

Aug. 11, 1936.

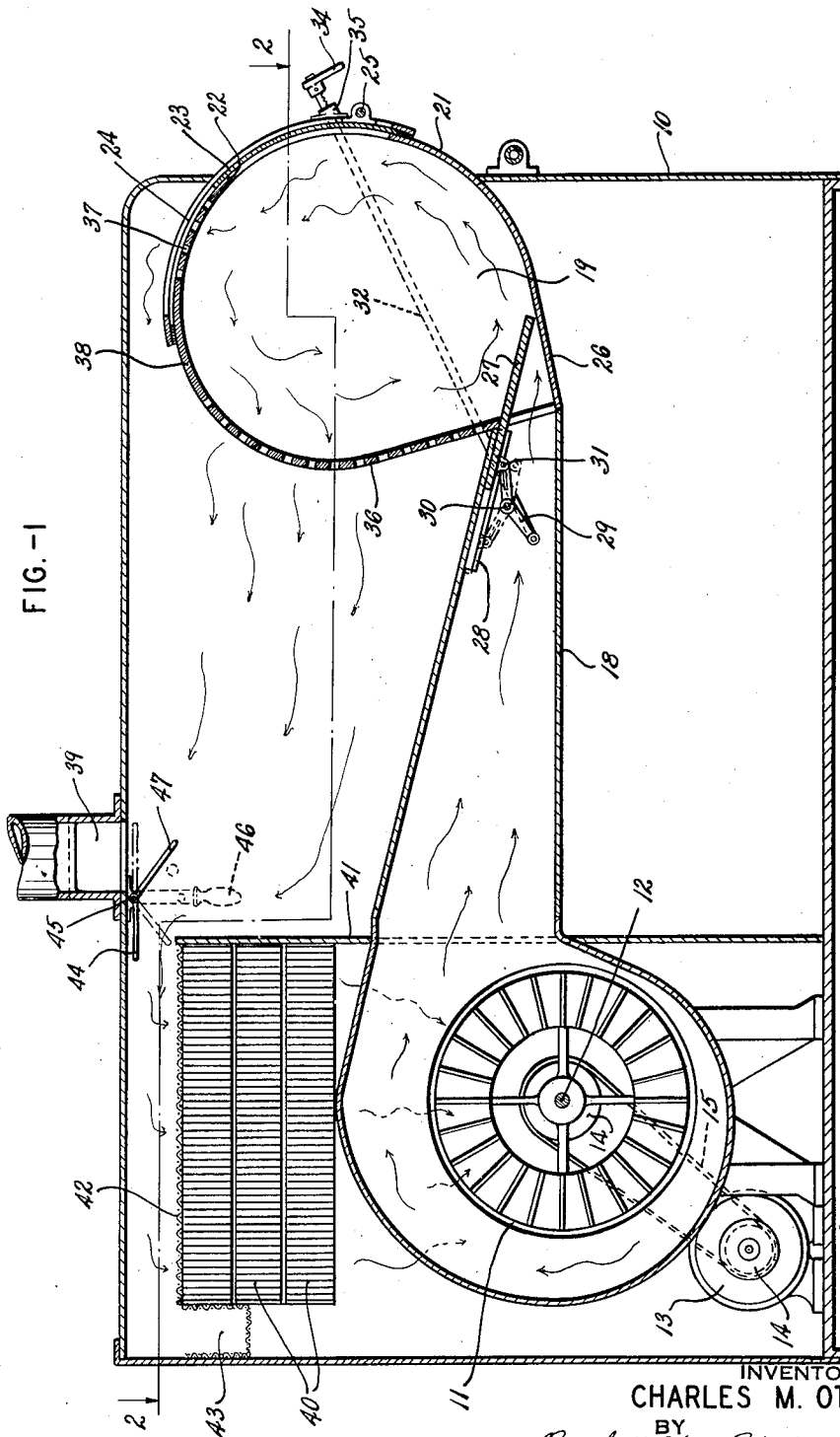
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2,050,626

DRYING MACHINE

Filed Sept. 22, 1934

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

FIG.-2

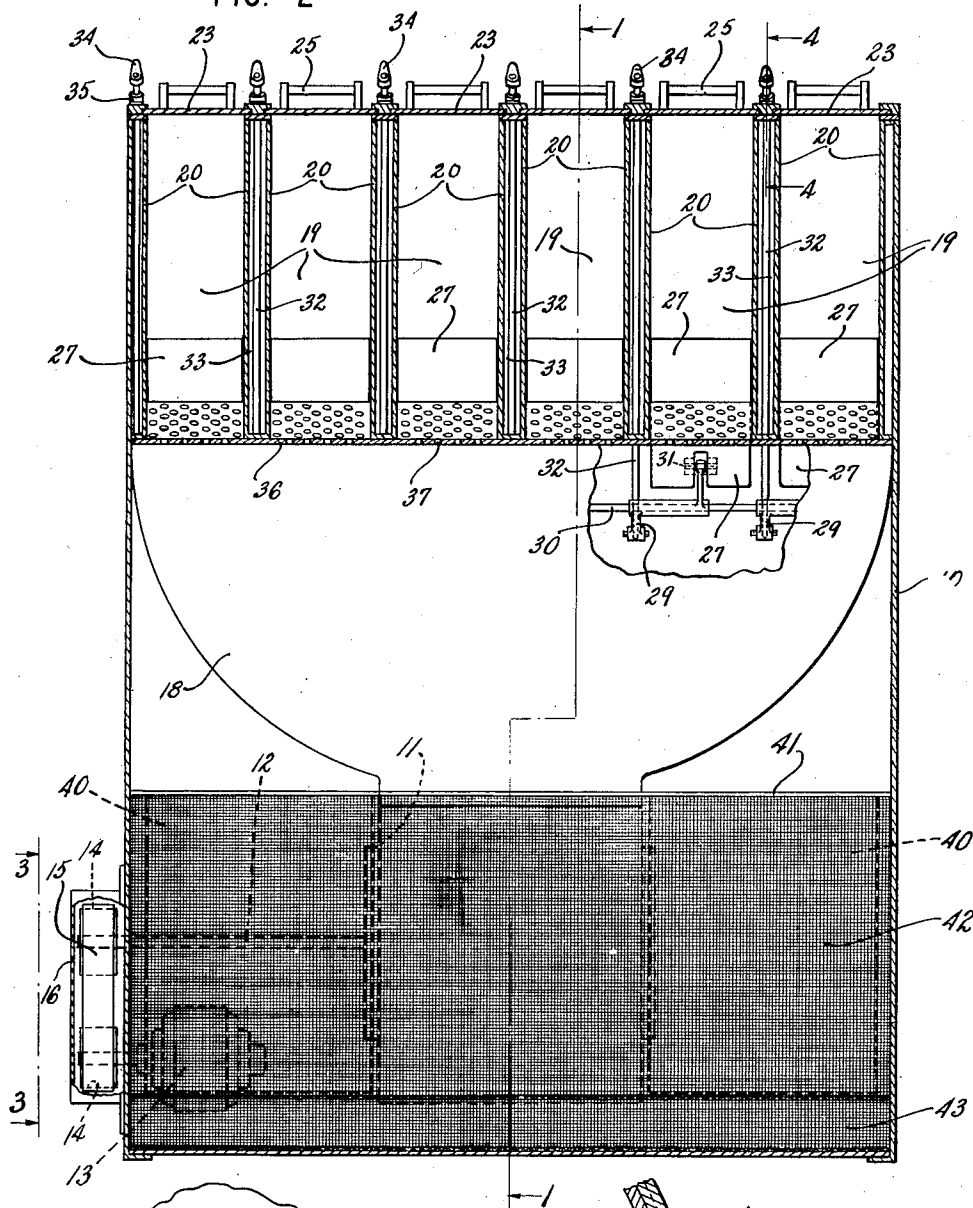


FIG.-3

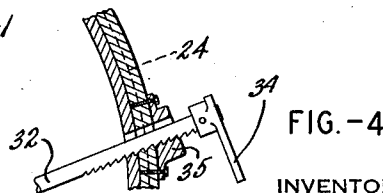
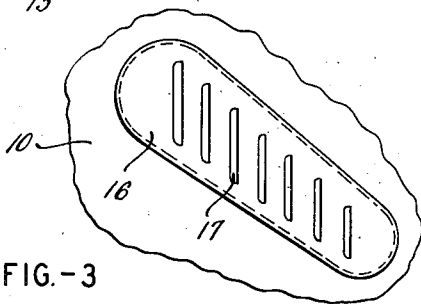


FIG.-4

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2,050,626

DRYING MACHINE

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Application September 22, 1934, Serial No. 745,049

4 Claims. (Cl. 34-7)

This invention relates to drying apparatus for laundry work and the like wherein the articles to be dried are maintained in motion by the air which dries them.

5 The apparatus disclosed herein is in the nature of an improvement over a similar machine which forms the subject matter of my copending application Ser. No. 666,336, filed April 15, 1933.

10 An object of the present invention is to provide an improved arrangement of the work container and the air outlet means therefor so as to give an improved control of work agitation in the container.

15 Another object of the present invention is to provide improved air inlet control means in the work container of the drying machine.

Another object of the invention is to provide means for circulating and recirculating air through work drying apparatus and including means for removing lint from the recirculated air stream, together with improved means for delinting the lint removing means.

25 Other objects and advantages will be apparent from the accompanying description together with the drawings and the essential features will be summarized in the claims.

30 In the drawings, Fig. 1 is a sectional view through the machine along the line 1-1 of Fig. 2; Fig. 2 is a sectional view taken on the line 2-2 of Fig. 1; Fig. 3 is an elevation of the belt guard taken in the direction of line 3-3 of Fig. 2 and showing air inlet louvers; while Fig. 4 is an enlarged fragmental section taken along the line 4-4 of Fig. 2 showing details of the positioning means for the air inlet damper.

35 My invention comprises in general an outer casing member 10 in which is mounted air moving means comprising a fan 11 mounted on a shaft 12 which is supported in suitable bearings in the main casing and driven by means of a motor 13 which is connected by pulleys 14 and belt 15 with the fan shaft 12. A guard 16 protects the belt 15 and louvers 17 are provided in the guard for entry of fresh air within the casing, although it will be understood that other air inlet means is within the scope of my invention. A suitable air duct 18 surrounds the fan outlet and is arranged to conduct air toward the front of the machine to work container 19. The number of work containers supplied in a given machine may be arranged as desired and as all of these containers are similar one only will be described. The arrangement of duct 18 is such

that the single fan means suffices to supply air flow for all of the work containers.

Each work container comprises end walls 20 between which extends a peripheral wall 21 which is generally cylindrical in form, although, 5 as shown, it is modified somewhat so as to have volute characteristics for providing better air flow. Door means is provided comprising an opening 22 in the forward wall of the container which is adapted to be closed by a door 23 which 10 slides in grooved slides 24 and which is actuated by handle 25. The lower portion of the container is arranged for the admission of air in a substantially horizontal direction. To this end the bottom portion 26 of the peripheral wall 15 extends substantially horizontally or slightly upward. Damper means is provided and in the present instance this comprises a damper 27 which is reciprocally mounted in guides 28 which are carried by duct 18. The damper is adapted to move in a straight line at an acute 20 angle to the bottom portion 26 so as to interfere as little as possible with air flow in the various regulated positions of the damper. The damper is actuated by means of a bellcrank 29 which is oscillatable about a shaft 30 suitably 25 mounted in the casing. One arm of the bellcrank has a slotted engagement with a pin 31 which is carried by damper 27 and the other arm of the bellcrank has a pivoted connection with a rod 32 which extends through an opening 33 between partition members 20 to the front of the machine where it is provided with an actuating handle 34. Coacting notches in rod 32 and a bracket 35 at the front of the machine are adapted to hold the damper in its 35 various regulated positions.

The peripheral wall of the container is arranged to direct the entering air stream upwardly and then rearwardly and the wall has a still more rearwardly portion 36 which is 40 adapted to direct the work again toward the air inlet. I have found that when the top and rear portions of the peripheral wall are provided with air outlet means over the entire surface, so as to permit the escape of the air rearwardly to be 45 recirculated by the fan or to be exhausted, the work within the container being of a light character will be blown against the rearward portion of the top peripheral wall and will cling thereto 50 so that the work is not properly agitated. In my improved device I, therefore, provide air outlet means 37 where the peripheral wall changes from its upward to its rearward direction. Sufficient air escapes at this point to greatly reduce 55

the velocity of the contents of the container passing this point and to the rear of the portion 37 I provide a blank wall portion 38. I find that when work reaches the blank wall portion the velocity of the work and whatever air may be traveling with it at that point is reduced sufficiently to permit the work to fall again toward the bottom of the container and this action seems to be greatly facilitated by the provision of the blank wall portion 38. I find it generally desirable and necessary to provide air outlet means in the rear wall portion 36 so that by far the larger part of the air entering the bottom of the container will be discharged through the wall portions 37 and 36 and very little of it will be recirculated within the container 19 itself. In the form shown, the peripheral wall 21 is preferably a continuous sheet having an opening provided at 22 for the door and being perforated at the portions 37 and 36 as indicated, although it will be understood that other arrangements of the container wall are within the scope of my invention as defined in the appended claims.

The air stream after passing through the work container may be exhausted through the casing outlet means shown at 39 or it may be recirculated through the fan. Heating elements 40 are provided in advance of the fan and a partition 41 forwardly of the heater elements extends entirely to the bottom of the casing 10 so as to direct the recirculated air over the heating elements. Means for removing lint from the recirculated air includes a screen 42 located over the heater elements and having a pocket 43 rearwardly thereof.

Means is provided for delinting the screen 42 and as shown this comprises means for constricting the normal air flow between screen 42 and casing 10 and for directing this air stream, which will of course have increased velocity, along the screen 42 so as to drive the lint therefrom into the pocket 43. The air constricting or deflecting means comprises a damper 44 which is pivotally mounted at 45 and movable by handle 46 from its full line position Fig. 1 to the broken line position for delinting purposes. The air is thus confined between damper 44 and partition 41 so that its velocity is sufficiently increased to blow the lint from screen 42. Another damper 47 may be arranged as shown in Fig. 1 pivotally mounted at 45 also and movable by handle 46 simultaneously with damper 44 so that air which might normally be exhausted at 39 will be retained within the casing, thus increasing the velocity of the air stream used for delinting purposes.

What I claim is:

1. In a drying machine, means providing a work container of generally cylindrical form with a peripheral wall extending between a pair of upright end walls, said container having an opening through which work may be received and withdrawn and a closure for said opening, the central portion of said container means being substantially unobstructed, said peripheral

container wall having air inlet means arranged for approximately horizontal delivery of a drying air stream into the lower part of said container generally tangentially thereof, said peripheral wall having means at the top and separate means on that side from which air is received providing an outlet for said air stream without permitting egress of work therewith, and said peripheral wall having a portion thereof substantially impervious to air between said air outlet means.

2. In a fabric drying machine, means providing a work container having end walls and a peripheral wall therebetween, said peripheral wall having air inlet means at its lower portion arranged for substantially horizontal delivery forwardly of a drying air stream, the central portion of said container means being substantially unobstructed, said peripheral wall being formed to thereafter direct said air stream upwardly and then rearwardly, air outlet means in said peripheral wall where said wall direction changes from upward to rearward, said peripheral wall having a blank portion rearwardly of said air outlet means, and said peripheral wall having a still more rearward portion arranged to direct work toward said air inlet means.

3. In a drying machine, means providing a work container of generally cylindrical form with a peripheral wall extending between a pair of upright end walls, said container having an opening through which work may be received and withdrawn and a closure for said opening, said peripheral container wall having air inlet means arranged for approximately horizontal delivery of a drying air stream into the lower part of said container, said air inlet means including a substantially horizontal bottom portion of said peripheral wall, a plane damper reciprocable at an acute angle with said bottom wall portion, and means for reciprocating said damper.

4. In a drying machine, means providing a work container having a horizontally-extending generally cylindrical peripheral wall extending between a pair of upright end walls, said container having an opening through which work may be received and withdrawn and a closure for said opening, the central portion of said container means being substantially unobstructed, said peripheral wall near the bottom of the container having air inlet means arranged to direct a stream of air along one of the upwardly curving portions of the peripheral wall, air outlet means near the top of said one upwardly curving wall portion providing an outlet for a portion of said air stream, said outlet means being constructed to hold the work within the container, said peripheral wall having a top portion substantially impervious to air, and said peripheral wall having other air outlet means providing an outlet for that portion of the air stream which passes the top portion of the peripheral wall.

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