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CABINET CONSTRUCTION

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## CABINET CONSTRUCTION

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5 Claims. (Cl. 98—29)

My invention relates to cabinet construction, more particularly to cabinets such as are employed in furnishing kitchens, butlers' pantries, offices, store rooms and the like, and has for an object the provision of articles of the character designated, the units of which shall embody in their lower portions circulating air ducts, each of which ducts is readily connectible with the air ducts of adjacent units to adapt an assembly of such units for the circulation of heating, cooling, or ventilating air.

Another object of my invention is to provide a cabinet construction in which the heretofore wasted toe space under the cabinet is utilized to form an air circulating duct, and to provide means whereby such cabinets may be employed singly or in multiple for the circulation of air.

A further object of my invention is to provide a cabinet assembly in which each cabinet unit has a base with openings in the end walls thereof so that when the various units are abutted end to end, the duct of each individual unit is in communication with the ducts of its associated units, in combination with means to circulate air through said ducts for discharge through openings formed in the front walls of the bases of the cabinets.

A further object of my invention is to provide cabinets of the character designated with air circulating ducts, and sealing means between the cabinet units so as to prevent loss of air at the joints between them, whereby the air passing through the duct may be discharged at selected points adjacent the floor line and toward the front of a cabinet assembly.

Briefly, my invention comprises a cabinet embodying an air duct formed by the plates which make up the base of the cabinet. In the front wall of the base I provide an opening which serves to discharge air from the duct into the room in which the cabinet is located. At the ends of each cabinet or similar article I cut an opening which is adapted to register with a similar opening in an adjacent unit, whereby a continuously extending duct is formed under an assembly of such units.

Around each of the end openings I provide a seal means against which the adjacent cabinet abuts, which seal may be in the form of a gasket cemented to the end walls. These gaskets are relatively thin so as to avoid objectionable spaces between the various units, and serve to prevent leakage between the units, so that all of the air blown through the duct will be discharged through suitable openings provided at the front. Where the cabinets are used in connection with a heating system, heated air may be supplied to the ducts by any suitable means, such as by forced circulation from suitable heating apparatus.

Apparatus embodying features of my invention is illustrated in the accompanying drawing forming a part of this application, in which

Fig. 1 is a plan view of a typical cabinet assembly embodying my invention;

Fig. 2 is a sectional view taken along the line II—II of Fig. 1;

Fig. 3 is a sectional view taken on the line III—III of Fig. 2;

Fig. 4 is a perspective view of a typical cabinet unit;

Fig. 5 is a view of one of the joints shown in Fig. 3 on an enlarged scale, and illustrating one form of end sealing means;

Fig. 6 is an elevational view taken along the line VI—VI of Fig. 5;

Fig. 7 is a view corresponding to Fig. 5 illustrating another type of sealing means; and

Fig. 8 is a fragmental elevational view of the sealing means illustrated in Fig. 7, taken on the line VIII—VIII of Fig. 7.

Referring to the drawing for a better understanding of my invention, I illustrate the same as embodied in an assembly of kitchen furniture arranged in a room 10. The cabinet assembly illustrated embodies a sink 11, a range 12, and storage cabinets 13. It will be obvious, however, that other cabinet units, such as refrigerators, filing cabinets, and store and office fixtures, may be equipped with my improved duct system.

As is well known, the exterior parts of modern kitchen furniture are generally made of sheet metal, and the various units are adapted to abut so as to form a continuously extending layout. In the base of each of the units 11, 12 and 13 I provide an air circulating duct 14, which is formed of the front, rear, and end walls 16, 17 and 19 respectively, of the base of the cabinet. A bottom wall 18 is also preferably provided to cover the floor of the room in which the cabinet is located. In the end walls 19 I form openings 21, which openings are adapted to register with corresponding openings in adjacent units when the various cabinets are installed in a room. It will be seen, however, that the cabinets thus constructed may be used singly or in multiple assembly for air distribution.

In order to prevent leakage between adjacent units, I provide seal means which surround the end openings 21. As shown in Figs. 5 and 6,

this seal means preferably comprises a thin gasket 22 surrounding the openings, which gasket may be cemented to the end wall of one or both of the abutting units. With a gasket thus interposed between the units, no air can escape from between them.

In the front walls 16 I provide a number of openings 23 which permit the air circulating in the ducts to be discharged into the room. As many of these openings may be provided as is found necessary in a given installation, and they may be provided with a grill 25 in front if desired. Also, such an opening may be covered with a cover plate 30, as shown at the end of the cabinet in Fig. 4. The cover plate may be removable and replaceable, or, if desired, it may be formed by providing weakened border lines and be broken out by a hammer along the weakened lines.

While heated air from any desired source may be introduced into the duct 14, I show by way of illustration a casing 24 which has therein heating units (not shown) of any desired type, such as steam coils, electric heating coils, and the like. Behind the casing 24 I mount on brackets 26 a blower 27, which is adapted to draw air from a fresh air inlet 28 and blow the same through the casing 24 into contact with the heating units therein and thence through the ducts.

It will be apparent that whenever the blower 27 is in operation, air will be circulated thereby causing it to pass through the casing 24, where it is heated, and is forced from unit to unit in the assembly, thence out the openings 23 into the room in which the cabinet is located. If desired, the tops of the ducts 14 may be insulated from the bottom of the cabinet by means of a strip of insulating material 29 (see Fig. 2). The heating system shown is by way of illustration only, and many suitable systems will suggest themselves to those skilled in the art. Also, when cooling or ventilating air is being circulated, such air may be conditioned at any suitable source, not shown.

Referring to Figs. 7 and 8, I show an alternative sealing means 31 for the ducts 14, which comprises a stiff wire member 32 covered with any suitable flexible material 33, such as rubber. This covering is formed in the shape of a T in cross section, a flange 34 of which is adapted to fit between the abutting walls 19 of the units. As seen in Fig. 6, the seal extends around the opening 21, and may be installed in the opening by simply inserting the same therein, whereupon the flange 34 will be in correct sealing position when the cabinets are brought in end to end relation.

From the foregoing it will be apparent that I have devised an improved cabinet construction in which the base thereof is so constructed as to form a unit length of an air circulating duct. It will likewise be apparent that my improved cabinet construction is compact and inexpensive of manufacture, and that the same is readily adaptable to other types of fixtures than those illustrated, such, for example, as show cases, work benches, filing cabinets, and the like. It will furthermore be apparent that the construction herein described might be reversed and the ducts formed in the upper ends of the cabinets, rather than in the lower ends.

While I have shown my invention in but two forms, it will be obvious to those skilled in the art that it is not so limited, but is susceptible of various other changes and modifications, without departing from the spirit thereof, and I desire, therefore, that only such limitations shall be placed thereupon as are specifically set forth in the appended claims.

What I claim is:

1. In a cabinet assembly, the individual units of which abut at their ends, a base portion for each unit having end, rear and front walls forming an air duct, said end walls having openings therein registering with corresponding openings of the adjacent units, a gasket surrounding the openings and interposed between abutted units to prevent the escape of air between the units, there being openings in said front wall for the escape of air from the duct, and means associated with the assembly to force air through the ducts from unit to unit for discharge through the openings in the front wall.

2. In a cabinet assembly comprising units abutting at their ends, a base for each unit having end, rear and front walls forming air ducts in each of the bases extending through the cabinet from end to end, a plate forming a bottom for each duct, insulation for the top of each duct, the duct of each unit registering with corresponding ducts in adjacent units, a seal interposed in the joints between the ducts of abutting units, there being openings in said front walls for discharging air from the ducts, and a blower associated with the assembly and adapted to force air from unit to unit through the ducts.

3. A cabinet assembly according to claim 2, in which the seals in the joints between abutting units comprise a thin strip of gasket material cemented to the ends of at least one of each of the abutting units.

4. A cabinet assembly according to claim 2, in which the seals in the joints between abutting units comprise metallic members covered with sealing material, a portion of which material is interposed between the ends of abutting units around the opening in the end walls.

5. A cabinet assembly according to claim 2, in which the seal in a joint between abutting units comprises a member of T shape in cross section formed of sealing material, said member being placed in the openings in the end walls and having a flange portion disposed around the opening between abutting units.

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