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P. ZALKIND

2,343,356

COLLAPSIBLE DRAWER-SAGLESS BOTTOM

Original Filed Oct. 19, 1935

Fig.1

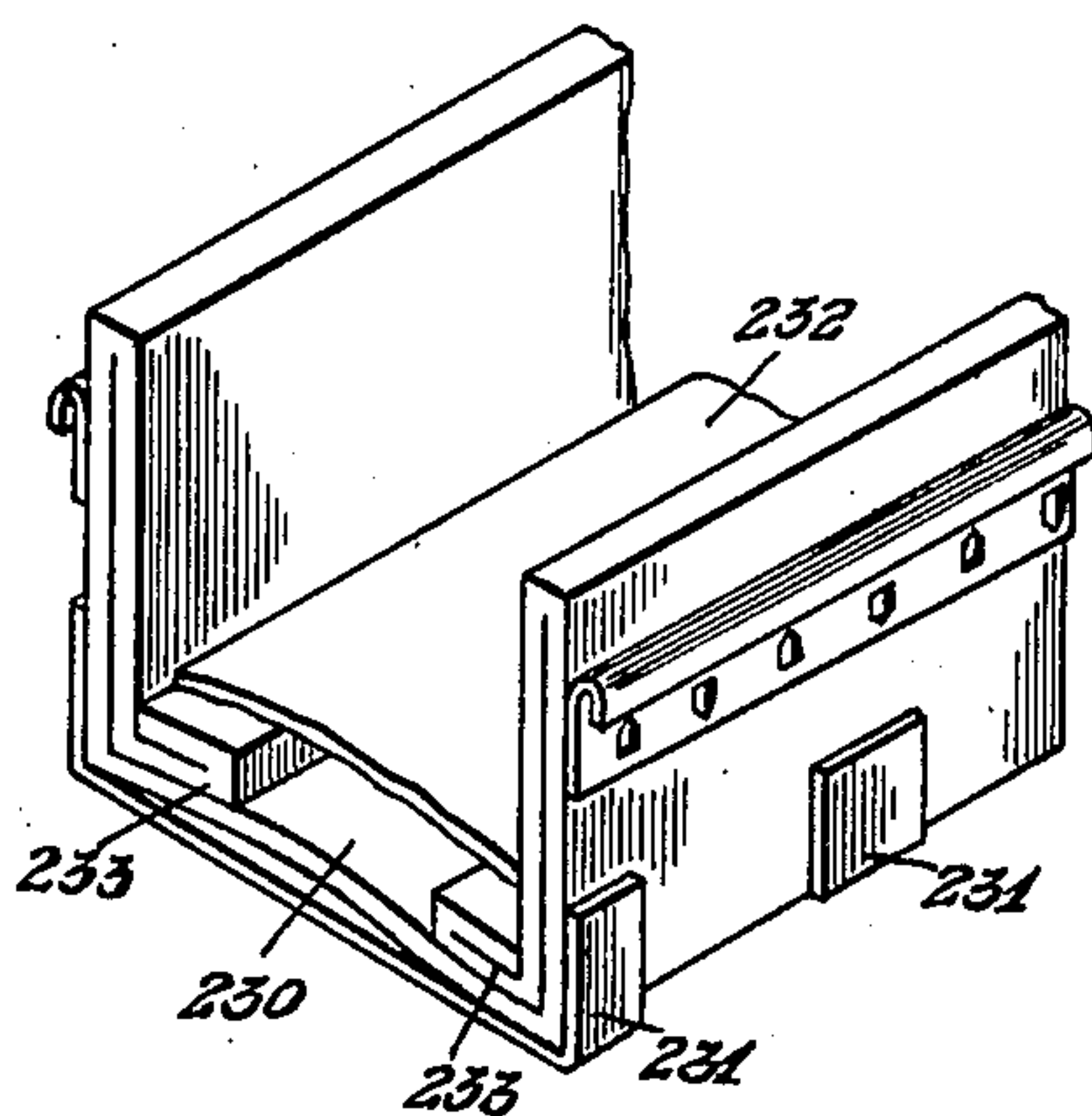


Fig.2

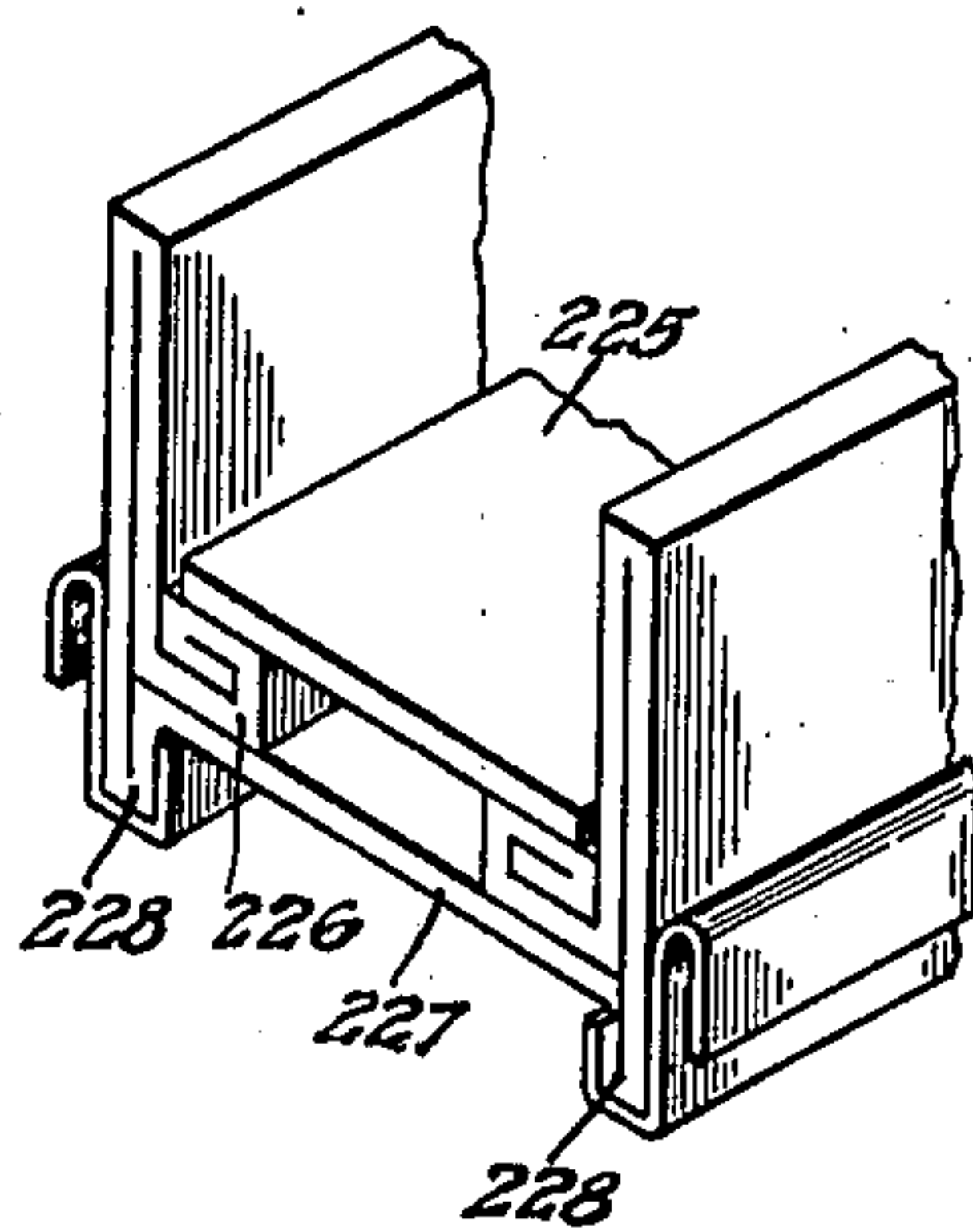


Fig.3

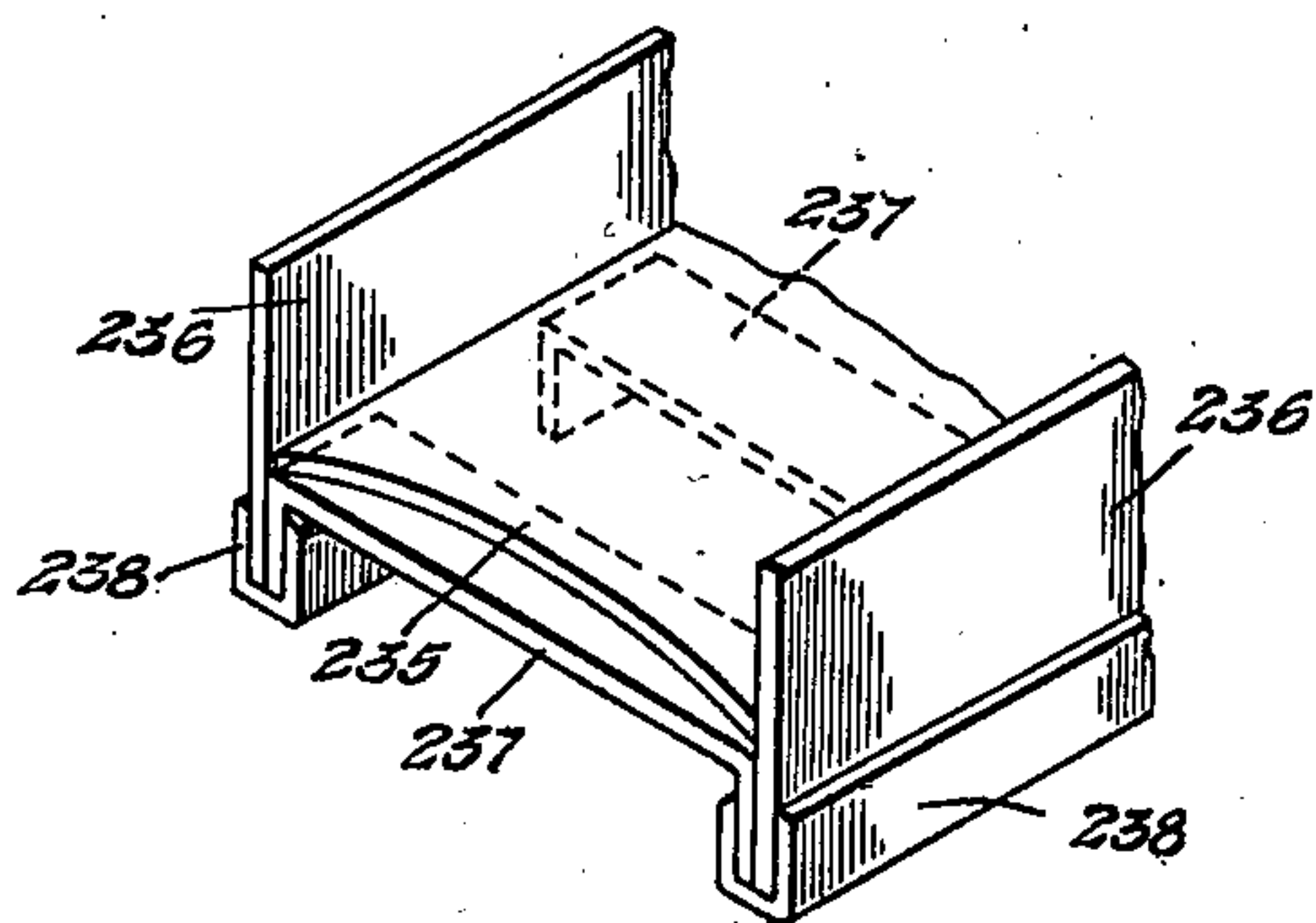
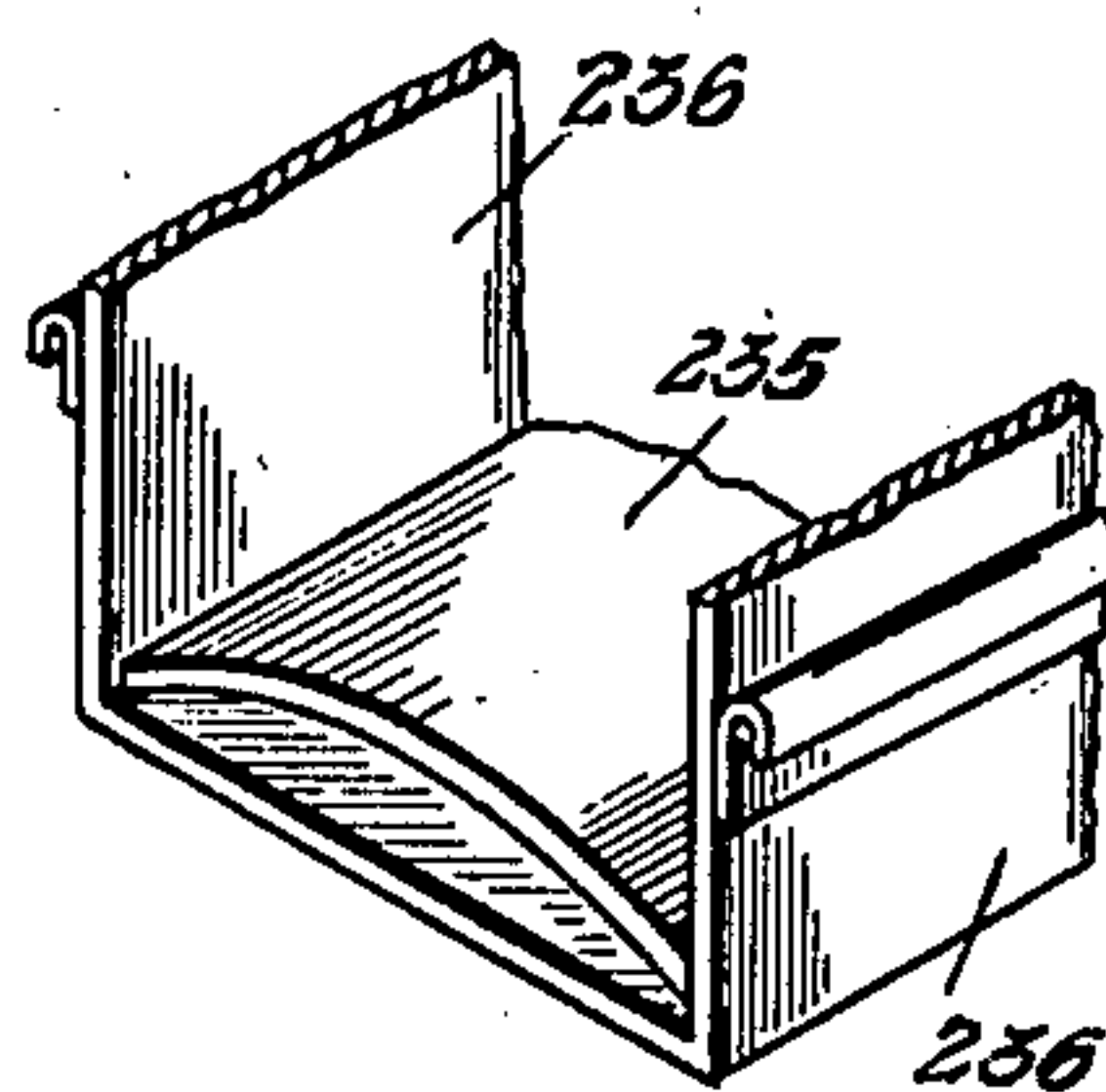


Fig.4



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## UNITED STATES PATENT OFFICE

2,343,356

COLLAPSIBLE DRAWER—SAGLESS  
BOTTOM

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Original application October 19, 1935, Serial No.  
45,715. Divided and this application May 7,  
1940, Serial No. 333,744

2 Claims. (Cl. 45—7)

My invention is a true division of application S. N. 45,715, filed October 19, 1935, Patent No. 2,200,319 and relates to collapsible and/or folding containers and more particularly to novel construction of drawers and drawer bottoms and the like of this class, and novel constructions of the parts of said drawers to facilitate movement of the drawer relative to coacting parts.

In the movement of drawers in and out of the container in which the drawer is adapted to operate, it is desirable that as much freedom of movement as possible shall be obtained. The parent application, of which this is a division, was a continuation in part of my co-pending application, S. N. 693,841 filed October 16, 1933, Patent No. 2,233,906, and of my co-pending application S. N. 739,962, filed August 15, 1934, Patent No. 2,159,069.

In the aforementioned applications, I have shown various means for reducing friction between the bottom of the drawer and the bottom of the container by providing various types of roller construction or sliding means therefor.

In my application S. N. 211,384, I have shown various other means for facilitating the movement of the drawer in and out of the casing. In all of these various means, the essential purpose was the arrangement of a container and a drawer so that the bottom of the drawer will, to at least some extent, be free of the bottom of the casing. The purpose of the present invention essentially is to provide a means for making the bottom of the drawer sagless so that the major portion of the area of the bottom of the drawer will not be in contact with the bottom of the casing. This is the essential object of the present invention.

This and other objects of the present invention will in part be apparent and in part pointed out in the following description and drawing in which:

Figure 1 is a fragmentary view in perspective of a drawer having a sagless bottom in accordance with my invention.

Figure 2 illustrates a slight modification of the form of Figure 1.

Figures 3 and 4 show in partial perspective an arched false bottom or sagless bottom for a file drawer.

Referring now to the drawing, I have shown in Figure 1 a type of drawer based on my application above mentioned, S. N. 45,715 Patent No. 2,200,319. Although the present invention is applicable to the type of drawer shown in my Patents No. 2,128,342, 2,184,829, and copending applications S. N. 45,710 Patent No. 2,221,854

and 52,730 Patent No. 2,200,320, as well as to any other type of collapsible drawer and, in fact, the present application may indeed be applied in appropriate circumstances to a drawer made of fibrous materials which need not necessarily in the first instance, be collapsible.

The methods shown in Figs. 1 to 4 are in reality modifications of various methods of keeping the loaded drawer from sagging onto the bottom of the casing.

Where the drawer is collapsible, it is obvious that the false bottom may readily be removed and shipped flat together with the drawer itself. It is also obvious that the false bottom may be secured permanently even within a collapsible drawer and that the folding down of the sides of the drawer so that they both rotate in one direction will result in a collapse of the double bottom portion of the drawer as well, so that the entire drawer even with the double bottom secured therein may be shipped as a unit.

The false bottom may, of course, be arranged to reinforce the interior of the drawer and may itself be arranged to comprise false reinforcements.

Referring now to Figure 1, I have shown the use of an upwardly curved sheet of corrugated board or other fibrous material as the drawer bottom. When this curved sheet is, together with the other elements of the drawer blank, formed into a drawer as shown, the bottom has a bow upward. The metallic members extend across the bottom from side to side of the drawer and assist in holding the sides in proper spaced relationship. The strips may be extended in width so as to merge with each other and so form a continuous sheet as the drawer bottom. The false bottom is shown as also formed from curved material and is supported on the pads formed from the side wall extensions by bending these extensions on suitable score lines. When the drawer is loaded the curved material will tend to straighten out, but the false bottom will keep the load from being transmitted to the bottom of the casing and the metallic members will hold the drawer to proper side to side dimensions.

It will be noted that while the original curvature of the corrugated board is retained in the bottom of the set up drawer and thus acts to raise the load of the drawer off of the bottom of the casing, the curvature of the corrugated board in the side walls is eliminated due to the double side wall construction. As the curvature is continuous in the sheet, when the blank is



laid out so as to produce a drawer with an arched bottom, the outer side walls will be concave outwardly and the inner side wall will be concave inwardly before being set up into place. When the side walls are set up, the inner wall will thus press against the outer wall for the entire height of the wall so that the pressure of the inner and outer side walls against each other will act to straighten the sheet in both of the walls. This construction of the side walls is particularly advantageous when either the inner or the outer side walls has a remoistening adhesive surface. The pressure produced by one section of the curved sheet acting against the other portion of the curved sheet is sufficient to insure that the two abutting surfaces will be so firmly in contact with each other that adhesive material can readily combine the abutting sheets.

In Figure 2, I have shown a false bottom 225 formed from a plane panel of sheet material resting upon supports 226 formed by folding extensions of the side walls upon score lines provided for that purpose. The main drawer bottom 227 is raised on longitudinal bottom flanges 228 which may cooperate with any suitable friction reducing means.

In Figures 3 and 4, I have shown an arched false bottom 235 sprung between the side walls 236 of the drawer. In Figure 4 the drawer has a flush bottom, while in Figure 3 the drawer has a raised bottom. This raised bottom may be a continuous bottom panel, or it may be a number of spacing strips 237 joined to the side walls by the metallic channels 238.

In each of the forms thus disclosed, it is obvious that the essential common function is to provide a sagless bottom construction wherein the load of material upon the drawer itself will not cause the bottom wall of the drawer to be depressed out of its original plane and thus come in contact with the bottom of the casing.

It has actually been found in prior use that despite the fact that it would at first seem more likely that the load in a drawer would tend to spread the side walls and hence raise the bottoms, the actual fact was that the load in the drawer actually tended to bow the bottom wall downwardly.

Various means including paraffin lubrication have been attempted in order to overcome this result. Additional methods of overcoming this result have included a method to raise the drawer bottom sufficiently high so that no amount of sagging would produce contact between adjacent walls.

The present invention, by relatively simplified means, provides for members which may be removably mounted within collapsible containers and/or members which may be secured within collapsible containers in order to provide for the sagless bottom hereinbefore described.

Many other means of applying the principles herein set forth in various other ways will now be obvious to those skilled in the art. I prefer, therefore, not to be limited by the specific disclosures herein, but only by the appended claims.

I claim:

1. A slidable collapsible drawer having side and bottom walls; metallic reinforcements secured to the side walls of the drawer; said metallic reinforcements having a length less than the width of the bottom wall and drawing in the side walls and bulging in the bottom wall upwardly in the form of an arc.

2. A slidable collapsible drawer having side and bottom walls, braces supported by the walls of said drawer, means forming a false bottom and comprising a panel having a width greater than the distance between said braces and being arched upwardly, said panel being supported by said braces.

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