C. L. KINNEY.

SUGAR BIN.

APPLICATION FILED OCT. 24, 1911.

1,033,907. Patented July 30, 1912.

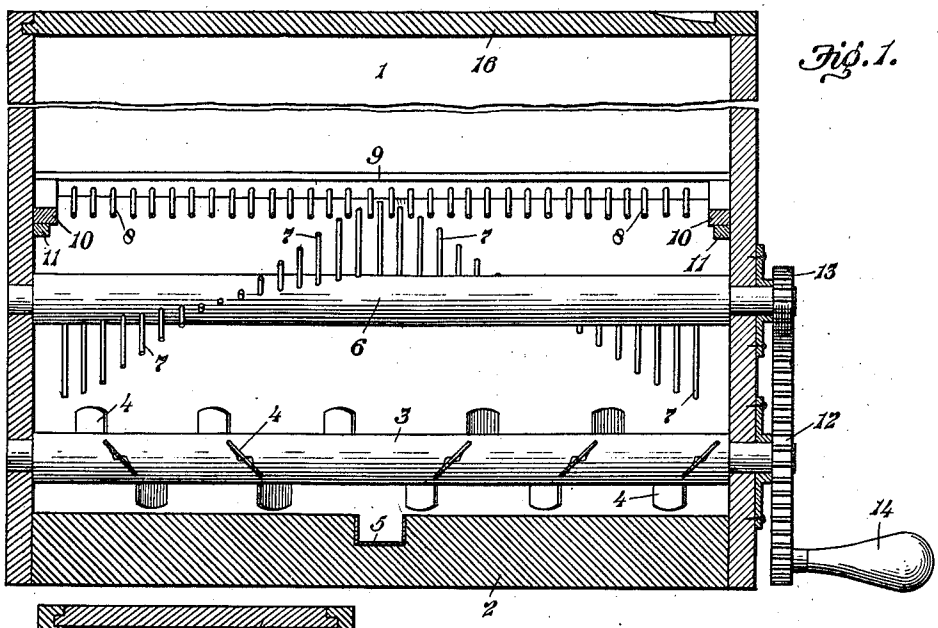

Fig. 1.

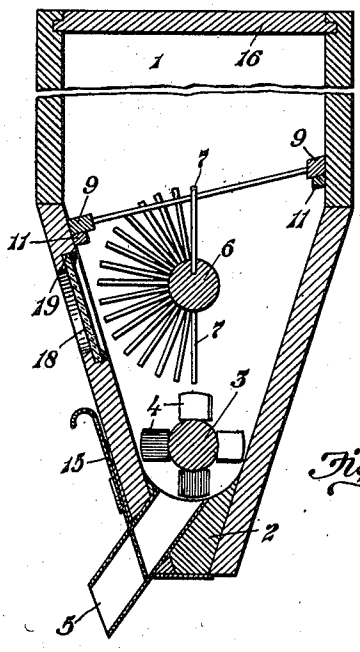

Fig. 2.

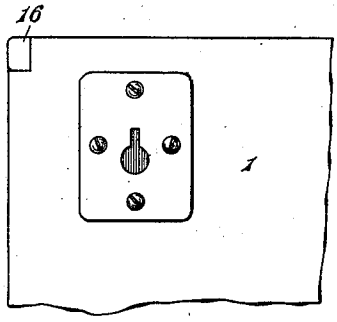

Fig. 3.

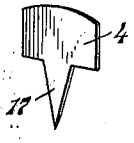

Fig. 4.

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UNITED STATES PATENT OFFICE.

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SUGAR-BIN.

1,033,907. Specification of Letters Patent. Patented July 30, 1912.

Application filed October 24, 1911. Serial No. 656,545.

To all whom it may concern:

Be it known that I, CHARLES L. KINNEY, a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented certain new and useful Improvements in Sugar-Bins, of which the following is a specification.

My invention relates to improvements in sugar bins especially designed for use where a quantity of sugar is to be stored and from which quantity small amounts are to be delivered from time to time as required. The sugar bin proper is designed to hold say fifteen, twenty or twenty-five pounds of sugar, and to be placed in position for easy access. The use of the bin is more specifically designed for household use.

A further object of the invention is to provide means whereby the sugar is fed to the delivery spout and also means are provided for breaking or disintegrating lumps contained in the body of the sugar which lumps may be of a size to interfere with the proper delivery of the sugar.

These objects together with other objects readily apparent to those skilled in the art I attain by the construction illustrated in the accompanying drawings, although my invention may be employed in a variety of other mechanical forms, the construction illustrated being chosen by way of example.

In the accompanying drawings,—Figure 1 is a longitudinal vertical section. Fig. 2 is a transverse vertical section. Fig. 3 is a view showing a portion of the back of the bin and illustrating one of the holding or suspending plates. Fig. 4 is a detached view of one of the flights.

Similar numerals of reference indicate corresponding parts in all the figures of the drawing.

In the accompanying drawing, 1 represents the sugar bin proper which is formed of any desired size reference being had to the amount of sugar designed to be placed in the bin. The bottom or lower portion of the bin is tapered and its extreme bottom or lower portion provided with the bar or bottom 2, the top or upper side of which is concaved as best illustrated in Fig. 2. Directly above the bottom bar 2 is located the shaft 3, which shaft is provided with a series of flights 4, which flights are arranged spirally and the spirals located in the opposite directions or in other words the flights are arranged to provide a right hand spiral upon about one-half of the length of the shaft, and the remaining flights arranged to produce a left hand spiral upon the other half of the shaft.

By arranging the flights as just above described, the sugar or other material will be fed from the sides of the box or bin toward the middle at which point the delivery spout 5 is located. Directly above the shaft 3 and the flights 4 is located the shaft 6, which shaft is provided with a series of pins 7 arranged spirally upon the shaft 6. Directly above the shaft 6 are located a series of screen bars 8, which are held in proper spaced relationship by means of a suitable frame made up of the bars 9 and 10, which bars together with the screen bars 8 are supported by ribs 11 or their equivalents, which ribs are secured to the inner sides of the bin 1. The bars 8 being inclined downward toward the front side of the bin as best illustrated in Fig. 2. The shafts 3 and 6 are journaled in the end members of the bin or box 1, one end of each shaft being extended through one of the end members of the bin and the shafts provided with the gear wheels 12 and 13, the gear wheel 12 being provided with a suitable handle 14. It will be understood that when the gear wheel 12 is rotated, rotary motion will be imparted to the shafts 3 and 6 and as the shaft 6 rotates the sugar will be agitated and forced downward toward the delivery spout 5. The rotation of the shaft 6 together with the pins 7 connected thereto, also agitates the sugar and for the purpose of disintegrating any lumps contained in the sugar, the pins 7 are formed of such a length that they will pass during their rotation between the bars 8, thereby preventing any clogging of the sugar. It will be understood that by rotating the shafts 3 and 6, together with the flights 4 and the pins 5, the sugar will be prevented from becoming caked, and thereby prevent any clogging or choking of the sugar.

In use when it is desired to remove from the bin proper, sugar, the shafts 3 and 6 are rotated by means of the handle 4, and the gear wheels 12 and 13, at which time the cut off 15 is elevated, thereby, allowing the sugar to pass down through the delivery spout 5 and when the desired amount of sugar is obtained the spout is closed by means of the downward movement of the cut off 15. The top of the bin is provided

with the ordinary slide cover 16. The flights 4 are substantially of the form shown in Fig. 4 and when the tangs 17 are driven into the shaft 3, the flights 4 are twisted or turned at the proper angle to produce the proper spiral or angularity of the flights 4.

It will be understood that the tang 17 will be more easily driven into the wood shaft 3, when the width of the tang 17 is in alinement with the shaft 3 and at the same time the driving of the tangs into the wood will be less liable to split or injure the shaft.

For the purpose of providing means for seeing the interior of the bin the front lower portion of the bin is provided with the glass disk or pane 18, which disk or pane is secured in a suitable opening 19 formed in the front of the bin or box 1.

Having fully described my invention what I claim as new and desire to secure by Letters Patent, is—

1. In a sugar bin, the combination of a receptacle, said receptacle having a tapered lower portion, a bar located at the bottom of the receptacle, said bar provided with a concaved top, shafts located in the lower portion of the receptacle, the lowermost shaft provided with flights, said flights arranged in right and left hand convolutions, a shaft located above the shaft provided with the flights, said shaft provided with pins, screen bars located above the uppermost shaft and the pins adapted to pass between the bars and the screen during their revolution and means for imparting rotary motion to the shafts, substantially as and for the purpose specified.

2. In a sugar bin of the class described, the combination of a bin having a tapered lower portion, rotatable shafts located in the lower tapered portion of the bin, and means for rotatably connecting the shafts together, the lower shaft provided with flights, said flights located in opposite spiral relationship, the upper shaft provided with pins arranged spirally upon said upper shaft and a delivery spout located intermediate the ends of the shafts located in the lower tapered portions of the bin, and screen bars located above the uppermost shaft, substantially as and for the purpose specified.

In testimony that I claim the above, I have hereunto subscribed my name in the presence of two witnesses.

CHARLES L. KINNEY.

Witnesses:
Mrs. M. M. HENLIN,
L. H. HORNER.