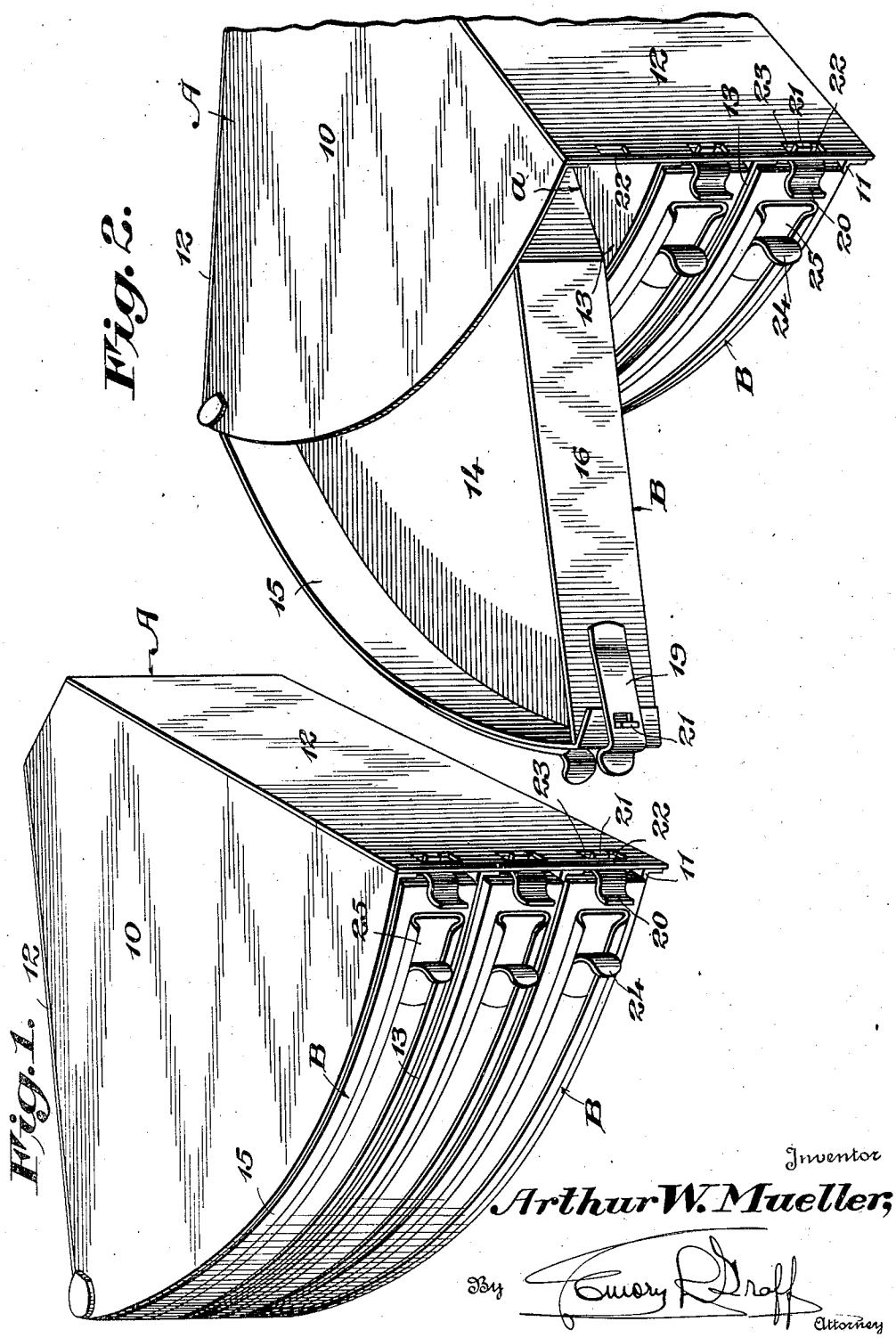
Oct. 21, 1947. A. W. MUELLER 2,429,290

DRAWER UNIT FOR ROTARY STORAGE BINS

Filed Sept. 22, 1944 2 Sheets-Sheet 1



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Fig. 3.

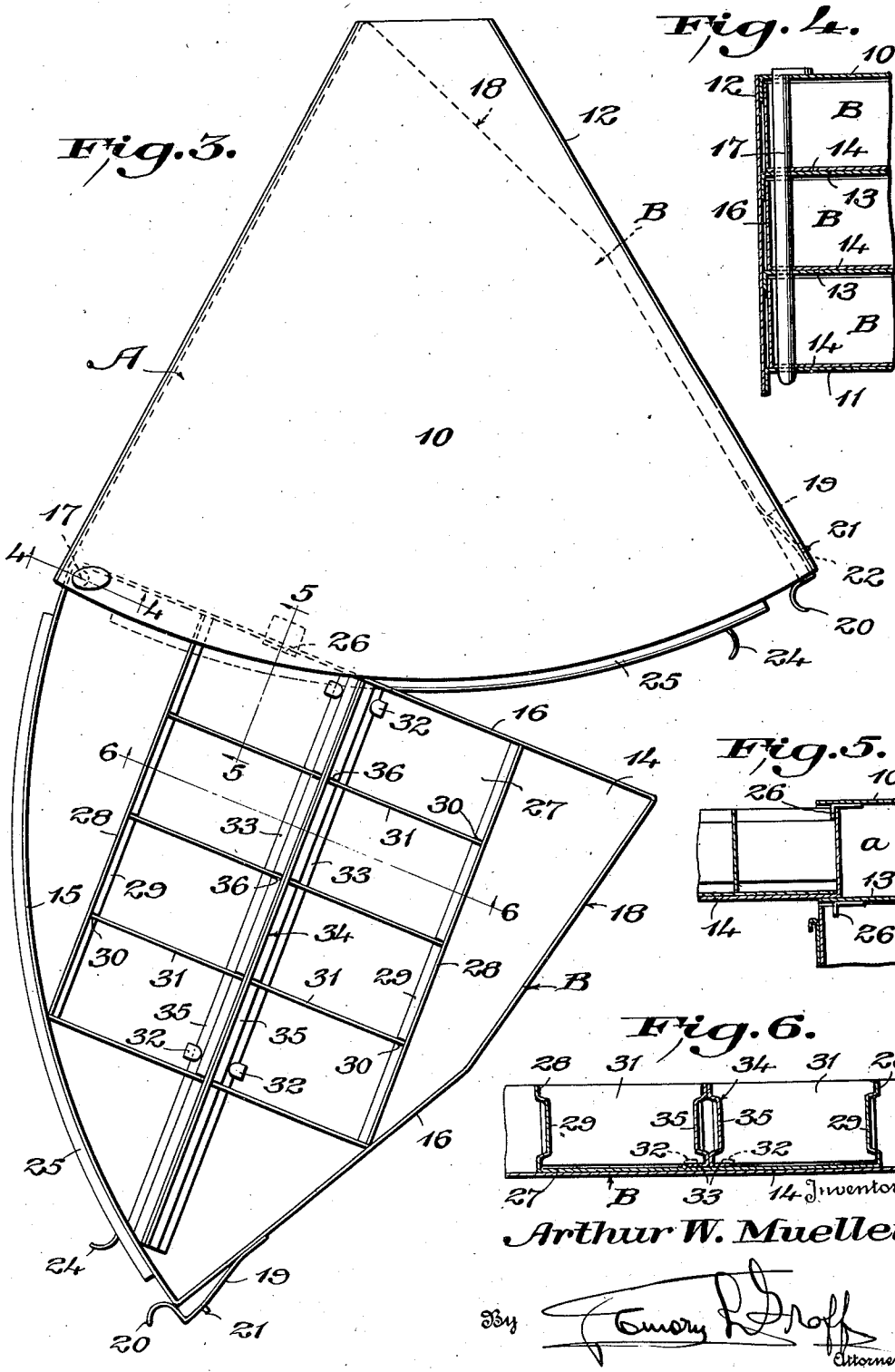


Fig. 4.

Fig. 5.

Fig. 6.

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DRAWER UNIT FOR ROTARY STORAGE BINS

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Application September 22, 1944, Serial No. 555,312

1 Claim. (Cl. 45—95)

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This invention relates to drawer units for use in rotary storage bins of the general type disclosed, for example, in Frick Patent No. 2,081,856 of May 25, 1937, and has for one of its special and important objects to provide a drawer unit comprising a casing and either a single drawer or two or more superimposed drawers which is, or are, pivoted to said casing for swinging movement between open and closed positions, whereby said drawer, or drawers, as the case may be, is, or are, retained in assembly with the casing against any possibility of accidentally sliding and dropping therefrom.

Another special and important object of the invention is to provide simple, practical divider means for dividing any given drawer into a number of compartments of selective sizes.

Another special and important object of the invention is to provide simple, practical means for pivotally connecting the drawer, or drawers, as the case may be, to the casing.

Another special and important object of the invention is to provide simple, practical latch means to retain any given drawer in its closed position.

With the foregoing and other objects in view, which will become more fully apparent as the nature of the invention is better understood, the same consists in a drawer unit embodying the novel features of construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawings and defined in the appended claim.

In the accompanying drawings, wherein like characters of reference denote corresponding parts in the different views:

Figure 1 is a perspective view of a drawer unit constructed in accordance with the invention and showing the drawers thereof closed.

Figure 2 is a view similar to Fig. 1 showing one of the drawers partly opened.

Figure 3 is a top plan view of the unit showing the upper drawer in open position.

Figure 4 is a detail sectional view on the line 4—4 of Fig. 3.

Figure 5 is a detail sectional view on the line 5—5 of Fig. 3; and

Figure 6 is a detail sectional view on the line 6—6 of Fig. 3.

As will be understood by reference to the aforementioned Frick Patent No. 2,081,856 of May 25, 1937, a rotary storage bin of the type in which a drawer unit constructed in accordance with the present invention is intended for use, comprises, generally speaking, a standard and a plurality of

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circular vertically spaced apart pans mounted thereon for rotation independently of one another to bring any one of a number of drawer units supported by each pan into a desired position for use.

Inasmuch as the said pans are circular in shape, the drawer units are of segmental shape for disposition in side to side relationship to each other to form a circular series supported upon each pan. Accordingly, the present drawer unit is, as shown, of segmental shape as viewed in plan for side to side disposition with other similar units to form a circular series to be supported upon a rotary pan of a storage bin of the type mentioned.

The present drawer unit is formed preferably from suitable sheet metal and comprises an open-front casing A of sector shape composed of top and bottom walls 10 and 11, respectively, of segmental shape connected together by inwardly converging side walls 12, 12. This casing may be of any suitable height or depth to contain either a single drawer or any desired plurality of drawers of equal or unequal depths. In this connection and as illustrated in the present instance, said casing A is of a depth to contain three drawers of equal depth, each designated generally as B, and in order to provide in said casing a separate compartment for the reception of each of said drawers, said casing is provided with two horizontal partitions 13, 13 which cooperate with the top, bottom and side walls of said casing and with each other to provide three drawer compartments of equal depth designated as *a*.

Each drawer B is of sector shape and of a size to fit into its related compartment *a* and comprises a segmental bottom wall 14, an arcuate front wall 15 and rearwardly converging side walls 16, 16.

Heretofore it has been the general practice to have the drawers B disconnected from the casing A and to slide them by straight line movement rearwardly into and forwardly from their compartments *a*. This has been found objectionable, however, for the reason that if the drawers are loose with respect to the casing A, there always is the possibility that any one or more of the drawers may accidentally slide, or be slid, entirely from its compartment *a* and may drop and spill its contents, this being especially true in the case of bins mounted on ships where roll of the ships may cause the drawers to slide from their compartments.

According to the present invention the draw-

ers B are pivotally connected to the casing A whereby they are swingable between open and closed positions and, at the same time, are retained at all times in assembly with said casing against any possibility of sliding and dropping therefrom.

The pivot for the drawer or drawers, as the case may be, is located adjacent to one of the front corners of the casing A and the corresponding front corner or corners of the drawer or drawers and comprises a vertically disposed pin 17 passing through alined openings in the top and the bottom walls 10 and 11 of said casing and through the bottom wall or walls 14 of the drawer or drawers, as the case may be. In this connection and in order to permit the drawer or drawers, as the case may be, to swing freely about said pivot pin between open and closed positions, the rear end portion of the side of each drawer remote from said pivot pin is extended rearwardly at an angle to the front portion thereof as indicated at 18 so as to clear the related side wall of the casing A.

Suitable latch means are provided for holding the drawers B in their closed positions and while said latch means may be of any suitable type they preferably are of the simple, practical type shown. That is to say, each latch means comprises a spring leaf 19 which extends forwardly and rearwardly relative to its related drawer and which is suitably secured at its rear end to the outer side and near the front end of the drawer side wall 16 remote from the pivot pin 17, its front end portion being normally spaced from said side wall 16 and being free for flexure toward and away from said side wall. Moreover, the said front end portion of said spring leaf projects beyond the front of the drawer as indicated at 20 for finger engagement when the drawer is closed to flex said front end portion toward the drawer side wall 16.

Extending outwardly from the front end portion of the spring leaf 19 is a projection 21 which conveniently may be in the form of a tongue struck from said spring leaf as shown, while carried by the related side wall 12 of the casing A is a keeper 22 behind which said projection 21 is engageable to retain the drawer closed. The keeper 22 may appropriately be constituted by the wall defining the front of a slot 23 formed in the said casing side wall 12 to accommodate the projection 21 or it may be of any other suitable form such, for example, as a tongue struck inwardly from said casing side wall 12. In any event, when the drawer is closed, the projection 21 engages the rearwardly inclined inner face of the casing side wall 12 forwardly of the keeper 22 and thereby the free front end portion of the spring leaf 19 is flexed toward the related side wall of the drawer until said projection 21 passes said keeper just as the drawer is fully closed. Thereupon, the leaf 19 springs outwardly and the projection 21 is engaged behind the keeper 22 and retains the drawer closed until the front end of said leaf 19 is manually flexed toward the drawer side wall 16 to disengage said projection from behind said keeper. In this connection, the front wall 15 of the drawer preferably has fixed thereto, adjacent to the projecting front end portion 20 of the spring leaf 19, a finger-engageable element 24 which, together with said portion 20, may be grasped between the fingers to facilitate application of pressure to said portion 20 to flex the leaf 19 to release the latch and, at the same time, to afford a convenient handle to effect opening swinging movement of the drawer.

Preferably, the front wall 15 of each drawer B is provided at its outer or front side with a channel element 25 to accommodate a card indicative of the contents of the drawer. Moreover, to limit opening swinging movement of each drawer, the wall defining the top of each drawer compartment *a* preferably has fixed thereto and depending therefrom a stop element 26 to be engaged by the top portion of the drawer side wall 16 nearer the pivot 19 when the drawer has reached a predetermined open position.

The invention further comprises simple, practical means for dividing any given drawer into a number of separate compartments. This means consists, primarily, of a rectangular plate 27 to rest upon the bottom wall 14 of the drawer and which is of a length and width such that when one end thereof is disposed against one of the side walls 16 of the drawer, the two corners thereof at its opposite end engage the front wall 15 and the other side wall 16, respectively, whereby it is held against superficial movement relative to said bottom wall 14.

Rising from the sides of the plate 27 are side walls 28, 28 which are pressed inwardly to provide longitudinally extending ribs 29, while formed in said ribs at longitudinally spaced intervals are vertical slots or kerfs 30 to accommodate the related ends of transverse partition plates 31. In addition, opposed upwardly and inwardly extending tongues 32 are struck from the plate 27 to either side of a line preferably midway between and parallel to the side walls 28, 28 to form a channel-way to accommodate outwardly extending flanges 33 at the bottom of a divided element 34 which is provided with outwardly projecting, longitudinally extending ribs 35 having, as in the case of the ribs 29, vertical slots or kerfs 36 transversely alined with the slots or kerfs 30 to accommodate the other ends of the partition plates 31.

The flanges 33 of the divider element 34 are engageable beneath and disengageable from beneath the tongues 32 by longitudinal sliding movement of said divider element relative to the plate 27 when said plate is removed from the drawer B, while any of the partition plates 31 may have its ends inserted into and removed from any transversely alined pair of the slots or kerfs 30 and 36 while the plate 27 is disposed either in the drawer or is removed therefrom. In any event, the plate 27 may be used to the exclusion of the divider element 34 and the partition plates 31 to divide the drawer into three relatively large compartments; the divider element 34 may be used to the exclusion of the partition plates 31 to divide the space between the side walls 28, 28 into two compartments, and any desired number of the transverse partition plates 31 may be engaged at their ends in any desired pairs of the slots or kerfs 30 and 36 to divide the spaces between the side walls 28, 28 and the divider element 34 into any desired number of compartments of desired sizes. Moreover, the divider element 34 may not be used at all and long partition plates to extend between the side walls 28, 28 may be used to divide the space between said side walls into any desired number of compartments of desired sizes. In short, the side walls 28, 28 together with the divider element 34 and the partition plates 31 afford a simple, practical means of dividing any drawer into many different compartments of desired sizes.

The divider element 34 may appropriately be formed by welding or otherwise joining together in opposed, face-to-face relationship, two duplicate sheet-metal strips each previously formed with a slotted or kerfed rib 35 and with a bottom flange 33.

Without further description it is thought that the features and advantages of the invention will be readily apparent to those skilled in the art, and it will of course be understood that changes in the form, proportion and minor details of construction may be resorted to, without departing from the spirit of the invention and scope of the appended claim.

I claim:

A drawer of sector shape including rearwardly converging side walls and a curved front wall, and a division unit for said drawer separate therefrom and freely and unitarily insertable into and removable from the same, said unit being of rectangular shape and of a size so that when it is operatively disposed in the drawer one end thereof engages one of the drawer side walls and the two corners thereof at its other end engage the other side wall and the front wall, respectively, of the drawer, whereby the unit is held against movement in its plane relative to the drawer, said unit being of open-ended form and comprising a bottom wall having side flanges rising therefrom, tongues struck upwardly and inwardly from said bottom wall between said side flanges, a medial partition element having bottom flanges slidably engaged beneath said tongues whereby it is freely attachable to and removable from said bottom wall, said partition element being of a length to engage at its ends with the front wall and the first mentioned side wall, respectively, of the drawer when the unit is operatively disposed in the drawer, said side flanges and said partition element having longitudinally extending ribs provided at spaced intervals along their lengths with vertical slots, and transverse partition elements removably vertically slidably engaged at their ends in said slots.

ARTHUR W. MUELLER.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
321,037	Kinley	June 30, 1885
899,147	Wegener	Sept. 22, 1908
922,852	Cannan	May 25, 1909
2,081,856	Frick	May 25, 1937
1,200,517	Ohnstrand	Oct. 10, 1916
1,523,136	O'Connor	Jan. 13, 1925
1,823,285	Petritsch	Sept. 15, 1931
2,218,300	Schuster	Oct. 15, 1940