METHOD OF FORMING REFRIGERATOR LININGS

Filed Sept. 20, 1935

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

INVENTOR.

ROLAND H. MONEY.

By

Allen & Allen

ATTORNEYS.
My invention relates to a method of forming shelf supporting ledges on the linings of refrigerators. The size of the lining sheets and the spacing of the shelf supports, taken with the necessity of enameling in lining sheet after it is formed, and the requirements for perfect results, render the problem of press formed shelf supports a considerable problem.

It has been suggested that it would be desirable to form shelf supports for refrigerator shelves by ridges pressed in the lining of the compartment. Thus the formation of ridges in the sheet will tend to make it more rigid, and by making the ridges rounded in conformation they can be cleaned quite readily. Finally the use of shelf hooks which must be welded or otherwise secured within the compartment is eliminated, the hooks being dirt catchers, and to a certain degree unsightly.

However, to form such ridges in a sheet which, according to good practice should cover three walls or sides of the compartment in a single piece bent to shape, is a problem which has been regarded as impractical by cabinet builders. The pressing out of the ridges in the original sheet sets up stresses and strains which warp the ends and intermediate body of the sheet, resulting in an unsatisfactory member with which to line a refrigerator. This is because the metal must flow out to form the ridges which are located rather far apart and confined to partial areas only of a sheet which must cover three sides of the interior of a cabinet. The problem would be quite different if the sheets forming the sides of the lining member were separate sheets, later assembled with other sheets to form the complete lining. In such a case the area acted upon is relatively small and the ridges or corrugations cover it to a substantial degree. In the full sized sheet, forming not only the sides of the cabinet lining but also the rear, for example, that portion which forms the rear has no ridges in it, and will be sure to warp, if ordinary practice be followed in forming the ridges.

To illustrate my invention I have appended drawing showing stages of operations in forming a lining as I prefer to do so.

In the drawing, Figure 1 is a plan of a starting sheet. Figure 2 shows the sheet after the ridges have been formed. Figure 3 shows the sheet folded. Figure 4 shows the lining after top and bottom sheets have been welded to the folded sheet of Figure 3, which is the condition of the lining prior to enameling.

As illustrated I start with a sheet I, which is of a suitable dimension to cover both sides and the back of the desired refrigerator compartment lining. I place this sheet in a large press, such as for example is used in making automobile body fenders and which has a head and bed which are as long as the entire sheet. The die used for pressing the ridges will be such that while the ridges are being pressed the pressure of the press is applied to all the rest of the sheet. Preferably a die block is used which has the rib forming dies sliding in it and the block is brought down on the sheet, whereupon the rib forming dies come down through the die block and impress the sheet.

In other words I stamp or die the entire sheet into a form which is flat throughout except for the ridges 2, 2, at each end of the sheet, which in the final structure will act as shelf supports.

I find that by such an operation there will be no warping of the remainder of the sheet, either during folding, enameling, or in use.

The sheet is then folded to the form shown in Figure 3 in which the sides 3, 3, and the back 4 are formed for the final lining. It would not be as feasible to form the sides together with the top or together with the bottom of the final lining, because to do so would ordinarily require a much longer starting piece, since a refrigerator compartment is higher normally, than it is wide or deep. With a big enough press and a small enough refrigerator lining, my practice could be followed in such a modified way, however.

In the practice illustrated, when the structure is formed into a back and sides, a top sheet 5, and a bottom sheet 6 are secured in place and welded. The lining is then ready for enameling.

In case additional bends are to be made in the main lining sheet in which the shelf ridges have been formed, this can be done as readily, if not more readily after the press operation that forms the ridges, as if the ridges were not present.

I call attention to the fact that the ridges can be made in a rounded form as illustrated, more readily than in any flattened conformation, and they serve their purpose as shelf supports just as well. Such a conformation is easier to die out without affecting the remainder of the sheet, and is more sanitary because it can be cleaned off more readily than any square or flattened construction.

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

1. That method of forming a refrigerator lining shell which consists in starting with a flat unenameled sheet, stamping said sheet by heavy pressure applied across the entire sheet, so as to form spaced ledges lengthwise thereof at the terminal portions of the sheet, then folding the sheet to form the back and two sides of a refrigerator cabinet shell, with the ledges extended inwardly at the sides of said shell, and the back free of ridges, then securing top and bottom plates to said shell to complete the compartment shell, and then enameling same.

2. That method of forming a refrigerator lining shell which consists in starting with a flat unenameled sheet, stamping said sheet by heavy pressure applied across the entire sheet, so as to form spaced ledges at the terminal portions of the sheet, then folding the sheet to form an intermediate wall and two sides of a refrigerator cabinet shell, with the ledges extended inwardly at the sides of said shell, and the intermediate wall free of ridges, then securing plates to said shell to complete the compartment shell, and then enameling same.

3. That method of forming a refrigerator lining shell which consists in starting with a flat unenameled sheet, stamping said sheet by heavy pressure applied across the entire sheet, so as to form spaced ledges lengthwise thereof at the terminal portions of the sheet, then folding the sheet to form the back and two sides of a refrigerator cabinet shell, with the ledges extended inwardly at the sides of said shell, and the back free of ridges, then securing top and bottom plates to said shell to complete the compartment shell, and then enameling same, said ridges being rounded in conformation throughout.

ROLAND H. MONEY.