Dec. 10, 1929. C. T. MORSE 1,738,719

HEATING AND VENTILATING APPARATUS

Filed March 25, 1927 3 Sheets-Sheet 1

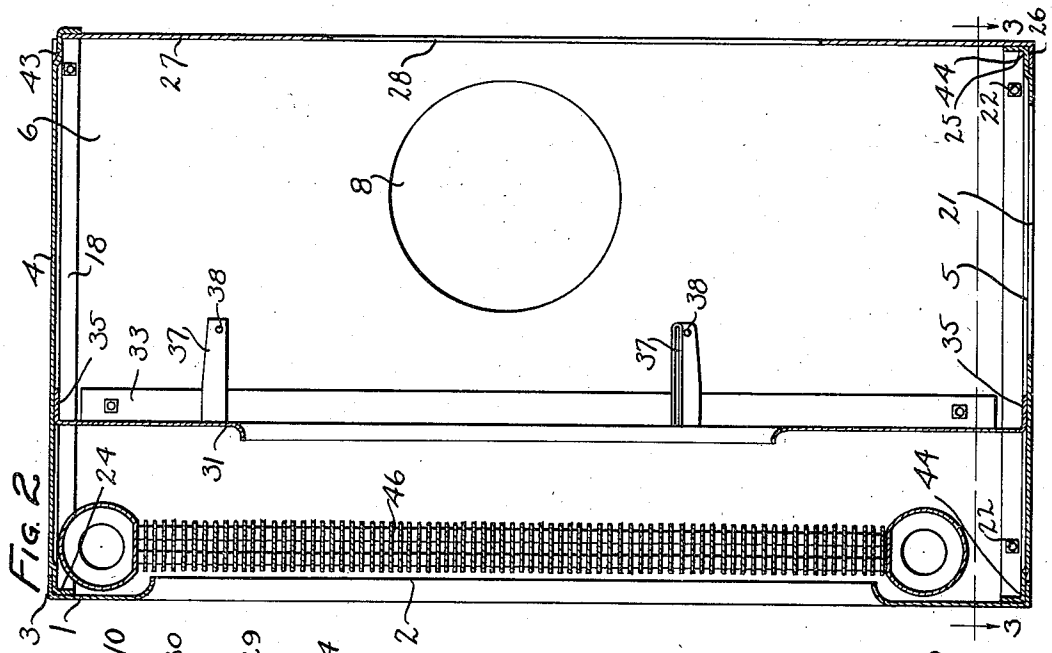


FIG. 2

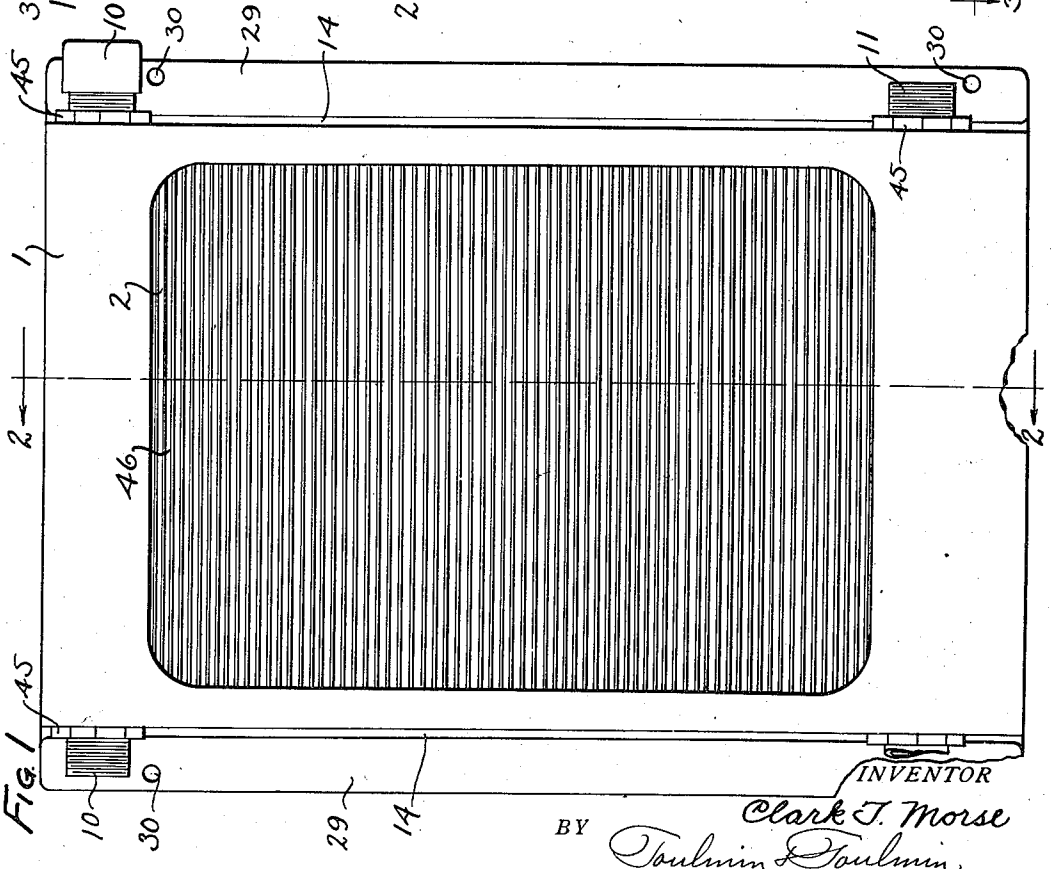


FIG. 1

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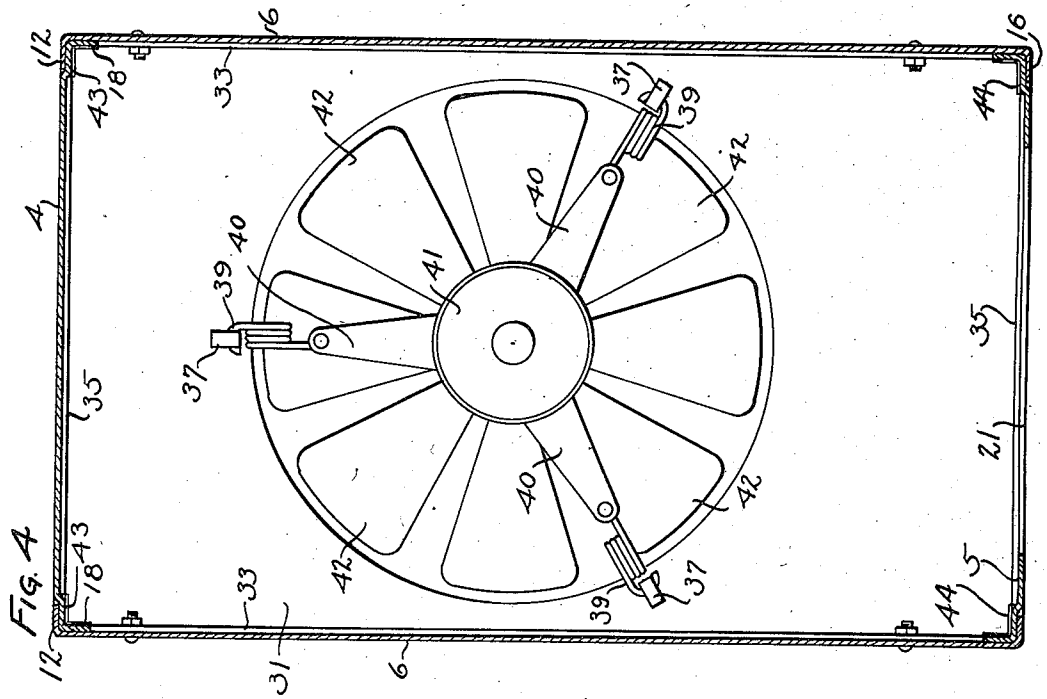


FIG. 4

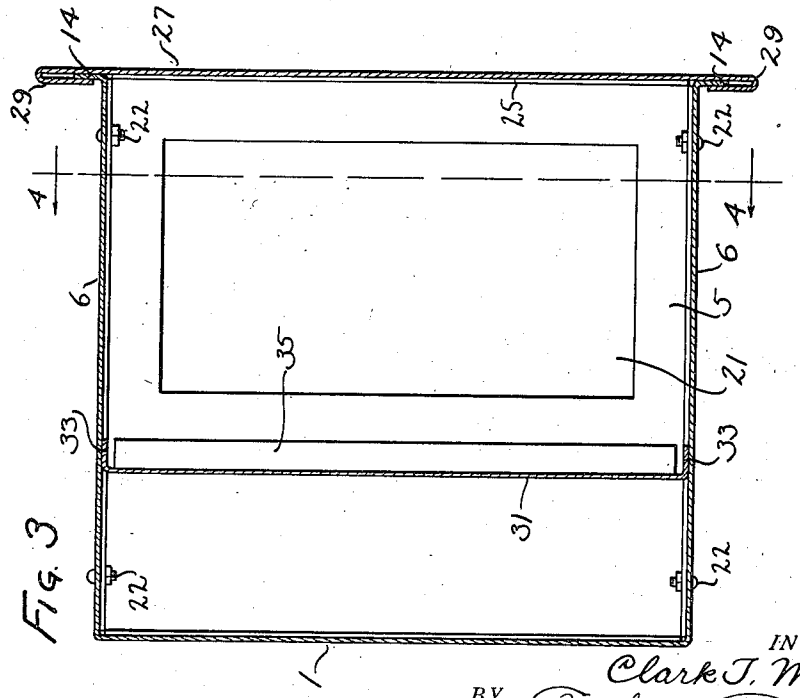


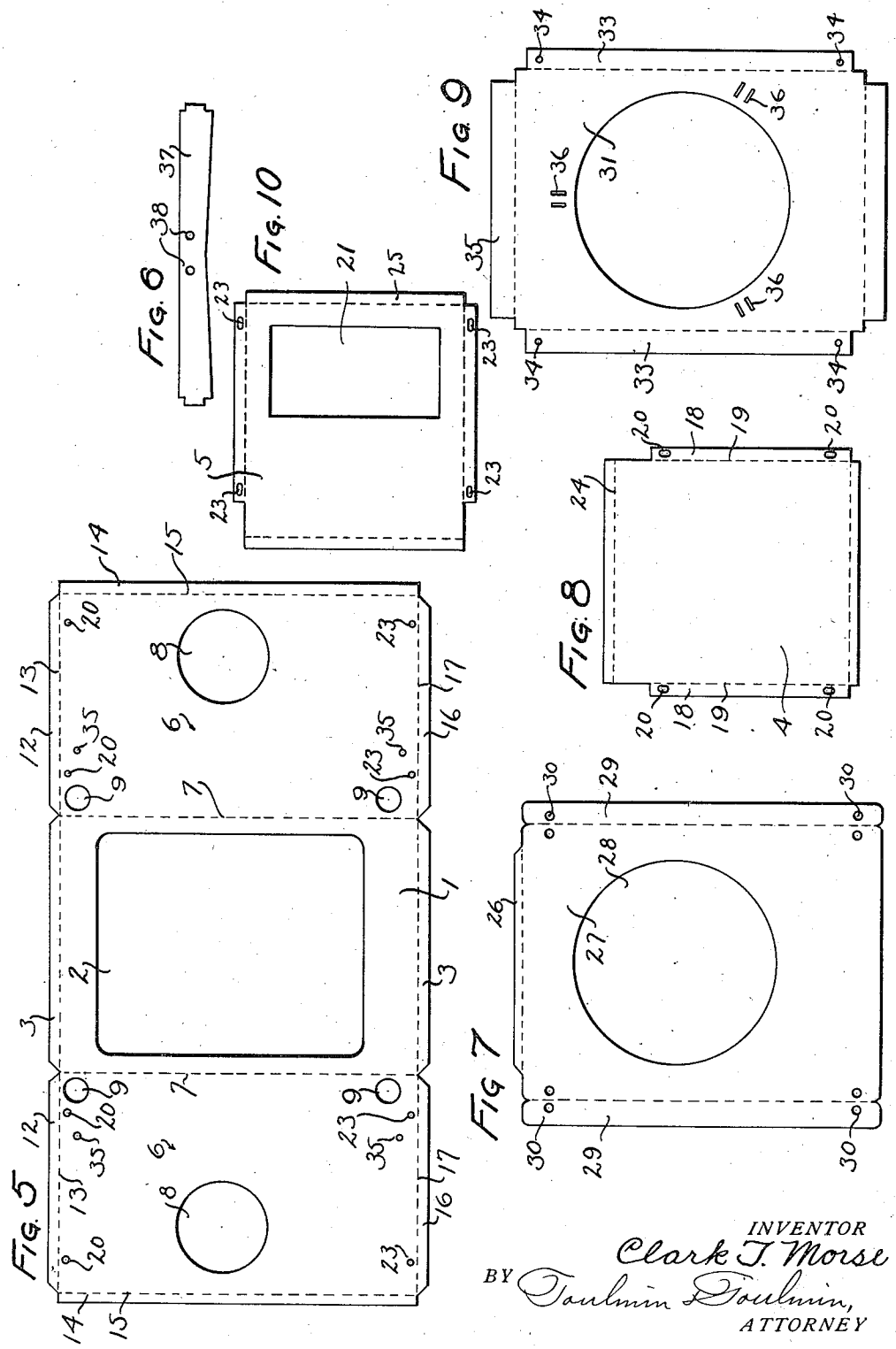
FIG. 3

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HEATING AND VENTILATING APPARATUS

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UNITED STATES PATENT OFFICE

CLARK T. MORSE, OF DETROIT, MICHIGAN, ASSIGNOR, BY MESNE ASSIGNMENTS, TO AMERICAN BLOWER CORPORATION, OF DETROIT, MICHIGAN, A CORPORATION OF DELAWARE

HEATING AND VENTILATING APPARATUS

Application filed March 25, 1927. Serial No. 178,430.

My invention relates to heating and ventilating apparatus.

It is the object of my invention to provide a novel form of construction for a small unit heating and ventilating apparatus, which can be constructed with the minimum of parts easily assembled and, when assembled, will be of sufficient strength so as to support a relatively delicate radiator and protect it.

It is a further object to make a smooth exterior surface on the cabinet, which is dust proof.

It is an object to provide an internally reinforced cabinet and by offsetting certain parts of the walls to provide for this smooth surface and at the same time to reinforce the cabinet.

Referring to the drawings:

Figure 1 is a front elevation;

Figure 2 is a section on the line 2—2 of Figure 1;

Figure 3 is a section on the line 3—3 of Figure 2;

Figure 4 is a section on the line 4—4 of Figure 3;

Figure 5 is a plan view of the blank constituting the guard or bezel protecting the radiator and constituting the side walls;

Figure 6 is the blank for the supporting arm for the fan;

Figure 7 is the blank for the rear slide;

Figure 8 is the blank for the top;

Figure 9 is the blank for the partition on which the fan and motor is spring suspended;

Figure 10 is the blank for the bottom.

Referring to the drawings in detail, the blank shown in Figure 5 is provided with a bezel or an inwardly curved margin 1 formed on four sides of the opening 2 through which the radiator 46 is exposed. On the upper and lower sides of this bezel are the flanges 3 which are turned at right angles to form enclosing guards and positioning flanges for the top plate 4 and the bottom member 5.

Integral with the bezel 1 are the side walls 6 which are bent at right angles along the dotted line 7. These side walls are provided with hand holes 8 and the openings 9 for receiving the supply and exit pipes 10 and 11 for the radiator 46 and serve through the agency of these pipes to support the radiator and brace it in position.

The top ends of these side walls 6 are provided with right angle flanges 12 bent on the line 13 and inwardly extending side flanges 14 bent on the line 15.

A bottom flange 16 is provided bent at right angles along the line 17.

The top section 4 is provided with inwardly turned flanges 18 formed at right angles along the lines 19 which are connected to the inside of the side walls 6 in the holes 20. The bottom plate 5 having the opening 21 is attached by the bolts 22 through the openings 23. The forward end of the top plate 4 constituting the top of the cabinet is formed into a counter sunk flange 24, while the rear edge of the bottom plate 5 is formed into a counter sunk flange 25. The counter sunk flange 24 is adapted to receive over it the flanges 3 at the top of the bezel. Likewise, the counter sunk flange 25 is adapted to receive the inwardly turned limiting flange or shoulder 26 formed on the slide constituting the back of the casing designated 27. This back is provided with an eye 28 which may be suitably closed if desired.

The side of this slide is provided with flanges 29 which are turned over the outwardly turned flanges 14 of the sides 6 which serve to guide the slide back 27.

Holes 30 are provided through which retaining bolts to hold the slide back in position may be inserted.

Interiorly disposed within the cabinet is a partition 31 having laterally turned flanges 33 through which bolts are passed through the holes 34 and through the holes 35 of the sides 6.

Inwardly turned top and bottom flanges 35 are provided for positioning this partition 31 which carries through the slots 36 the U-shaped arms 37 which are provided with holes 38 in which the springs 39 are mounted that are connected to the arms 40 carrying the motor 41 which in turn carries the fan blades 42 on its armature shaft.

It will be noted that the top of the plate 4 has a marginal counter sunk edge 43 so that the exterior of the entire box is flush. The same thing is true of the bottom which has a

counter sunk portion 44 for receiving the inwardly turned flange of the side wall 6. This prevents lateral shifting of the parts of the box.

In my invention I have been able to provide a box with a completely smooth exterior having sufficiently decorative value to make it adaptable to any ordinary installation and, at the same time, providing an integral one-piece bezel guarding the radiator and merely disclosing fins and cores. It is my object to provide with this integral bezel side walls upon which the radiator is mounted and to which the bezel is attached by the nuts or collars 45. Thus, a very rigid structure is provided for enclosing the radiator.

The top 4 and the bottom 5 are placed within the side walls and the bezel flush therewith and having inwardly turned flanges which reinforce and tie together these several parts.

As a further reinforcement, I provide a partition on which the motor and fan are suspended. A sliding cover is provided on the rear, which is also flush with the casing.

It will be further understood that I desire to comprehend within my invention such modifications as may be necessary to adapt it to varying conditions and uses.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. In a heating and ventilating unit, a one-piece bezel and side walls having cover supporting flanges, a top member joining said side walls and bezel, a bottom member joining said side walls and bezel, a radiator suspended within the bezel by the side walls, and a fan within the casing, one of said side walls having an opening for the entrance of air.

2. In a heating and ventilating unit, a one-piece bezel and side walls having cover supporting flanges, a top member joining said side walls and bezel, a bottom member joining said side walls and bezel, a radiator suspended within the bezel by the side walls, a fan within the casing, one of said side walls having an opening for the entrance of air, and a sliding rear cover slidably mounted on the side wall flanges.

3. In a heating and ventilating casing consisting of a one-piece bezel and side walls, detachably attached top and bottom members having inwardly extending flanges engaging the side walls and the bezel, said side walls and bezel having inwardly turned flanges counter sunk within the surface of said bottom and top members, and a slidable rear member providing a cover, said cover being counter sunk on its marginal engaging portions to form a smooth exterior to the casing, a radiator mounted within said casing in said side walls and attached thereto tying said side walls together.

4. In a heating and ventilating casing consisting of a one-piece bezel and side walls, detachably attached top and bottom members having inwardly extending flanges engaging the side walls and the bezel, said side walls and bezel having inwardly turned flanges counter sunk within the surface of said bottom and top members, and a slidable rear member providing a cover, said cover being counter sunk on its marginal engaging portions to form a smooth exterior to the casing, a radiator mounted within said casing in said side walls and attached thereto tying said side walls together, and an interiorly disposed apertured partition having flanges engaging the top, bottom and side wall portions of the casing, and means for suspending a motor and fan adjacent said apertures in the partition.

5. In combination in a heating and ventilating unit, a bezel member having an inwardly turned flange brought adjacent to a radiator, side wall members integral with said bezel adapted to support said radiator, means to attach said radiator adjacent to said side walls, a top member and a bottom member attached to said side walls for engaging said bezel, an overhanging flange on said top member, flanges on said side wall members for engaging a sliding back, a sliding back having engaging side portions mounted on said flanges, the end of said back being adapted to engage within the overhanging flange of the top member, and an inwardly turned flange on said sliding back adapted to engage with the bottom of a bottom member.

6. In a heating and ventilating unit, a one-piece bezel and side walls having cover supporting flanges, a top member joining the said side walls and bezel, a bottom member joining the said side walls and bezel, a radiator suspended within the bezel by the side walls, and a fan within the casing, the unit being also provided with an opening for the entrance of air.

In testimony whereof, I affix my signature.

CLARK T. MORSE.