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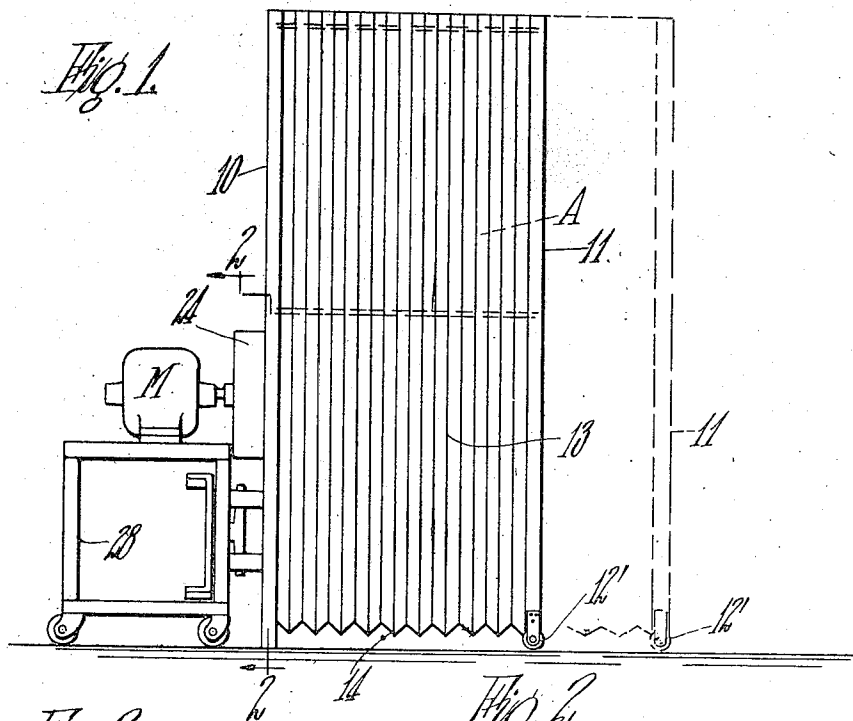
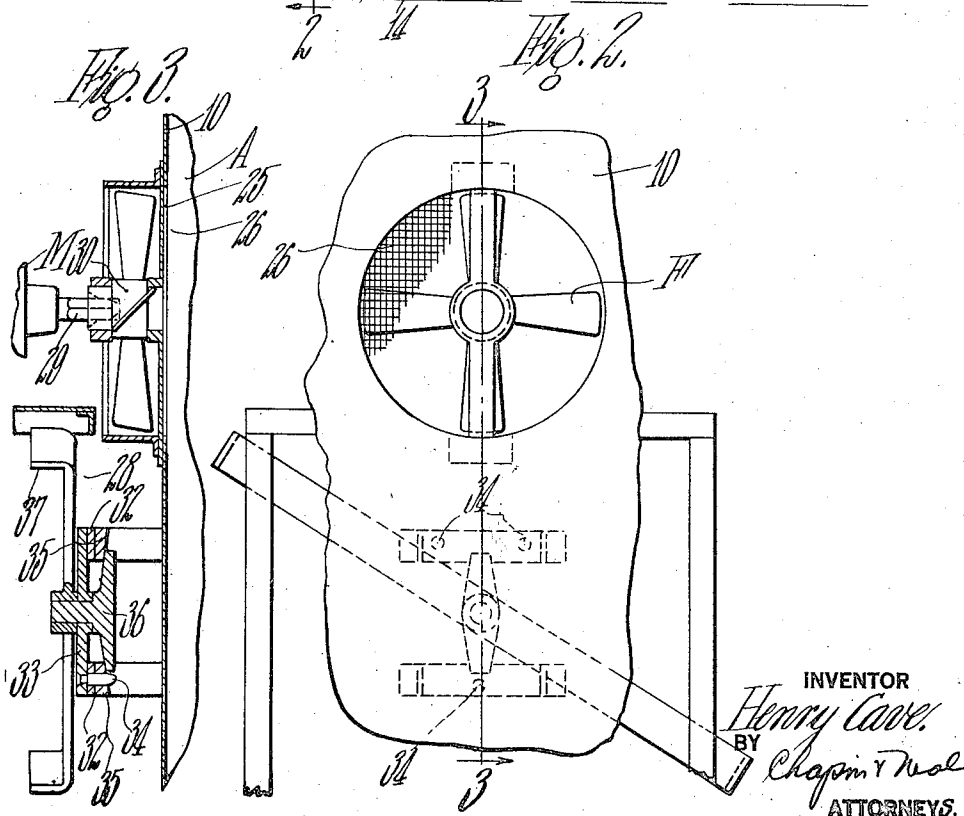
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H. CAVE

DRYING APPARATUS FOR CLOTHES

Filed Feb. 20, 1920

2 Sheets-Sheet 1



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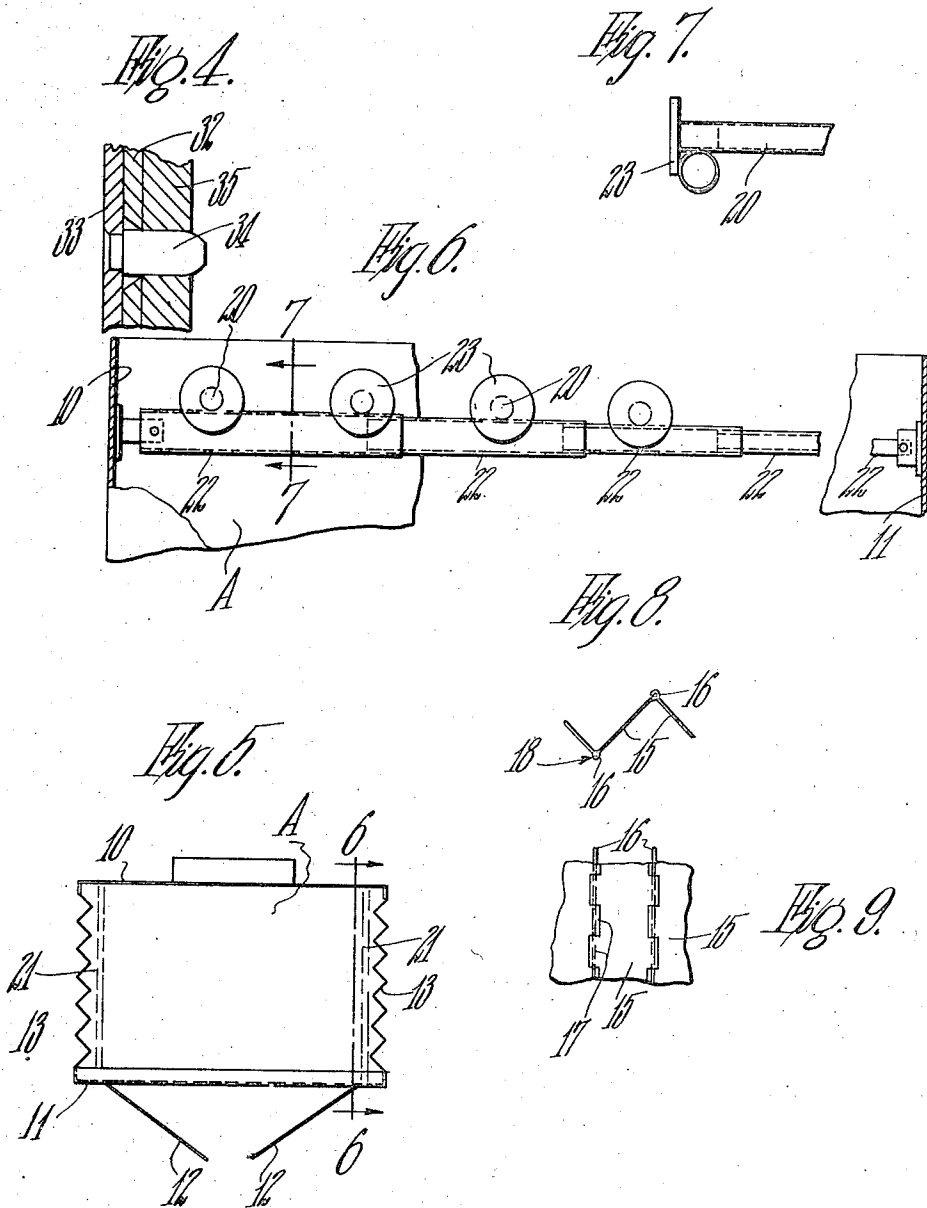
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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE.

HENRY CAVE, OF HARTFORD, CONNECTICUT.

DRYING APPARATUS FOR CLOTHES.

Application filed February 20, 1920. Serial No. 360,142.

To all whom it may concern:

Be it known that I, HENRY CAVE, a citizen of the United States of America, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Drying Apparatus for Clothes, of which the following is a specification.

This invention relates to improvements in drying apparatus and, more particularly, to improvements which are designed to render such apparatus suitable for use in the indoor drying of clothes.

The apparatus of this invention is such that it may be set up indoors in the home and receive and rapidly dry the family washing, thereby rendering it unnecessary to go outdoors for this purpose in cold, stormy, or otherwise disagreeable weather. Aside from this advantage, the apparatus permits much more rapid drying, in that the circulation of air may be forced. Thus, the washing, which frequently requires half a day for drying under ordinary conditions, may be entirely disposed of in a much shorter interval. The present apparatus is intended to supplement household washing machines, which have now come into extensive use, with the idea of saving, not only labor, but time and rendering it possible to dispose of the entire family washing in a matter of a few hours against the day or more heretofore necessary.

An object of this invention is to provide a drying chamber having side walls which are extensible and contractible, whereby its cubical contents may be adjusted to varying amounts of articles to be dried and, whereby the apparatus may be compacted into small compass when not in use.

Another object of the invention is to provide in such an apparatus, supporting means of an extensible or contractible nature, which are adapted for supporting clothes and other articles of generally sheet-like form.

Another object of the invention is to provide, in an apparatus of the class described, means for forcing a circulation of air there-through, as by a power-driven fan for example.

A further object of the invention is to provide means for detaching the apparatus and fan from its source of power, so that the power plant unit of the apparatus may be used for other purposes when desired.

In connection with the last-named object, it is also an object of the invention to provide means for centering and aligning the fan, or other driven member, with the motor, or other source of power, and to clamp the two units of the apparatus firmly together with the driving and driven shafts held properly centered and in parallelism.

Other objects and advantages will appear from the following description and in the illustrative embodiment of the invention in the accompanying drawings, in which,—

Fig. 1 is an elevational view showing a complete drying apparatus embodying the invention;

Fig. 2 is an enlarged fragmentary sectional view taken on the line 2—2 of Fig. 1;

Fig. 3 is a fragmentary cross-sectional view taken on the line 3—3 of Fig. 2;

Fig. 4 is an enlarged sectional view of a part of Fig. 3;

Fig. 5 is a plan view of the drying chamber;

Fig. 6 is an enlarged fragmentary sectional view thereof taken on the line 6—6 of Fig. 5;

Fig. 7 is a fragmentary cross-sectional view taken on the line 7—7 of Fig. 6; and

Figs. 8 and 9 are cross-sectional and plan views, respectively, illustrative of the construction of the extensible walls of the drying chamber.

The drying apparatus includes a drying chamber and, preferably, means as a fan for causing a circulation of air therethrough. The drying chamber is indicated at A and, as shown, in Fig. 5, it is open at the top to permit the entrance of air. The chamber A has a rigid back wall 10; a rigid front wall 11 with doors 12 therein; and preferably supported by wheels 12' and side and bottom walls 13 and 14, respectively, which are preferably, although not necessarily, flexible. The object in making the walls 13 and 14 flexible is solely to permit extension and contraction of the length of the drying chamber A to accommodate varying quantities of articles to be dried. Any means therefore, which will permit the front and back walls 11 and 10, respectively, to be moved toward and away from one another while still enclosing the sides and bottom of the chamber A, may be used as desired.

As an illustrative example of one suitable way of constructing the walls 13 and 14 to attain the object desired, reference is made

to Figs. 8 and 9. Each wall 13 and 14 is made up "accordion fashion" out of a series of plates 15 which are hinged together at 16, the contiguous ends of adjoining sections 5 being interengaged as at 17, and bent, as at 18, to form sockets for the hinge pin 16. This construction is suitable, and not particularly expensive, for thin sheet metal for the sections 15 may be stamped out and 10 struck up into suitable form in a punch press. Many other suitable ways of forming the walls 13 and 14 will readily suggest themselves to those skilled in the art and the described way is given merely as an illustrative example.

While articles of various classes may be placed within chamber A for drying and the invention is not necessarily confined to any one given class of articles, the invention does 20 afford a particularly advantageous arrangement for drying clothes. To this end, supporting means are provided within chamber A for clothes or other articles, such as sheets or the like. Such supporting means, as illustrated, consist of a series of transverse rods 20 to which the clothes may be attached in any suitable way, as for example by hanging them over the rods. As shown, these rods are cylindrical (and preferably hollow) 30 and are arranged to roll on longitudinal trackways 21, which are arranged one adjacent the upper end of each side wall 13, as shown in Fig. 5. These trackways 21, which in Fig. 5 are illustrated merely in conventional form, are of course capable of contraction and extension with the walls 13. To this end, each trackway (Fig. 6) consists of a series of telescoping sections 22, the end sections of each series being fastened one 40 to wall 10 and the other to wall 11. Flanges 23 are provided, one on each end of each rod 20 to prevent undue axial displacement of the rods on their trackways.

To insure a positive circulation of air 45 through the chamber A, a fan F is provided, which may be driven, according to some features of the invention, in any suitable manner. Fan F is rotatably supported within a housing 24 fixed to the rear wall 10 and communicating therewith through an opening 25, which is preferably screened, as indicated at 26. The fan F is so arranged as to draw air through the open upper end of chamber A downwardly therethrough and 55 thence outwardly through the screened opening 26 and the fan housing 24.

Considering the drying apparatus by itself, it is obvious that the particular means of driving fan F is immaterial. However, 60 since there may be many other units of household apparatus which require to be power driven, I provide an advantageous arrangement whereby the one power plant may be used for all such units and for various purposes other than that described. To

this end, the source of power, as the electric motor M, is mounted upon a wheeled frame 28, whereby the motor is conveniently portable. The shaft of motor M is squared as at 29, or otherwise formed, in order to adapt 70 it for driving engagement with the fan F, or other device to be driven. In this instance, the hub 30 of fan F has a square socket to receive the squared end 29 of the motor shaft. Thus, the motor may be connected and disconnected from fan F, or any other device to be driven with convenience and rapidity.

To render the described detachable driving arrangement practical, it is essential of 80 course that the element to be driven align with the drive shaft of motor M. To insure this result, centering means (other than the squared end 29) are provided together with clamping devices to firmly hold the frame 85 28 to the frame, as wall 10, of the apparatus to be operated. Thus, secured to wall 10 are two plates 32 and secured to frame 28 is a plate 33 which is adapted to abut both plates 32, thereby determining the proper distance 90 between the frame 28 and wall 10 for operative driving engagement of the motor M with fan F. To center and align the motor M and fan F, both horizontally and vertically, dowels 34 are provided in plate 33 95 for engagement in sockets in plates 32. At least two, and preferably three (as illustrated), of these dowels are employed and each is tapered at its outer end, as is the end 29, to facilitate entrance into the various 100 sockets, which are preferably flared at their outer ends, even though the two units to be joined are not in exact alignment. To draw the plate 33 into abutment with plates 32, and thus square up the frame 28 with wall 105 11 so that the axes of motor M and fan F are parallel, a cam plate 35 is provided on the back of each plate 32 for cooperation with a cam 36 rotatably mounted in frame 28 and oscillatable by means of a lever 37. 110 When the two units are first placed together, cam 36 is so positioned as to freely enter between plates 35. Then, by manipulating lever 37, the extreme ends of cam 36 engage one on each cam plate 35 and continued movement of lever 37 causes the 115 plates 32 and 33 to be drawn squarely together and into intimate contact.

In using the drying chamber, which will be assumed to be in compacted position, the 120 doors 12 are opened and the clothes are hung first from the rearmost rod 20, which is readily reached without entering the chamber due to its compacted condition. Then other clothes are hung from the next rod 20 125 and then the next, and so forth, the chamber A being progressively increased in area, as is necessary or desired, until the entire wash is hung up in chamber A. Then the power plant unit is connected to fan F, as 130

already described, and the fan put in motion. Thereupon air is drawn downwardly into and through the chamber, between the "lines" of clothes therein, and thence discharged through housing 24. The air, being taken in at room temperature, is warm and generally dry. Consequently, such air will readily absorb the moisture and rapidly dry the clothes, only a very small interval, compared to ordinary conditions, being necessary. On completion of the drying operation, the power plant unit may be disconnected and rolled away for use with other apparatus.

The invention has been disclosed herein, in an embodiment at present preferred, for illustrative purposes, but the scope of the invention is defined by the appended claims rather than by the foregoing description.

What I claim is—

1. In an apparatus of the class described two substantially rigid oppositely positioned walls, other walls connecting the first-named walls to permit one thereof to be moved towards and away from the other, said walls forming a drying chamber of variable cubical contents, a door in one of said first-named walls, and means associated with one of said first-named walls for causing a current of air to be drawn through said drying chamber.

2. In an apparatus of the class described, two generally parallel and substantially rigid walls, other walls connecting the first-named walls to permit one thereof to be moved towards and away from the other, said walls forming a drying chamber of variable cubical contents, supporting means within the chamber for supporting articles to be dried, and means associated with one of said first-named walls for causing a current of air to circulate through the drying chamber.

3. In an apparatus of the class described, two oppositely positioned substantially rigid walls, other walls connecting the first-named

walls to permit one thereof to be moved towards and away from the other, said walls forming a drying chamber of variable cubical contents, supporting means within the chamber for the articles to be dried comprising a series of rolling rods and telescopic trackways to support the same, and means carried by one of said first-named walls for causing a current of air to circulate through the drying chamber.

4. In an apparatus of the class described, two oppositely positioned substantially rigid walls, other walls connecting the first-named walls to permit one thereof to be moved towards and away from the other said walls forming a drying chamber of variable cubical contents, a door in one of the first-named walls, said chamber having an inlet and an exit opening for air, and a fan associated with one of said openings to force a circulation of air through the chamber.

5. In a drying apparatus comprising oppositely positioned substantially rigid walls, collapsible walls connecting said first-named walls, said walls forming a drying chamber of variable cubical contents, telescopic trackways carried by one of said first-named walls and positioned within the drying chamber to support articles to be dried, and means comprising a fan carried by one of the first-named walls for causing a current of air to circulate through the drying chamber.

6. In a drying apparatus comprising oppositely positioned substantially rigid walls, other walls connecting the sides and bottom portions of said first-named walls, to permit one thereof to be moved towards and away from the other, said walls forming a drying chamber of variable cubical contents and means for drawing a current of air downwardly through the drying chamber and discharging the same through a screened opening formed in one of said first-named walls.

HENRY CAVE.