Dec. 15, 1925. 1,565,512

A. O. SCHRAMM

APPARATUS FOR STRETCHING AND DRYING LAUNDERED ARTICLES

Filed April 17, 1924 4 Sheets-Sheet 1

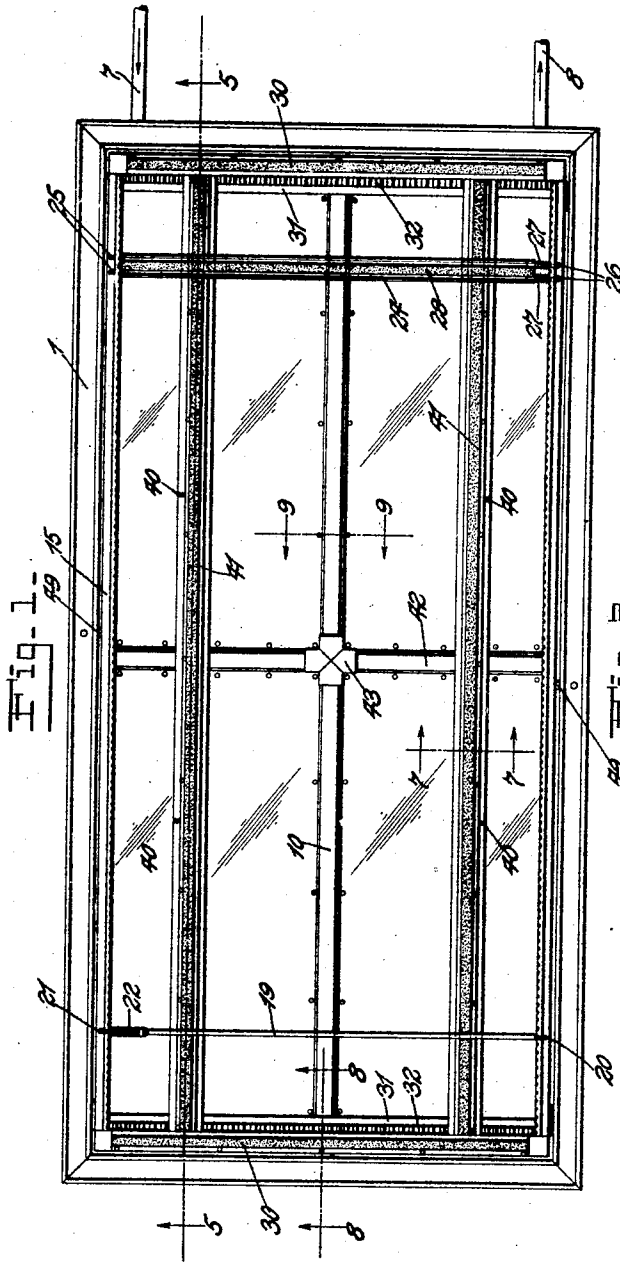


Fig. 1.

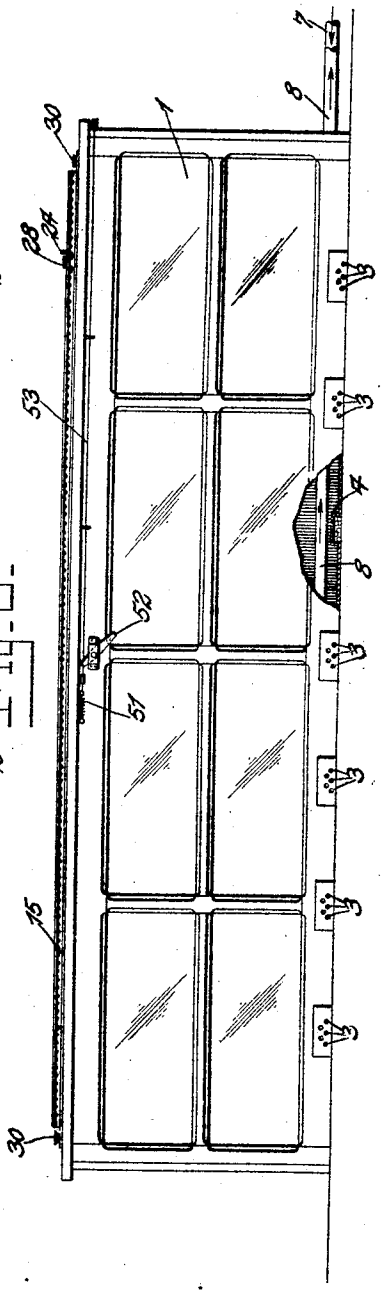


Fig. 2.

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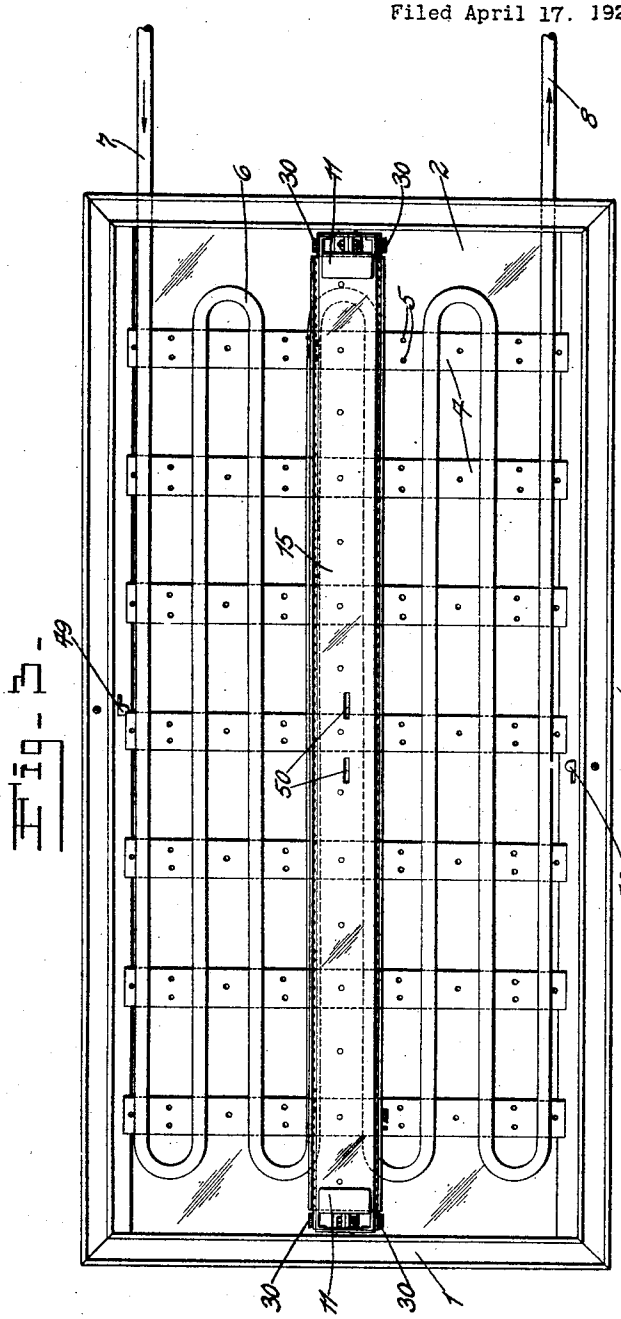


Fig. 1.

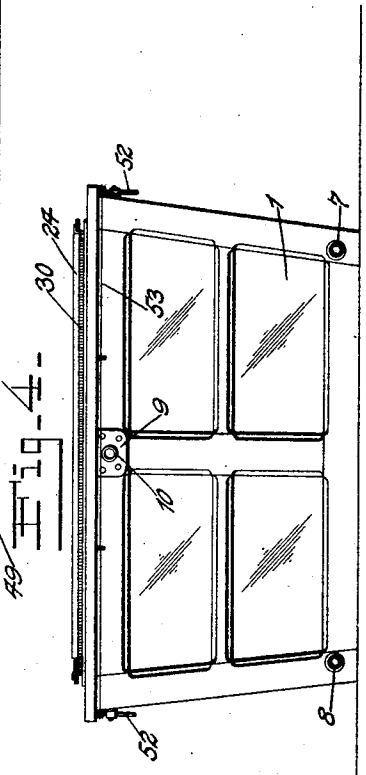


Fig. 4.

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Filed April 17, 1924 4 Sheets-Sheet 3

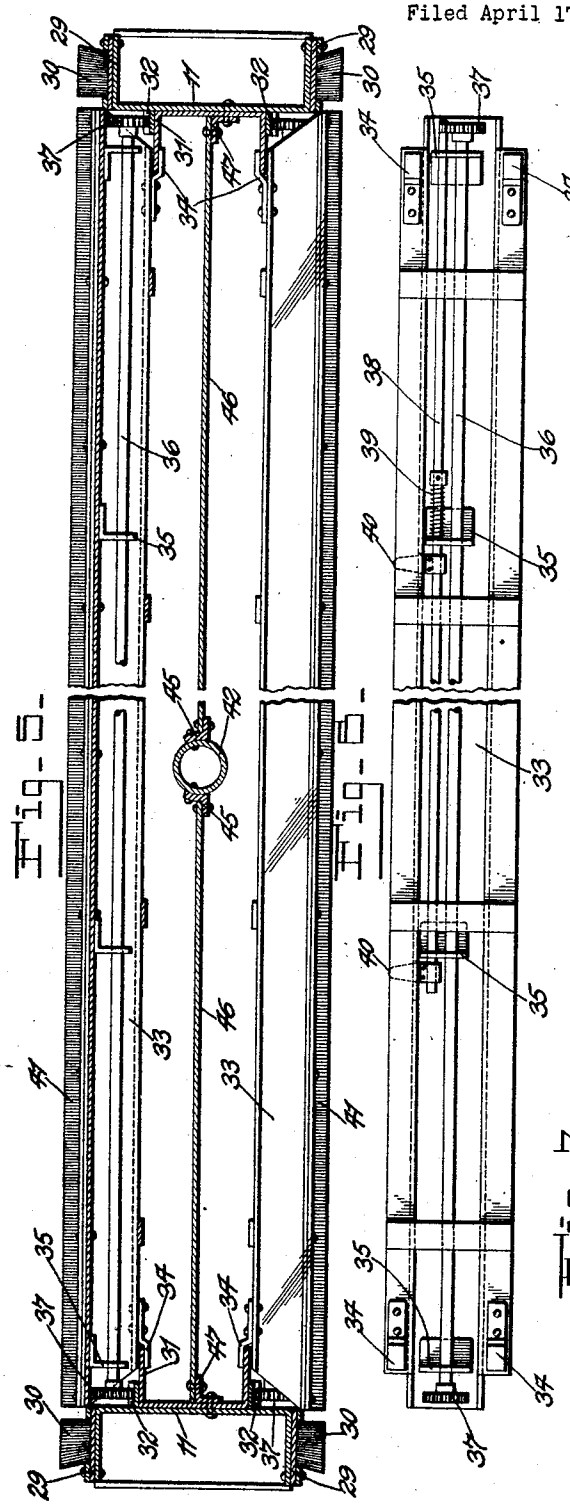


Fig. 5.

Fig. 6.

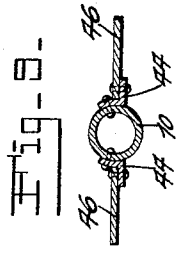


Fig. 8.

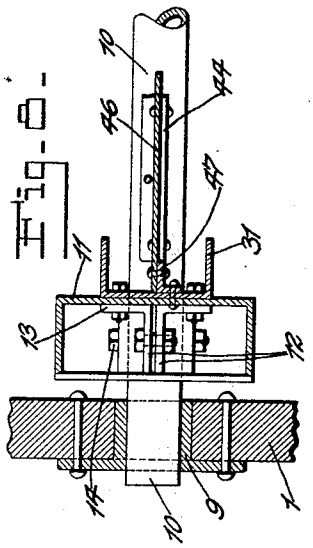


Fig. 9.

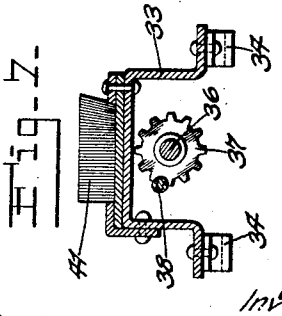


Fig. 7.

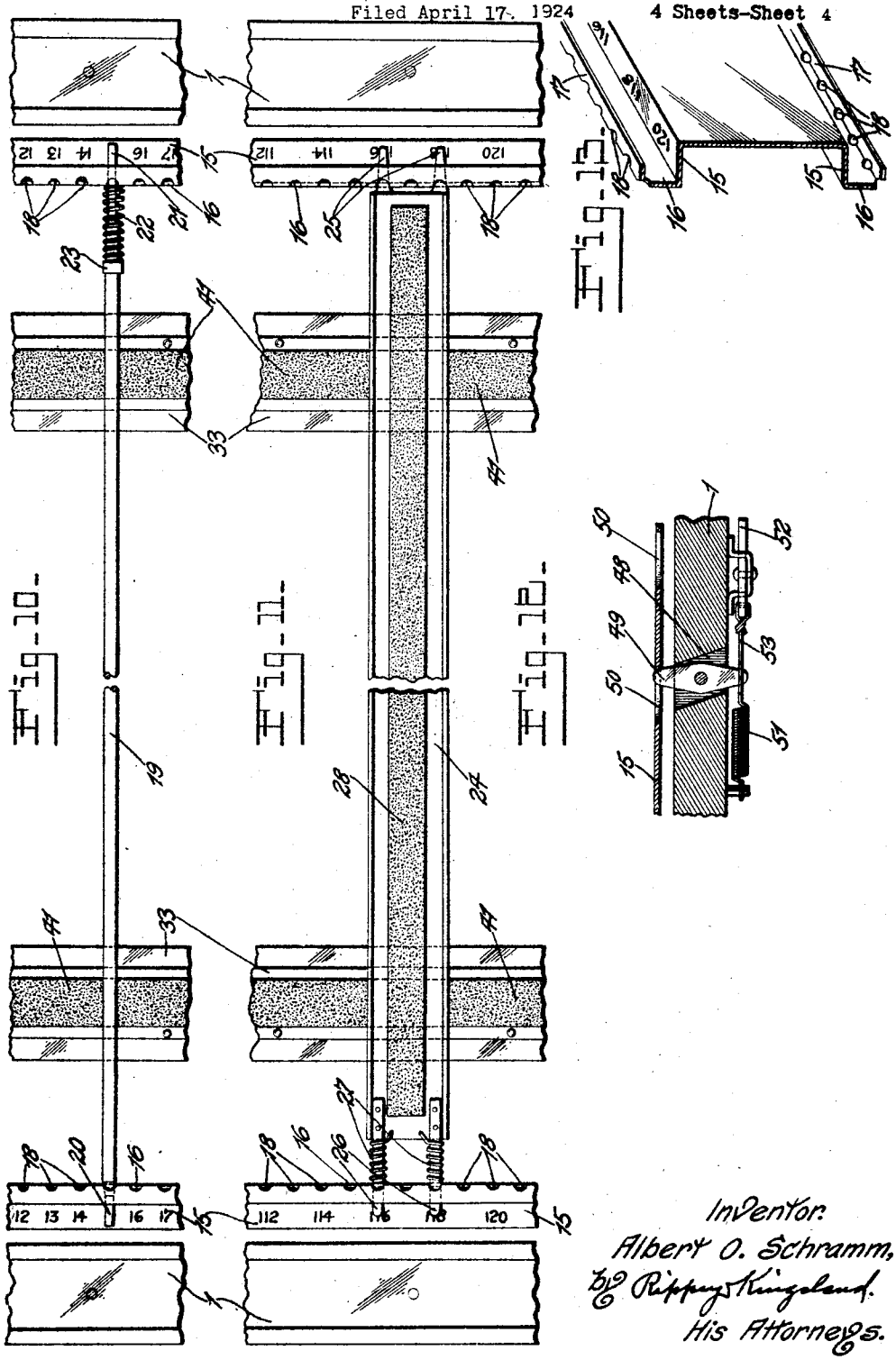
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APPARATUS FOR STRETCHING AND DRYING LAUNDERED ARTICLES

Filed April 17, 1924 4 Sheets-Sheet 4



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Patented Dec. 15, 1925. 1,565,512

UNITED STATES PATENT OFFICE.

ALBERT O. SCHRAMM, OF ST. LOUIS, MISSOURI, ASSIGNOR TO SCHRAMM MANUFACTURING COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF MISSOURI.

APPARATUS FOR STRETCHING AND DRYING LAUNDERED ARTICLES.

Application filed April 17, 1924. Serial No. 707,158.

To all whom it may concern:

Be it known that I, ALBERT O. SCHRAMM, a citizen of the United States, residing at St. Louis, Missouri, have invented a new and useful Apparatus for Stretching and Drying Laundered Articles, of which the following is a specification.

This invention relates to an apparatus for stretching and drying laundered articles.

An object of the invention is to provide an improved apparatus for stretching and drying laundered articles of different widths and lengths including a drying cabinet, and means for stretching and supporting the articles across the top of the cabinet during the drying process.

Another object of the invention is to provide an improved frame for supporting the articles in the cabinet during the drying operation.

Another object is to provide an improved locking device for holding the frame in position, and means for releasing the locking device from either side of the cabinet.

Another object is to provide a device of the character mentioned including a pair of longitudinal members for engaging the side edges of the articles and having gear connection with stationary parts of the frame to hold said members in proper alinement during movement thereof to different adjusted positions, and locking means for preventing accidental movement of said members.

Other objects will appear from the following description, reference being made to the drawings in which—

Fig. 1 is a plan view of the invention.

Fig. 2 is a side elevation.

Fig. 3 is a plan view of the device with the stretching frame positioned edgewise in the cabinet and showing the heating means and air ducts.

Fig. 4 is an end view of the apparatus.

Fig. 5 is a longitudinal sectional view of the frame on the line 5—5 of Fig. 1.

Fig. 6 is an inverted plan view of one of the longitudinally adjustable members.

Fig. 7 is a transverse sectional view of the member shown in Fig. 6, taken on the line 7—7 of Fig. 1.

Fig. 8 is a sectional view showing details of the invention, taken on the line 8—8 of Fig. 1.

Fig. 9 is a sectional view on the line 9—9 of Fig. 1.

Fig. 10 is a detailed view showing one of the article engaging members and means for holding the same in different adjustments.

Fig. 11 is a view showing a different form of article engaging member and means for holding the same in different adjustments.

Fig. 12 is a detailed view of the locking device for holding the rotary frame in a horizontal position.

Fig. 13 is a perspective view showing the construction of the side members of the frame.

The cabinet comprises side and end walls 1 and a horizontal bottom wall 2. A number of air inlets 3 (Fig. 2) open through the side walls into transverse air ducts 4 provided with openings 5 permitting air to enter the cabinet near the bottom. A heating coil 6 is located within and near the bottom of the cabinet having an inlet connection 7 and an outlet connection 8. The cool air entering the cabinet through the air ducts 4 causes the heated air to rise in the cabinet into contact with the articles supported by the frame.

Each end wall of the cabinet has a bearing 9 (Figs. 4 and 8) in which an axle 10 in the form of a tube or shaft is journaled for rotation.

The stretching and drying frame is supported by the axle 10 and, as shown, comprises end members 11 (Figs. 5 and 8) in the form of channels having their side flanges extending outwardly. Each of the frame members 11 is rigidly connected with the axle 10 by a pair of clamp members 12 embracing the axle 10 between them and having flanges 13 bolted to the channel members 11. Additional rigidity of the connection is obtained by bolts 14 passing through each pair of clamp members 11 and through the axle 10.

Each side member of the frame includes a channel member (Figs. 10, 11 and 13) having its ends rigidly connected with the end members 11. The flanges 15 of the side members extend inwardly and have vertical

extensions 16 bent to provide outwardly extended flanges 17. At properly spaced intervals holes 18 are formed through the vertical extensions 16 along their line of union with the flanges 17, and a scale (Figs. 10 and 11) is formed upon the outer surfaces of the flanges 15 designating the holes 18 and facilitating adjustment of the article engaging members for articles of different measurements.

One of the article engaging members comprises a rod 19 (Figs. 1 and 10) adapted to be passed through a loop of a curtain or other article. A reduced end 20 of said rod is arranged to pass through any one of the holes 18. The opposite end of the rod has a reduced portion 21 and inwardly therefrom is encircled by a coiled spring 22 of the expansion type, the inner end of which bears against a collar 23 on the rod. By reference to Fig. 10 it will be seen that when the rod has its reduced ends 20 and 21 engaged in the holes 18 the spring 22 will retain the rod in such position.

Another article engaging member comprises a transverse channel bar 24 (Fig. 11) having a reduced extension 25 on one end and a pair of spaced reduced extended portions 26 on the opposite end designed and adapted to engage in a pair of spaced holes 18 to hold the channel bar from turning. Coiled springs 27 encircle the parts 26 and hold the channel bar in proper position. Within the channel of said bar a strip 28 of curtain wire bristles is secured, the upper end of which is somewhat above the flanges of the channel bar 24 so that said wires will engage the curtain or article. By proper adjustment of the article engaging members 19 and 24 a curtain or other article may be stretched longitudinally for drying.

Each of the outwardly extended flanges of the end members 11 has a strip 29 attached thereto and each of said strips 29 supports a longitudinal mass of curtain wire bristles 30 with which a curtain or other fabric may be engaged.

The end frame members 11 support channel bars 31 (Figs. 5 and 8) with their flanges extending inwardly. Upon each of the flanges of the bars 31 a transverse rack 32 is secured by spot welding or otherwise, and the longitudinal laterally adjustable curtain engaging members are cooperatively connected with said racks. In the embodiment of the invention shown there are two longitudinal laterally adjustable fabric engaging members, each composed of an inverted channel bar 33 having clips or brackets 34 (Figs. 5 and 7) in connection therewith extending under the flanges of the bars 31 to support said members in connection with the frame when said frame is inverted. Each of the channel bars 31 supports a number of bearing brackets 35 (Figs. 5 and 6) in which a shaft 36 is rotatively mounted. Pinions 37 on the ends of the shafts 36 engage the racks 32 and hold the bars 33 straight in the frame, both during lateral movement of said bars and after the bars have been adjusted. A locking device to prevent accidental rotation of each of the shafts 36 is provided, the same comprising a rod 38 (Figs. 6 and 7) supported by the brackets 35 and actuated into engagement with one of the pinions 37 on each shaft 36 by a spring 39. One or more handles 40 is attached to each of the rods 38 and extend outwardly through the slots in the channel bars 33 for manual engagement and operation. When it is desired to adjust either of the bars 33 it is necessary only to disengage the rod 38 from the pinions 37 and hold it disengaged during lateral movement of the bar 33. After the bar 33 has been properly positioned it may be locked, by permitting the rod 38 to engage the pinion 37. Each of the bars 33 supports a strip of curtain wire bristles 41.

The frame includes a transverse tube or shaft 42 at each side of the axle 10, the outer ends of said shafts 42 being rigid with the side members of the frame, and the inner ends of said shafts being connected with the fitting 43 (Fig. 1) rigid with the axle 10.

Angular bars 44 (Fig. 9) are attached to the axle 10 and similar angle bars 45 are attached to the shaft 42 (Fig. 5). Plates 46 have their inner edges attached to the angle bars 44 and 45 and their outer edges attached to angle bars 47 in connection with the frame members. The plates 46 prevent rapid escape of heat from within the drying cabinet when the frame is turned to horizontal position to support a laundered article in the cabinet for drying.

Each of the side walls 1 of the cabinet has a hole 48 (Fig. 12) in which lock bolts 49 are pivoted. Each of the side frame members 15 has a hole 50 in which the inner ends of the lock bolts 49 engage to hold the frame in a horizontal position. Springs 51 actuate the lock bolts 49 into engagement with the frame. The lock bolts 49 are connected with releasing levers 52 supported by the side walls of the cabinet and the releasing levers are connected by a wire 53 so that operation of one of said levers to release the adjacent lock bolt 49 operates the other lever to release the other lock bolt 49.

From the foregoing it will be seen that my invention is a perfected device and obtains all of its intended objects and purposes in a highly efficient and convenient manner. It may be manipulated easily and without special training and is of strong and compact construction. The invention is capable of wide variation as to dimension and other

details and I do not restrict myself unessentially in any such particulars.

What I claim and desire to secure by Letters Patent is:—

1. An apparatus of the character described, comprising a cabinet, a frame supported for rotation on a horizontal axis near the top of the cabinet, means for locking the frame in horizontal position across the top of the cabinet, and a device for releasing said locking means to permit said frame to be rotated independently of said means.

2. An apparatus of the character described, comprising a cabinet, a frame supported for rotation on a horizontal axis near the top of the cabinet, means for locking the frame in horizontal position across the top of the cabinet, means for heating the interior of the cabinet, a device for releasing said locking means to permit said frame to be rotated independently of said locking means, and means for admitting air into the cabinet.

3. An apparatus of the character described, comprising a cabinet, a frame supported for rotation on a horizontal axis near the top of the cabinet, means for locking the frame in horizontal position across the top of the cabinet, means for heating the interior of the cabinet, a device for releasing said locking means to permit said frame to be rotated independently of said locking means, and means for admitting air into the cabinet below said heating means.

4. An apparatus of the character described, comprising a cabinet open at the top, a frame supported for rotation on a horizontal axis near the open top of the cabinet, a locking device for locking said frame in a horizontal position, and means on each side of the cabinet for releasing said locking device to permit the frame to be turned on its axis.

5. An apparatus of the character described, comprising a cabinet having an open top, a frame supported within and near the open top of the cabinet, means for stretching and supporting laundered articles on the frame, a heating device within the cabinet below said frame, and means for admitting air into the cabinet below said heating device.

6. In an apparatus of the character described, a frame comprising channel end members having their flanges extending outwardly, channel bars attached to said end members and having their flanges extending inwardly, side frame members rigid with said end members, racks upon the flanges of said channel bars adjacent to said end members, a longitudinal bar, a shaft rotatively connected with said longitudinal bar, and pinions on said shaft meshing with said racks.

7. In an apparatus of the character described, a frame comprising channel end members having their flanges extending outwardly, channel bars attached to said end members and having their flanges extending inwardly, side frame members rigid with said end members, racks upon the flanges of said channel bars adjacent to said end members, a longitudinal bar, a shaft rotatively connected with said longitudinal bar, pinions on said shaft meshing with said racks, and means for locking said pinions from rotation.

8. In an apparatus of the character described, a frame comprising channel end members having their flanges extending outwardly, channel bars attached to said end members and having their flanges extending inwardly, side frame members rigid with said end members, racks upon the flanges of said channel bars adjacent to said end members, a longitudinal bar, a shaft rotatively connected with said longitudinal bar, pinions on said shaft meshing with said racks, and means in connection with said longitudinal bar engaging both of said channel bars and holding said longitudinal bars in connection with said frame.

9. In an apparatus of the character described, a frame comprising channel end members having their flanges extending outwardly, channel bars attached to said end members and having their flanges extending inwardly, side frame members rigid with said end members, racks upon the flanges of said channel bars adjacent to said end members, a longitudinal bar, a shaft rotatively connected with said longitudinal bar, pinions on said shaft meshing with said racks, means in connection with said longitudinal bar engaging both of said channel bars and holding said longitudinal bars in connection with said frame, and means for locking said pinions from rotation.

10. An apparatus of the character described, comprising a cabinet having an open top, a frame supported for rotation on a horizontal axis within the cabinet and near the open top thereof, means closing the space between the side and end members of said frame, and means for holding a fabric in connection with the frame.

11. An apparatus of the character described, comprising a cabinet having an open top, a frame supported for rotation on a horizontal axis within the cabinet and near the open top thereof, means closing the space between the side and end members of said frame, means for holding a fabric in connection with the frame, a device for heating the interior of the cabinet, and means for admitting air into the cabinet below said heating device.

12. In an apparatus of the character described, a frame, a pair of parallel racks in connection with said frame, a bar, means

for holding said bar in connection with said frame, a pair of pinions rotatively connected with said bar and meshing with said racks, and means in connection with said bar for engaging a fabric.

13. In an apparatus of the character described, a frame, a pair of parallel racks in connection with said frame, a bar, means for holding said bar in connection with said frame, a pair of pinions rotatively connected with said bar and meshing with said racks, means in connection with said bar for engaging a fabric, and a locking device for engaging and preventing rotation of one of said pinions.

14. An apparatus of the character described, comprising a cabinet composed of a bottom wall, side walls and end walls, and said cabinet having an open top; in combination with a frame supported for rotation on a horizontal axis within the cabinet and near the open top thereof; means for supporting fabrics in connection with opposite sides of the frame; a partition in the frame preventing the passage of air through the frame; and means for heating the interior of the cabinet below the frame.

15. An apparatus of the character described, comprising a cabinet composed of a bottom wall, side walls and end walls, and said cabinet having an open top; in combination with a frame supported for rotation on a horizontal axis within the cabinet and near the open top thereof; means for supporting fabrics in connection with opposite sides of the frame; a partition in the frame preventing the passage of air through the frame; means for locking the frame in connection with the cabinet to prevent the frame from turning and with either side of the frame toward the interior of the cabinet; and means for heating the interior of the cabinet below the frame.

16. An apparatus of the character described, comprising a cabinet composed of a bottom wall, side walls and end walls, and said cabinet having an open top; in combination with a frame supported for rotation on a horizontal axis within the cabinet and near the open top thereof; means for supporting fabrics in connection with opposite sides of the frame; a partition in the frame preventing the passage of air through the frame; means for locking the frame in connection with the cabinet to prevent the frame from turning and with either side of the frame toward the interior of the cabinet; means for heating the interior of the cabinet below the frame; and means for admitting air into the cabinet below said heating means.

17. An apparatus of the character described, comprising a cabinet having an open top, a frame supported for rotation upon a horizontal axis within the cabinet and near the open top thereof, means for locking the frame in connection with the cabinet in either one of two positions, a partition in the frame preventing passage of air therethrough, and means for supporting fabrics in connection with the frame at opposite sides of said partition.

18. An apparatus of the character described, comprising a cabinet having an open top, a frame supported for rotation upon a horizontal axis within the cabinet and near the open top thereof, means for locking the frame in connection with the cabinet in either one of two positions, a partition in the frame preventing passage of air therethrough, means for supporting fabrics in connection with the frame at opposite sides of said partition, and devices for holding said supporting means in different adjusted positions on the frame.

19. An apparatus of the character described, comprising a frame including side members having holes therethrough, a rod for engaging one end of a fabric releasably engaged in said holes, a bar, projections on said bar releasably engaged in certain of said holes and spaced from said rod, springs for holding said bar in position, and means in connection with said bar for engaging the fabric that is engaged with said rod.

20. An apparatus of the character described, comprising a frame including side members having holes therethrough, a rod for engaging one end of a fabric releasably engaged in said holes, a bar, projections on said bar releasably engaged in certain of said holes and spaced from said rod, springs for holding said bar in position, means in connection with said bar for engaging the fabric that is engaged with said rod, and devices supported at right angles to said bar and rod for engaging the side edges of the fabric.

21. An apparatus of the character described, comprising a frame including side members having holes therethrough, a rod for engaging one end of a fabric releasably engaged in said holes, a bar, projections on said bar releasably engaged in certain of said holes and spaced from said rod, springs for holding said bar in position, means in connection with said bar for engaging the fabric that is engaged with said rod, devices supported at right angles to said bar and rod for engaging the side edges of the fabric, and means for holding said devices in different adjusted positions.

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