R. H. DIERKES.

BIN.

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1,317,274.

Patented Sept. 30, 1919.

Fig. 1.

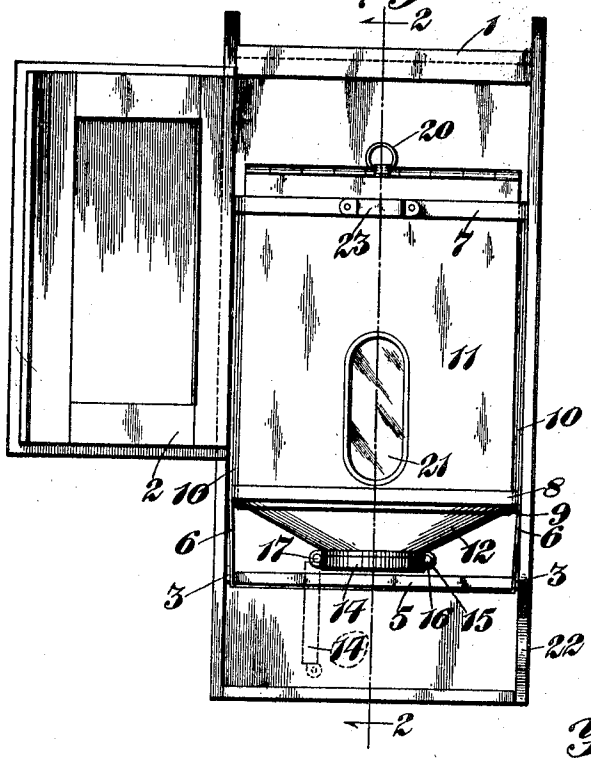


Fig. 2.

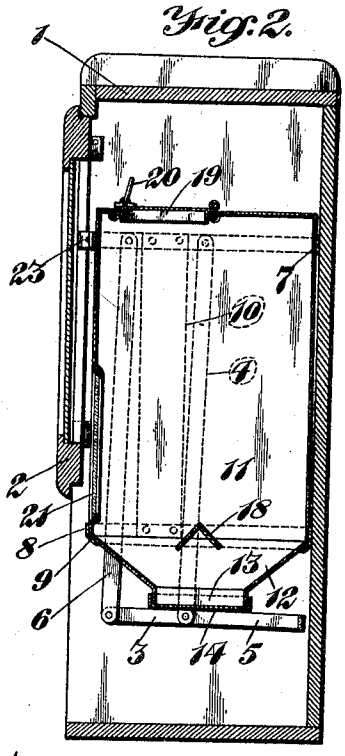
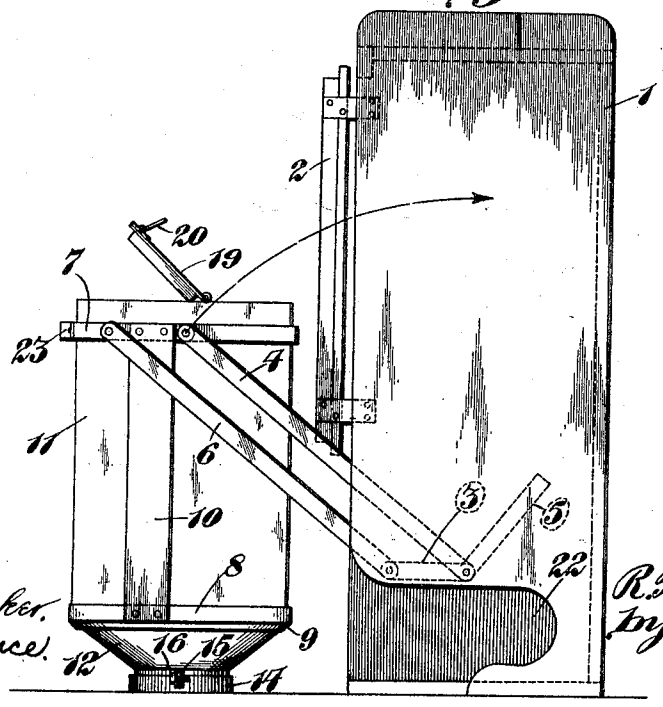


Fig. 3.



Attest:

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BIN.

1,317,274. Specification of Letters Patent. Patented Sept. 30, 1919.

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To all whom it may concern:

Be it known that I, ROBERT H. DIERKES, a citizen of the United States, residing at the city of St. Louis and State of Missouri, have invented a new and useful Bin, of which the following is a specification.

This invention relates to bins of the type usually employed to contain flour, sugar and other kitchen supplies.

An object of the invention is to provide a bin or cabinet adapted for use as a receptacle for various food supplies, such as sugar, or flour, etc., and comprising an inclosure in the form of a cabinet having a receptacle pivotally supported therein in such a manner that the receptacle will remain in a raised position in the cabinet, but in such position that it may be easily drawn forward out of the cabinet to afford complete access thereto.

Another object is to provide an article of the character mentioned comprising a cabinet, a frame pivotally supported within the cabinet, a container mounted in the frame and arranged to receive the materials which are to be stored in the cabinet, provision for enabling the user conveniently to remove any desired quantity of the materials from the container while the container remains pivotally supported within the cabinet.

There are other objects and numerous advantages to be attained by the present invention all of which will be apparent from the following description in which I have made reference to the accompanying drawings in which—

Figure 1 is a front elevation of the cabinet with the door opened to disclose the arrangement of the receptacle and the pivotally mounted frame in which the receptacle is supported.

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

Fig. 3 is a side elevation of the cabinet with the receptacle and its supporting frame swung forwardly out of the cabinet and supported upon a rest or support independent of the cabinet.

In the embodiment shown there is a case or cabinet 1 of suitable dimensions, and preferably provided with a hinged door 2 constituting a pivoted closure for the front of the cabinet. On the side walls of the cabinet at some distance above the bottom wall thereof are secured two metallic plates or straps 3. The rear ends of the plates or straps 3 are approximately midway of the front and rear of the cabinet, it being understood that said plates or straps are arranged in the same horizontal plane. To the inner end of each of the plates 3 is pivoted the lower end of a bar or link 4. The bars or links 4 are of equal length and the lower ends thereof are connected by a yoke 5 which constitutes a counterbalance tending to draw the two bars or links 4 toward the rear wall of the cabinet when they approach a vertical position in their movement into the cabinet, as hereinafter explained. Two bars or links 6 of the same length as the bars or links 4 have their lower ends pivoted at the front extremities of the plates 3. The upper ends of the several bars or links 4 and 6 are pivoted to a member 7, which constitutes the upper portion of the frame in which the receptacle is carried. The upper extremities of the bars or links 4 and 6 are approximately the same distance apart as are the lower extremities of said bars or links, so that the frame is readily movable into and out of the cabinet.

The lower portion of the frame includes a frame member comprising a flange 8 and an inwardly extending flange 9. The lower portion of the frame is rigidly connected with the upper part 7 by plates 10, the opposite ends of which are rigidly secured to the upper and lower parts of the frame, respectively. By reference to Fig. 3 it will be seen that the upper ends of the bars or links 4 are pivoted to the upper frame part 7, substantially midway of the front and rear sides thereof, and that the upper ends of the bars or links 6 are pivoted to the frame part 7 near the front side thereof. By further reference to Fig. 2 it will be seen that when

the frame is entirely within the cabinet the bars or links 4 and 6 occupy slightly oblique positions in which their upper ends are nearer the rear wall of the cabinet than are their lower ends. It will be understood that, by this arrangement, when the frame is drawn or moved forwardly it first moves upwardly and outwardly in an arcuate direction, being raised slightly at the start, and then descending. Also, when the parts occupy the position illustrated in Fig. 2, in which the frame and the container therein are entirely within the cabinet the center of gravity is between the rear wall of the cabinet and the pivots at the lower ends of the bars or links 4 and 6, so that the tendency of the weight supported by the frame is to hold the frame within the cabinet and against the rear wall thereof.

The container or bin 11 is preferably composed of sheet metal and is removably carried within the frame which is pivotally supported by the bars or links 4 and 6. It is preferred that the container be provided with a bottom 12 in the shape of a hopper, the walls of which rest upon the flanges 9 at the lower part of the frame, and, therefore, support the container within the frame in a manner which will be clearly understood by reference to Fig. 2. The lower portion of the hopper bottom is provided with an outlet passage 13 and a hinged closure 14. The hinged closure 14 is in the form of a plate having an annular flange adapted to encircle the flange around the outlet 13. The annular flange on the closure is provided with two ears 15 which receive a screw 16 by which the annular flange of the closure may be clamped firmly upon the flange around the opening at the bottom of the container. Obviously, by releasing or loosening the screw 16 the flange on the closure will become loose, with respect to the flange around the discharge outlet from the hopper, thus enabling the closure to operate on its pivoted support 17 and thus permit removal or discharge of the desired quantity of the contents. In order to support the contents of the container so that the weight thereof will be thrown upon the bottom 12 instead of upon the closure 14, I have provided an inverted V-shaped deflector which is supported by the side walls of the container a short distance above the discharge outlet. It will be readily understood by reference to Fig. 2 that the two oblique walls of the deflector 18 will support the greater weight independently of the closure 14, so that when said closure is opened the contents will pour out more slowly from the sloping walls of the bottom. The deflector 18 extends transversely of the container approximately midway of the front and rear walls, so that there are no centers of pressure with respect to the entire contents of the container but there are, in effect, two divergent centers of pressure, one of which is at each side of the deflector 18, the centers of pressure thus formed or provided being upon the sloping walls of the bottom 12.

In order to afford access to the container for purposes of refilling the same, etc., I provide an opening in the top and a hinged closure 19 for said opening. In normal position the closure 19 rests upon the top wall of the container, thus preventing entrance of foreign elements. A handle 20 is pivoted to the door 19 and affords a convenient means for raising the door.

I have found it desirable to provide a pane 21 of transparent material, such as isinglass, in the front wall of the container near the bottom. This transparent pane enables the user to inspect the contents, so that the user will be informed of the approximate amount of the contents.

It is preferable that the case or cabinet 1 be of sufficient size to receive the container, so that the door 2 may be closed, thus completely incasing the container within the cabinet. When so supported the container is considerably above the bottom of the cabinet which constitutes a support for receiving the receptacle into which a portion of the contents of the container are to be withdrawn. For convenience it is preferable that one of the side walls of the cabinet be cut away below the pivot points of the bars or links 4 and 6, in order to form a space 22 for the insertion and removal of the receptacle. It will be understood that the receptacle is supported by the bottom of the cabinet and that the closure 14 is opened to permit the discharge of the desired amount of the contents.

For the purpose of manipulating the frame and the container 11 I have provided a handle 23 in connection with the upper frame part 7 in position for convenient manual engagement. Thus, by engaging the handle 23 the frame and container may be drawn out of the cabinet to the position shown in Fig. 3, it being understood that the tendency of the weight of the container and the contents is to rest within the container against the rear wall thereof, as illustrated in Fig. 2.

It will be understood that there may be variations in the construction and arrangement of the novel elements of my invention without departure of the spirit and scope thereof.

What I claim and desire to secure by Letters Patent of the United States is:

A bin having opposing walls, straps secured thereto with their rear ends in approximately the longitudinal central lines of the

walls, the straps extending forwardly from such central lines, a container frame, and links connected to the frame and to the respective ends of the straps, the links being connected respectively to the frame in approximately the longitudinal central line thereof and in advance of such central line.

In witness whereof, I have signed this specification in the presence of two subscribing witnesses.

ROBERT H. DIERKES.

Witnesses:
JOHN D. RIPPEY,
R. M. LAWRENCE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."