March 12, 1929. A. F. ROSE 1,704,870

DRIER ROOM

Filed March 13, 1928 2 Sheets-Sheet 1

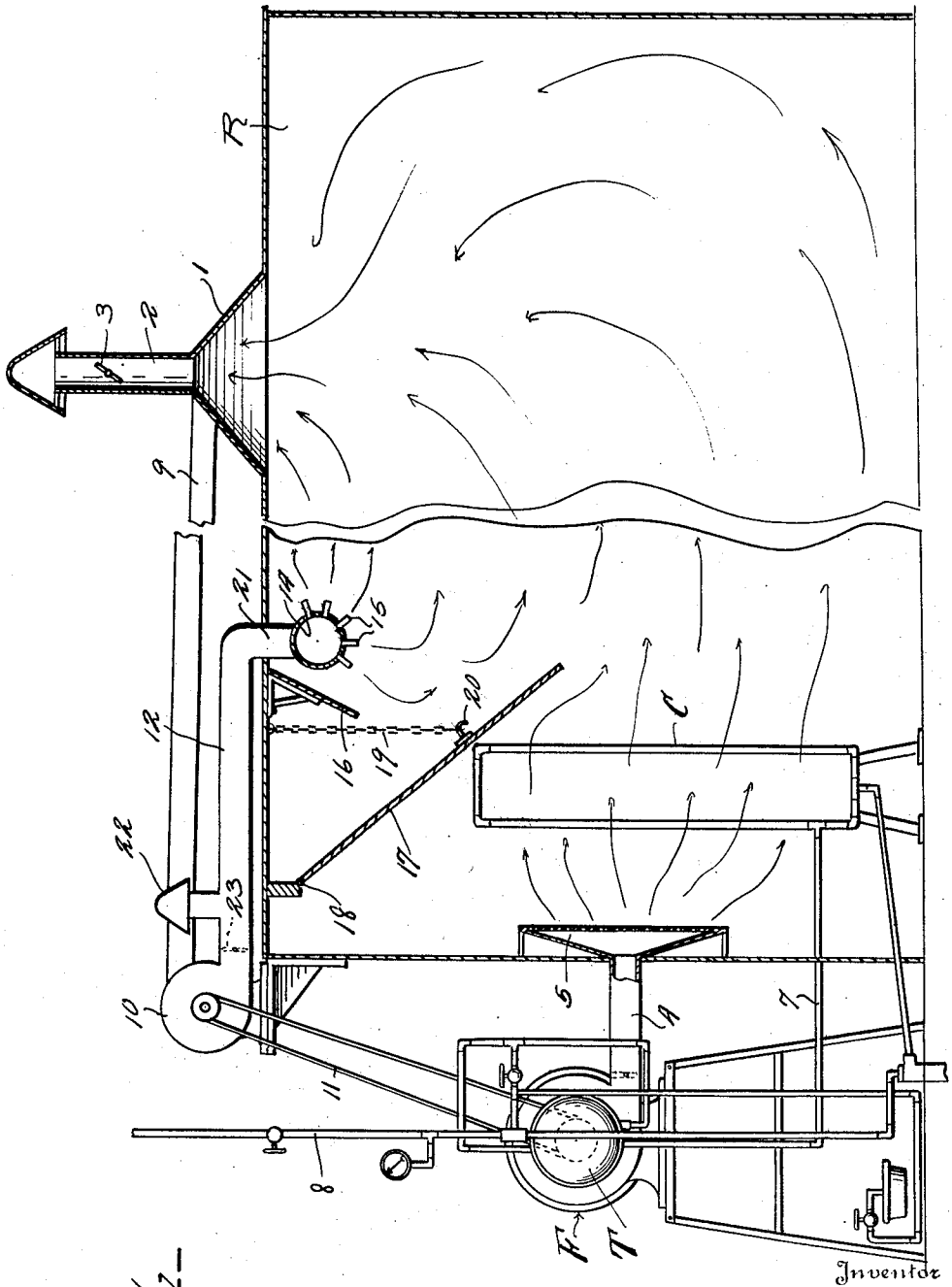


Fig. 1

Inventor

A. F. Rose

By Watson E. Coleman

Attorney

March 12, 1929. A. F. ROSE 1,704,870

DRIER ROOM

Filed March 13, 1928 2 Sheets-Sheet 2

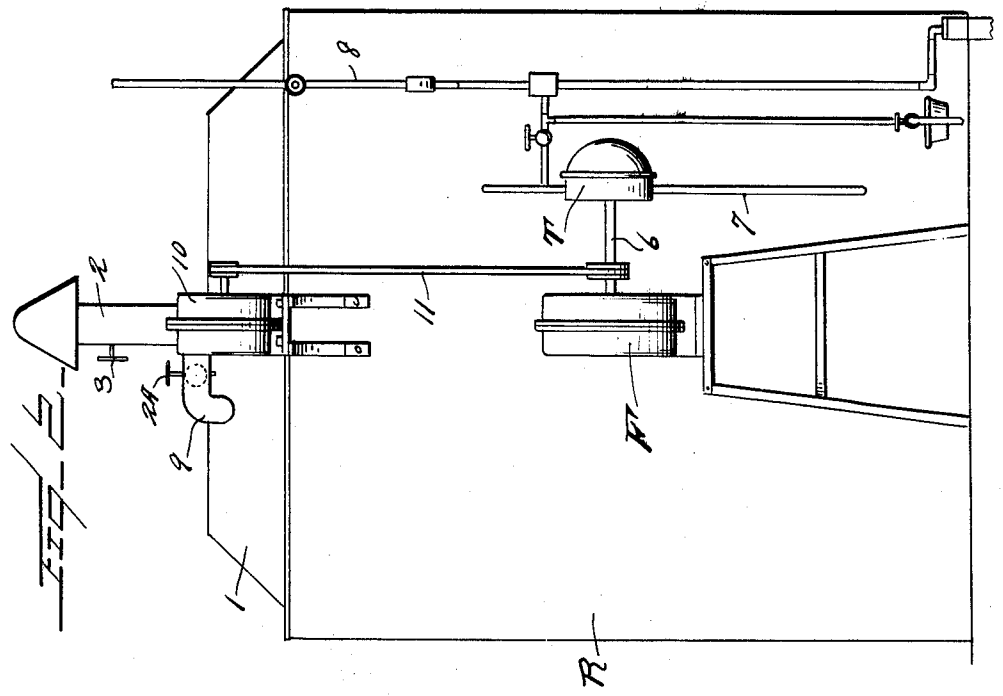


Fig. 2.

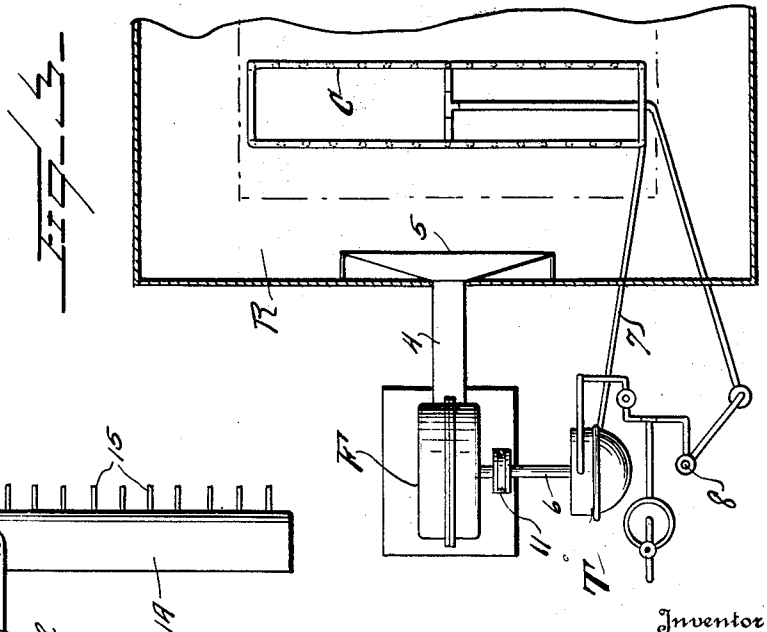


Fig. 3.

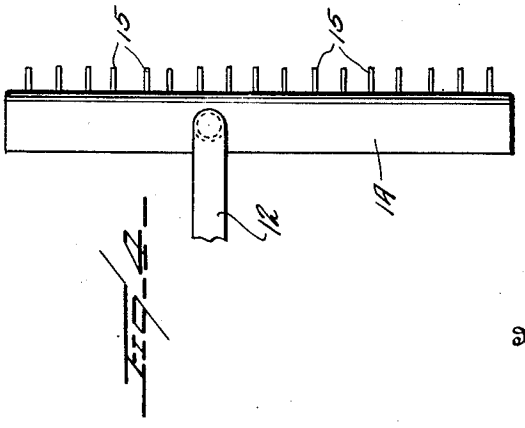


Fig. 4.

Inventor

A. F. Rose

By Watson E. Coleman

Attorney

Patented Mar. 12, 1929. 1,704,870

UNITED STATES PATENT OFFICE.

ARTHUR F. ROSE, OF CHILLICOTHE, OHIO.

DRIER ROOM.

Application filed March 13, 1928. Serial No. 261,277.

This invention relates to a drier room and it is an object of the invention to provide means whereby heated air may be caused to effectively circulate within such room in a manner in simulation of a natural dry wind.

It is also an object of the invention to provide means whereby the temperature within the drier room is maintained in even balance and in a manner to permit the room to be used with advantage in drying shoes.

A still further object of the invention is to provide a mechanism of this kind which operates to effectively circulate the heated air and which also is provided with means whereby any fumes created in the room together with moisture may be dispelled and which is particularly desirable when using the mechanism in connection with a drying room for laundry work.

The invention consists in the details of construction and in the combination and arrangement of the several parts of my improved drier room whereby certain important advantages are attained and the device rendered simpler, less expensive and otherwise more convenient and advantageous for use, as will be hereinafter more fully set forth.

The novel features of my invention will hereinafter be definitely claimed.

In order that my invention may be the better understood, I will now proceed to describe the same with reference to the accompanying drawings, wherein:—

Figure 1 is a view partly in section and partly in side elevation illustrating a drier room constructed in accordance with an embodiment of my invention;

Figure 2 is a view in end elevation of the structure as shown in Figure 1;

Figure 3 is a fragmentary horizontal sectional view taken through the structure as herein disclosed with a portion in top plan;

Figure 4 is a fragmentary view in top plan of the header for returning the air to the room.

As disclosed in the accompanying drawings, R denotes a room of requisite dimensions and which has its top wall adjacent to one end thereof in communication with a hood 1 disposed transversely thereacross, said hood at its top and central portion being provided with a vent 2 in communication with the atmosphere. This vent 2 has interposed therein a regulating damper 3.

The opposite end portion of the room has positioned therein and disposed transversely thereof a heating coil C through which the air as delivered into the room passes to effectively heat the same. Suitably supported exteriorly of the room and closely adjacent to the end wall thereof, with which the coil C is associated, is a blast fan F discharging into the room R through the conduit 4 having a flared discharge nozzle 5 positioned directly behind the coil C. The fan F is mounted upon an operating shaft 6 which is driven by a steam turbine T, the exhaust from said turbine T passing out through a pipe line 7 which leads to and constitutes the feed line for the coil C. The turbine T is in proper communication with a suitable source of steam supply through the pipe line 8.

Leading from one end portion of the hood 1 and in communication therewith through the top adjacent to an end thereof is a return air line 9 leading to a suction fan 10 supported exteriorly of the room R adjacent to the opposite end of the room, said fan 10 being in driven connection through the instrumentality of the belt 11 with the shaft 6. The suction fan 10 draws the air out of the room R through the hood 1 and returns said air to the room through the pipe 12 which extends inwardly a slight distance of the room R and terminates in a transversely disposed header 14. This header extends transversely of the room and has radiating therefrom the forwardly and downwardly disposed distributing tubes 15.

Immediately to the rear of the header 14 is a shield 16 to prevent travel of the air discharged from the depending tubes 15 toward the end of the room R at which the nozzle 5 is arranged. There is also disposed above the coil C a second shield 17 hingedly supported at its upper marginal portion, as at 18, for vertical swinging movement or adjustment, the desired adjustment of the shield being effected through the medium of a chain 19 depending from the top of the room R and having its links selectively engaged with an upstanding hook member 20 carried by said shield 17.

The pipe 12 is arranged exteriorly of the room R and overlies the top thereof, the header 14 being arranged within the room and in communication with the pipe 12 through a depending extension 21 constituting a continuation of the outer end of the pipe 12. The pipe 12 has in communica-

tion therewith at a suitable point therealong a vent 22 which is also in communication with the atmosphere.

Fresh air is forced direct from the fan F through the conduit 4 and nozzle 5 into one end of the room R and continues through the coil C and is then effectively heated and forms a natural dry wind which is forced through the entire room and thereby effectively drying the articles or materials placed within the room. The fan 10 draws the air out of the opposite end portion of the room through the hood 1 as hereinbefore explained and also returns said air to the room through the header 14 and distributing tubes 15 extending therefrom. The fan 10 also serves to draw fresh air into the pipe line 9 through the vent 2, such admission of fresh air being regulated or controlled by the valve 3 therein. The air discharged from the header assures the effective circulation of the air at the top or ceiling portion of the room and, as the air passes through the pipe 12, it may have admitted thereto a further supply of fresh air as may be required through the vent 22. The discharge of air through the vent 22 is also under control of a damper 23 and the control of the flow through the pipe 9 is also adapted to be regulated by the interposed damper 24.

It is also to be understood that, if desired, steam may be admitted to the coil C through the exhaust line 7 to heat the air within the room before the fans are caused to operate.

The suction fan 10 also provides means whereby moisture within the room is dispelled through the vents 2 and 22 as also will be any fumes created in the room.

With my improved drier room it has been found that the temperature at all points will not vary over four degrees and thus assuring a highly effective drying action at all times.

From the foregoing description it is thought to be obvious that a drier room constructed in accordance with my invention is particularly well adapted for use by reason of the convenience and facility with which it may be assembled and operated, and it will also be obvious that my invention is susceptible of some change and modification without departing from the principles and spirit thereof and for this reason I do not wish to be understood as limiting myself to the precise arrangement and formation of the several parts herein shown in carrying out my invention in practice except as hereinafter claimed.

I claim:—

1. In combination with a drier room, a fan discharging air therein through a wall thereof, a heating coil positioned within the room adjacent the air entrance, a hood in communication with the room at the upper portion thereof at a point remote from the coil, and an air circulating fan in communication with and taking air from the hood and redischarging into the room at a point above said coil and forwardly thereof and of the air entrance.

2. In combination with a drier room, a heating coil arranged within the room adjacent one wall thereof, an air inlet opening through said wall and directed toward said heating coil, means for forcing air through said inlet, a vent in the upper portion of said room adjacent the wall opposite the air inlet, means for taking air from said vent and redischarging it into the room adjacent the ceiling and between the inlet and vent, and a baffle wall depending from the ceiling and disposed at an inclination between the heating coil and said redischarging means.

3. In combination with a drier room, a heating coil arranged within the room adjacent one wall thereof, an air inlet opening through said wall and directed toward said heating coil, means for forcing air through said inlet, a vent in the upper portion of said room adjacent the wall opposite the air inlet, means for taking air from said vent and redischarging it into the room adjacent the ceiling and between the inlet and vent, and a baffle wall depending from the ceiling and disposed at an inclination between the heating coil and said redischarging means, said air redischarge means including a header extending transversely of the room from which the air taken from the vent is discharged through a plurality of openings.

In testimony whereof I hereunto affix my signature.

ARTHUR F. ROSE.