means for all of said valves.

7. In a dryroom tumbler, the combination of warm and fresh air supply passages respectively delivering to the tumbler at top, warm and fresh air receiving means at the bottom of the tumbler, valves controlling the respective passages which deliver air at the top of the tumbler, valves controlling the flow of air through the respective means at the bottom of the tumbler, and a common actuating means for all of said valves, comprising a lever system with connecting rods extending across the bottom of the machine from front to rear, thence upward at the back of the machine, thence across the top of the machine from rear to front and having connection with the various valves to be controlled.

Signed at Chicago, Illinois, this 14th day of July, 1921.

VICTOR E. ADLAND.
LESLIE H. KAMPER.