

June 5, 1934.

L. M. PERSONS

1,961,508

HUMIDIFIER

Filed March 6, 1931

2 Sheets-Sheet 1

Fig. 1.

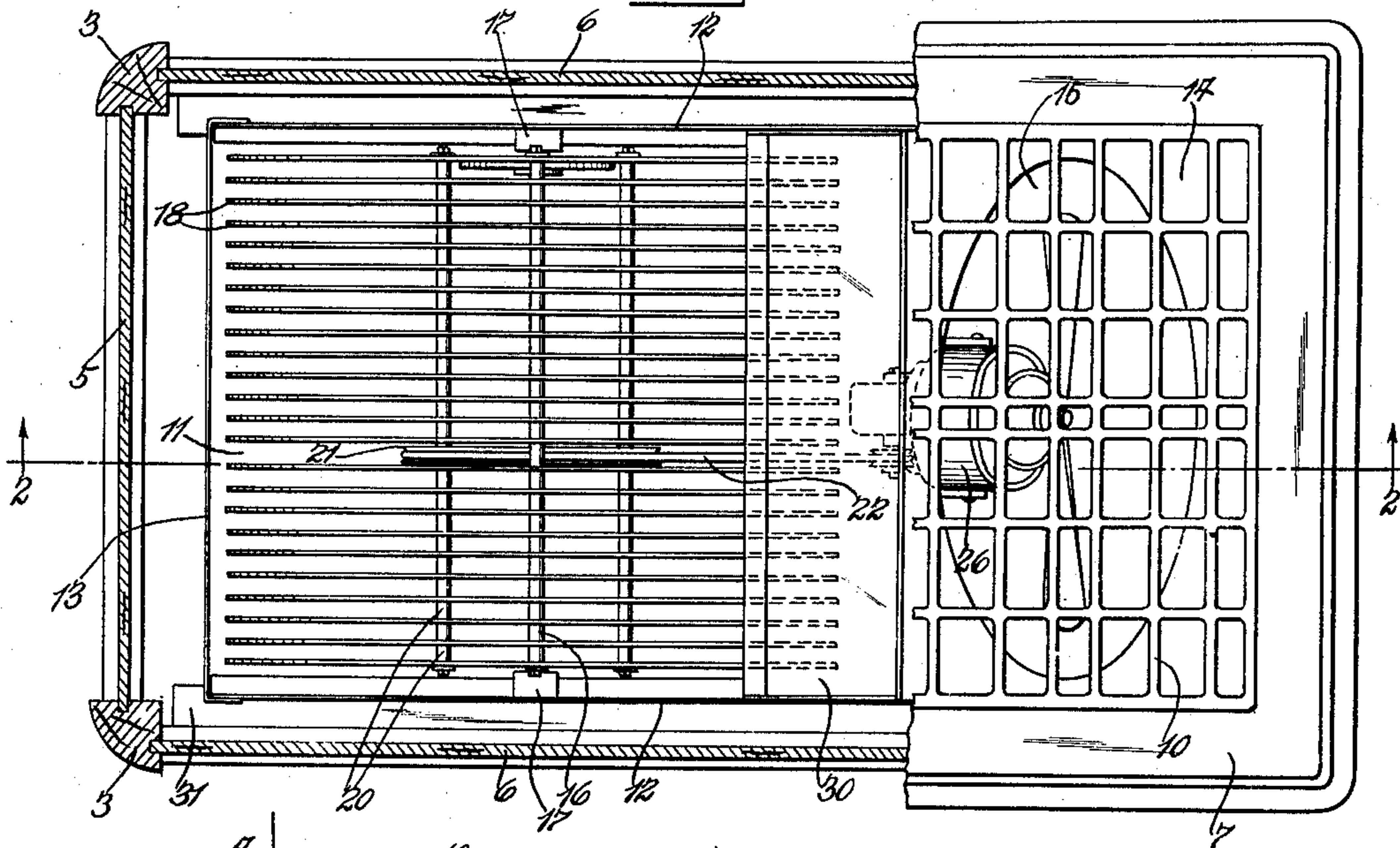
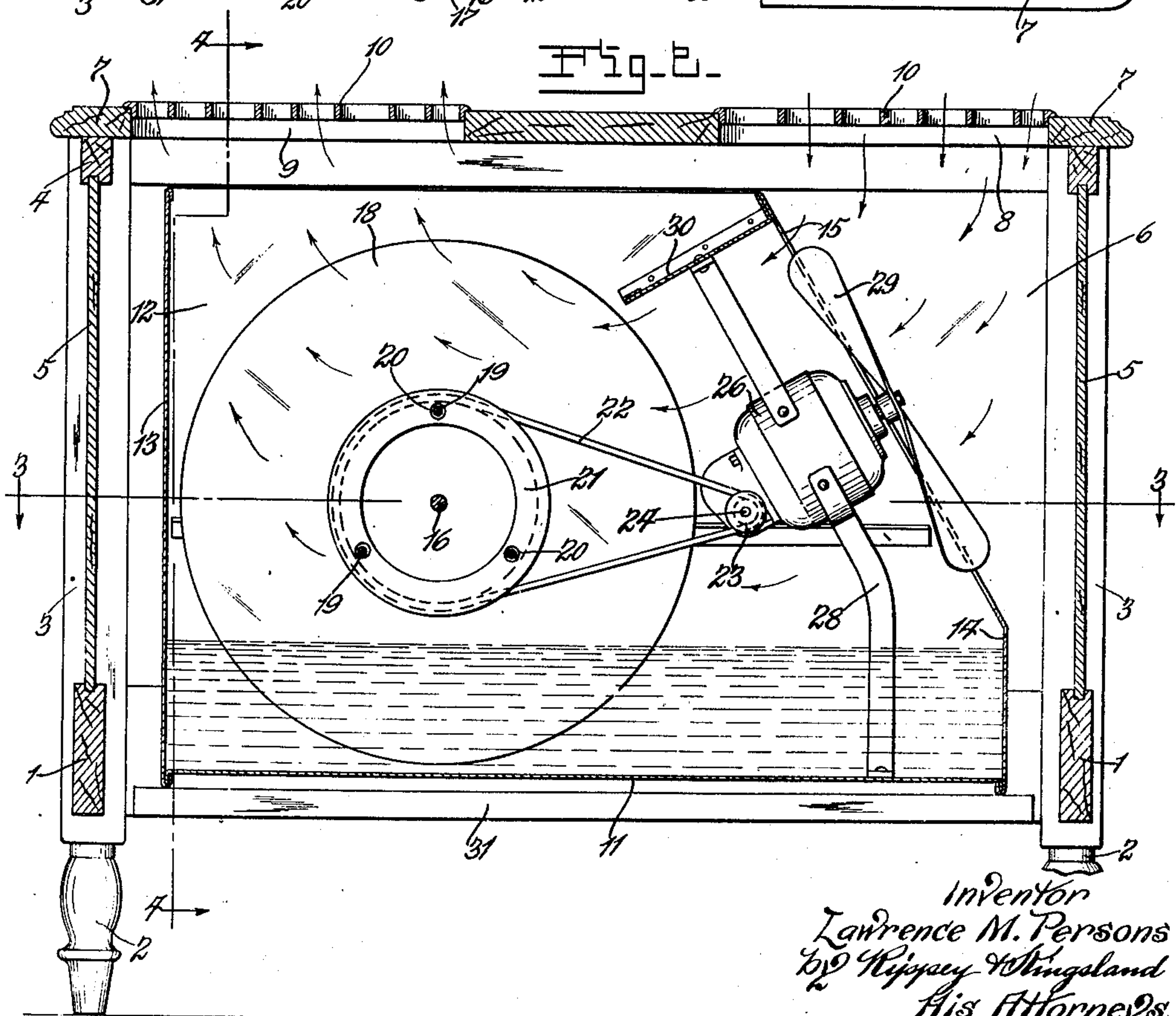


Fig. 2.



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Fig. 3-

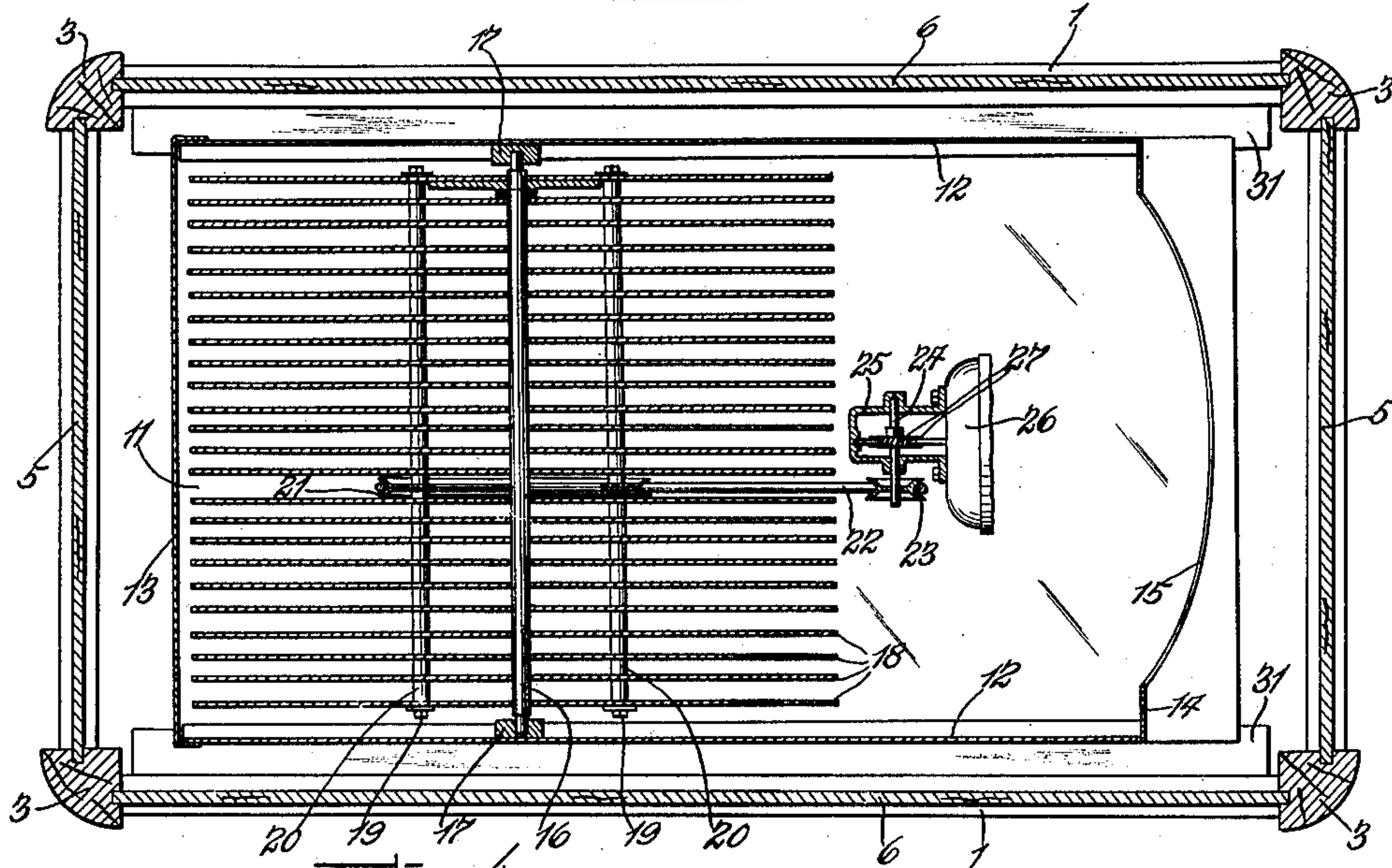


Fig. 4-

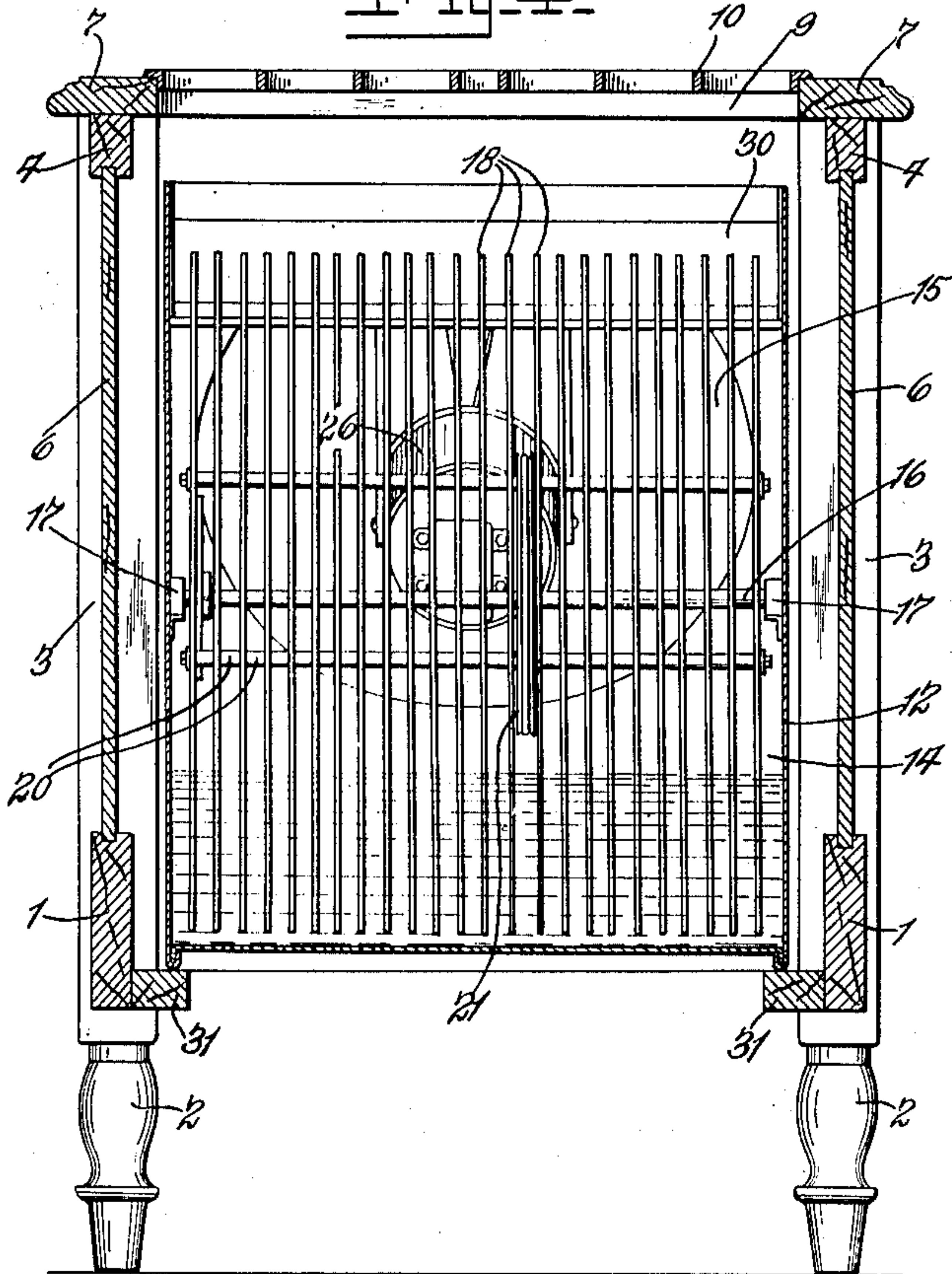
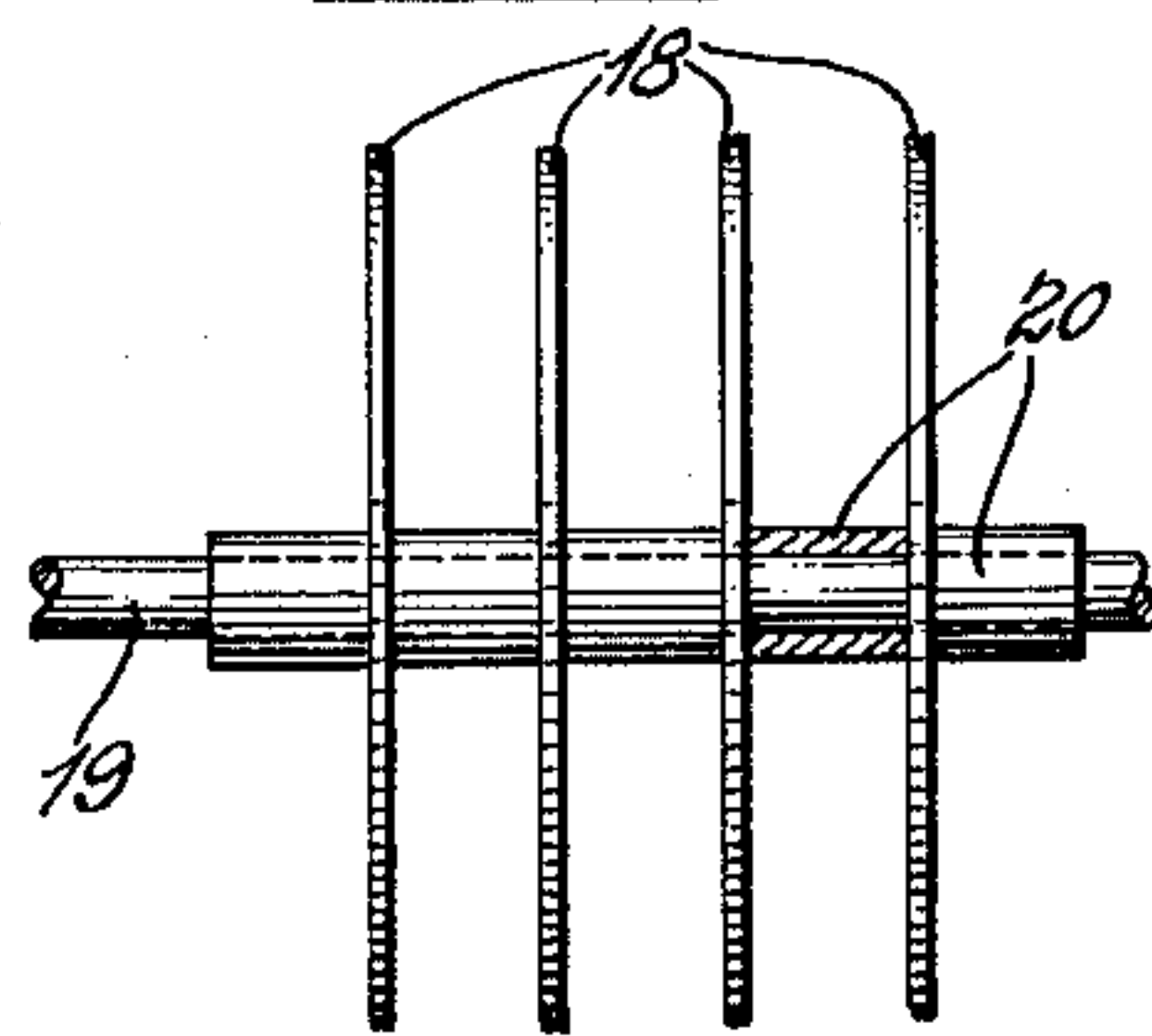


Fig. 5-



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## UNITED STATES PATENT OFFICE

1,961,508

## HUMIDIFIER

Lawrence M. Persons, Clayton, Mo., assignor to  
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Application March 6, 1931, Serial No. 520,522

2 Claims. (Cl. 261—92)

This invention relates to improvements in humidifiers; and has special reference to humidifiers of the portable type for use in humidifying the air so as to improve the condition of the air.

An object of the invention is to provide an improved portable humidifier contained in an appropriately designed ornamental cabinet having inlet and outlet air openings, in combination with a receptacle mounted in the cabinet adapted to contain a quantity of water and having an opening at one end for the passage of air into and through the receptacle and into contact with the water, a blower mounted in said opening, rotary elements arranged to operate into and through the water and to be moistened thereby and to present moist surfaces above the level of the water for contact with the air passing through said cabinet, and a machine for operating said blower and said rotary devices.

Another object of the invention is to provide an improved humidifier of the type and character mentioned comprising movable members for conducting moisture into a current of air passing into an enclosed cabinet so that the current of air will be humidified before leaving the cabinet.

Another object of the invention is to provide an improved portable humidifier of the type mentioned having the humidifying devices mounted in a water receptacle, and means for removably supporting the water receptacle within a cabinet so that said receptacle and the humidifying devices mounted therein may be removed from and replaced in the cabinet, as desired.

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

Fig. 1 is a view partly in section and partly in plan looking down upon and into the cabinet.

Fig. 2 is a vertical longitudinal sectional view on the line 2—2 of Fig. 1.

Fig. 3 is a horizontal sectional view on the line 3—3 of Fig. 2.

Fig. 4 is a vertical transverse sectional view on the line 4—4 of Fig. 2.

Fig. 5 is an enlarged sectional view showing a detail of the invention.

The cabinet supporting and enclosing my improved humidifier comprises a lower frame 1 supported by ornamental legs 2 in connection with the lower ends of corner uprights 3; and upper frame 4 supported by the upper ends of the uprights 3, cabinet end walls 5 connecting the corner uprights 3 and having their lower and upper edges engaging the frames 1 and 4, respectively; and

cabinet side walls 6 connecting the corner uprights 3 and having their lower and upper edges engaging the lower and upper frames of the cabinet. The cabinet is also provided with a removable top wall 7 having therethrough an air inlet opening 8 near one end and an air outlet opening 9 near the opposite end. The openings 8 and 9 are separated by an intervening portion of the top wall of the cabinet. The openings 8 and 9 are provided with grids 10 through which the air may freely pass.

A water receptacle, comprising a bottom wall 11, side walls 12 rising from said bottom wall, an end wall 13 rising from one end of the bottom wall 11 and having its vertical edges united with the adjacent ends of the side walls 12, and a wall 14 rising from the opposite end of the wall 11 and having its vertical edges connected with the adjacent ends of the side walls 12, is mounted in the cabinet. The upper portion of the wall 14 inclines toward the wall 13 and is provided with an opening 15 through which the air entering the cabinet through the opening 8 may pass into the receptacle.

A shaft 16 is journaled for rotation in bearings 17 supported by the side walls 12. A series of discs 18 are attached to the rotary shaft 16 and are secured in rigid relationship by rods 19 extending through said discs and supporting spacers 20 for holding the discs in proper spaced relationship. Thus, the discs constitute a rotary unit that is supported by the shaft 16. The shaft 16 is supported above the level of the water in the receptacle and the lower portions of the discs extend downwardly into the water, so that, as the discs rotate, they present moistened surfaces against which the current of air passing through the cabinet operates. As a consequence, the moving air is humidified before it passes from the cabinet through the air outlet 9.

A sheave 21 is attached to the shaft 16 and is engaged by a belt 22 which also engages a speed reducing sheave 23 attached to the end of a shaft 24. The shaft 24 is journaled in a support 25 and is driven from a motor 26 by appropriate driving connections 27. The motor 26 is located between the rotary discs 18 and the opening 15 and is mounted on supports 28. A blower 29 is mounted in the air passage 15 and is driven by the motor 26 whenever said motor is operated. Thus, the blower 29 is operated simultaneously with the discs 18. A baffle plate 30, inclining downwardly toward the discs 18, is supported between the side walls 12 so as to direct the current of air against and between the discs 18



in order that all of the air may be properly humidified.

The water receptacle supporting this humidifying device is mounted in the cabinet and is 5 removably supported upon ledges 31. Since the top wall 7 of the cabinet is removable, the entire humidifying unit may be removed from the cabinet and replaced therein, as desired.

It is now clear that my invention obtains all 10 of its intended objects in a highly efficient and satisfactory manner and that it constitutes useful household equipment. Since the cabinet is of ornamental design and appearance and is readily portable, it may be conveniently and 15 appropriately placed in any part of a residence or apartment without unpleasing contrast with any of the furnishings. The construction and arrangement of the device may be varied within the scope of equivalent limits without departure 20 from the nature and principle thereof.

I claim:

1. A portable humidifier comprising a portable cabinet having an air inlet passage near one end and an air outlet passage near its opposite end, a 25 water receptacle having an inclined end wall provided with an opening, means for removably supporting said water receptacle in said cabinet

in position in which said opening through said inclined end wall is adjacent to said inlet passage and in position in which the opposite end of the receptacle opens toward said outlet passage, a blower supported in an inclined position 80 in said opening through said end wall, a series of rotary discs, means for supporting said discs for rotation in said cabinet between said blower and the opposite end of said receptacle in position in which air driven by said blower must pass 85 between said discs toward said outlet opening, and a motor supported between said blower and said discs in said water receptacle for operating said blower and said discs simultaneously.

2. A humidifier comprising a cabinet having an 90 air inlet passage at one end of the top and an air outlet passage at the other end of the top thereof, a water receptacle mounted in the cabinet, a series of vertical rotary discs mounted in the cabinet beneath the air outlet passage and 95 having their lower portions extending into water in said receptacle, and a blower mounted on an incline below said air inlet passage and adapted to draw air through the air inlet passage and propel it against said rotary discs. 100

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