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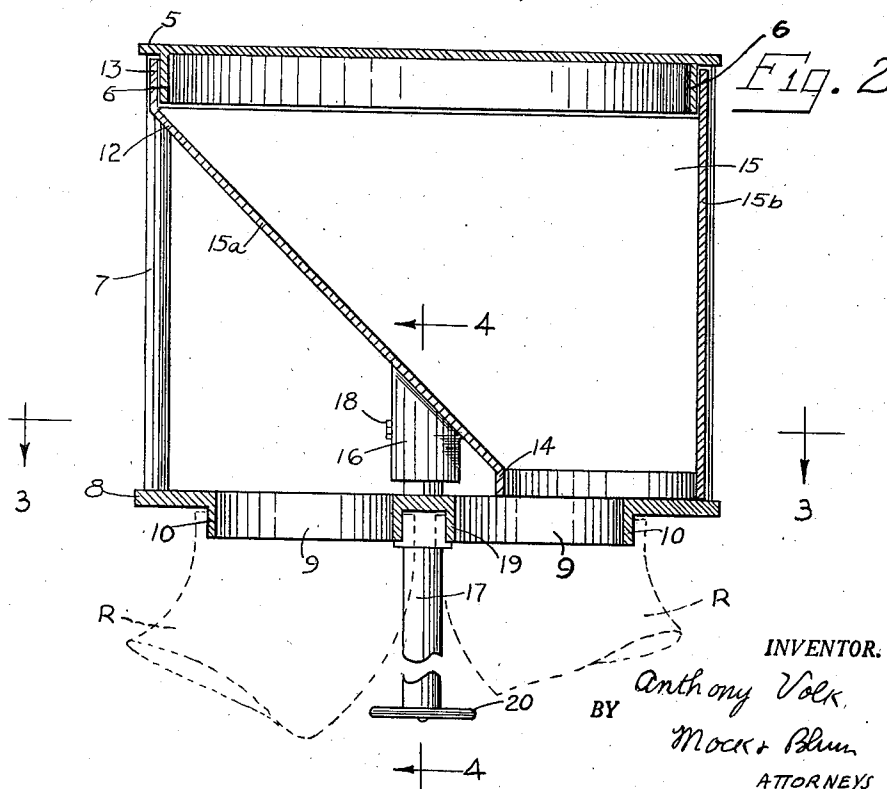
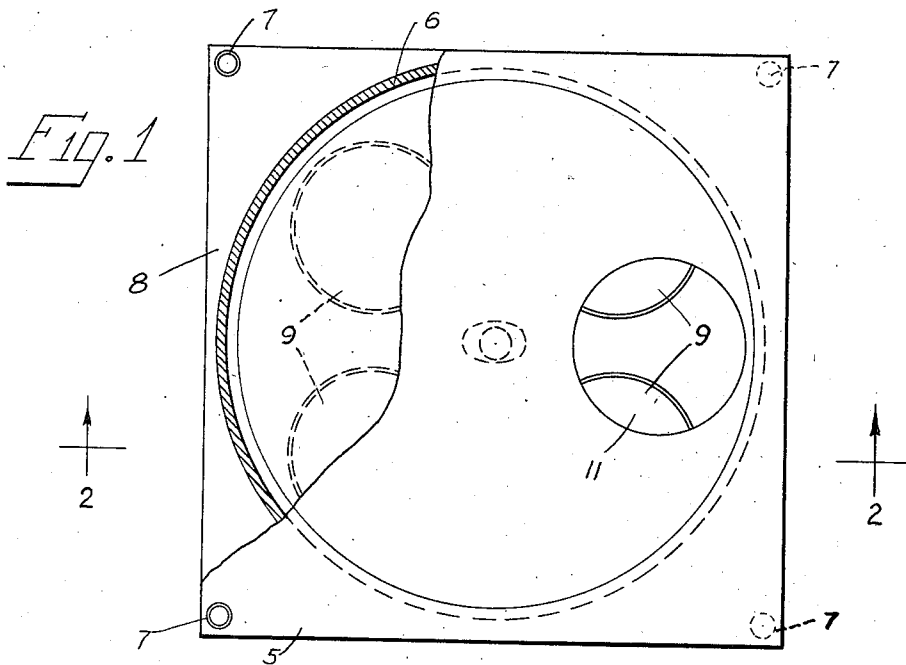
A. VOLK

2,436,624

MULTIPLE GRAIN DISCHARGE VALVE DEVICE

Filed April 23, 1945

2 Sheets-Sheet 1.



INVENTOR.

Anthony Volk

BY

Mock + Blum

ATTORNEYS

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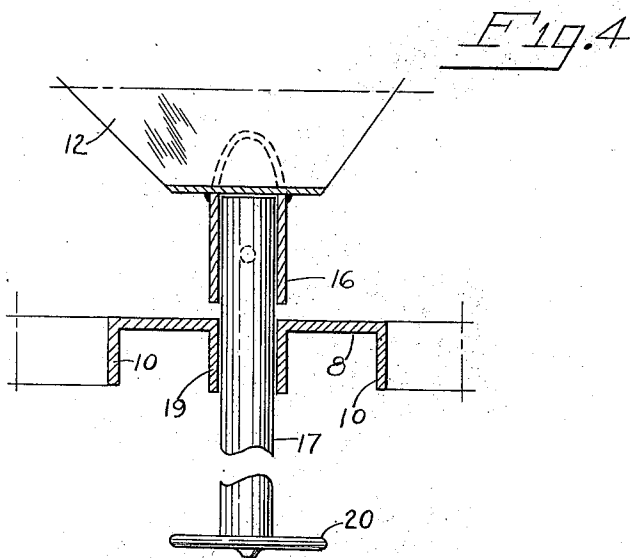
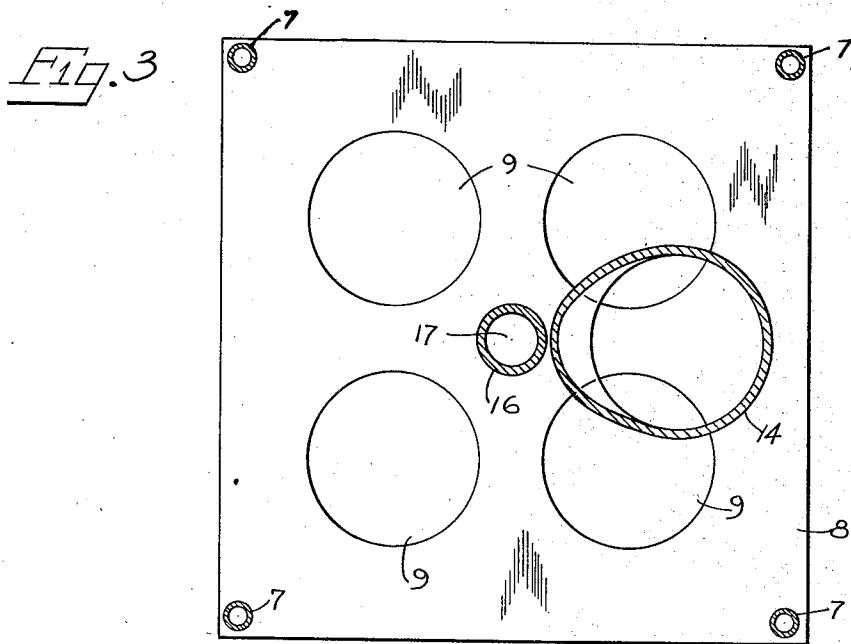
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MULTIPLE GRAIN DISCHARGE VALVE DEVICE

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BY

Mock & Blum

ATTORNEYS

UNITED STATES PATENT OFFICE

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MULTIPLE GRAIN DISCHARGE VALVE
DEVICE

Anthony Volk, Milwaukee, Wis., assignor to
Schenley Distillers Corporation, New York,
N. Y., a corporation of Delaware

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This invention relates to a valve for controlling the transfer of grain, or other fluent and free flowing materials, from a single conveyor or supply source to a plurality of different conveyers, receivers or storage bins, and one of its objects is to provide a simple manually operated device, whereby the distribution of grain flowing from any source may be changed or diverted from one receiver to another receiver, or from one group of receivers to another group of receivers, while the grain continues to flow.

Another object of the invention is to provide this control in a valve structure of great simplicity, which can be installed in and will occupy a minimum amount of space, and which will continue to give dependable service for an indefinite period of time.

Another object of the invention is to provide a novel turnable multiple grain discharge device which is simple to operate, and which performs the dual functions of a directive spout and valve.

With the above and other objects in view the invention consists in certain new and useful constructions, combinations and arrangements of parts, clearly described in the following specification, and fully illustrated in the accompanying drawings, in which:

Fig. 1 is a top plan view, showing a portion of the top plate broken away to better illustrate the construction of the device.

Fig. 2 is a vertical sectional view, taken on line 2—2 of Fig. 1, looking in the direction of the arrows.

Fig. 3 is a horizontal sectional view, taken on line 3—3 of Fig. 2, looking in the direction of the arrows.

Fig. 4 is a detail vertical sectional view, taken on line 4—4 of Fig. 2, looking in the direction of the arrows.

Referring to the accompanying drawings, which illustrate the practical construction of the invention, 5 designates a square top plate, which is formed with an integral circular and depending flange 6.

The said top plate 5 is supported by a plurality of posts 7, located at the corners of said plate. The lower ends of said posts 7 engage the base or bottom plate 8, which is also square, and said base plate 8 is formed with a series of equal sized circular discharge openings 9, and a depending circular flange 10 in concentric relation to each opening. The said openings 9 are spaced from each other, are eccentrically disposed, and are located at approximately equal distances from the center of base plate 8. Four such discharge

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openings 9 are provided in base plate 8 as shown in Fig. 3. It is understood that any number of such openings may be formed in said base plate 8.

The top plate 5 is formed with a single intake opening 11, which is located the same distance from the center of said top plate 5, as that of the lower openings 9 from the center of base plate 8.

Between the top plate 5 and the base plate 8, a turnable distributor 12 is arranged, the said distributor being formed with a circular ring flange 13 on its upper end, which encloses the circular flange 6 of the top plate 5. Said distributor 12 is also formed with a circular ring flange 14 on its lower end, which is of considerably smaller diameter than the ring flange 13, and is adapted to have an orifice area approximately equal to the orifice area of each of the openings 9 of base plate 8. The lower circular ring flange 14 is offset so as to register with any one of the openings 9, when the distributor 12 is rotated.

The upper ring flange 13 of distributor 12 is connected to the lower flange ring 14 by means of the wall 15, a major portion of which is inclined at 15a, while a minor portion of the wall 15b is straight.

To the inclined or sloping portion 15a the upper end of the tube 16 is connected, as by welding, and in this tube or socket the upper end of the shaft 17 is secured by the set screw 18. Said shaft 17 extends through a tubular bearing 19, which is formed integral with the base plate 8, and on the lower end of said shaft 17 the operating wheel handle 20 is mounted.

A conveyer or discharge member from a grain supply source is coupled to the top plate 5 so that it discharges through the opening 11 thereof, and the grain will be directed by the sloping wall portion 15a and the vertical wall portion 15b of distributor 12, to one of the receiving openings 9 of base plate 8, which opening 9 registers with the opening 11 of top plate 5.

The distributor 12 may be turned so that the opening 11 will communicate with any two adjacent openings 9 of the base plate 8, as indicated in Figs. 1 and 3.

It is evident that grain may be directed to any one of the four openings 9 of the base plate 8, or to any two adjacent openings of said base plate, by manually turning distributor 12 by means of operating wheel handle 20.

The distributor 12 acts as a funnel to flow or transfer the grain or other material, from the intake opening 11 of top plate 5, which is located eccentrically thereof, to one of the discharge

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openings 9 of the base plate 8, or openings of said base plate, which are in registration with the discharge end of said distributor, which is disposed eccentrically of the center of the upper and larger intake end thereof.

Distributor 12 also acts as a valve for stopping the flow of grain or other material to the conveyers connected with the discharge openings 9 of the base plate 8, since the switching of the distributor funnel from one discharge opening of said base plate to another discharge opening thereof, results in ending the flow of grain or other material to the discharge opening, and the conveyer connected therewith, and in starting the flow to another discharge opening and conveyer which is connected thereto.

It will be noted that distributor 12 at once serves as a funnel or directive spout to establish and concentrate the flow of the grain or other material, to any one or two discharge openings and conveyers, and to end the flow of grain to any one or two discharge openings and conveyers connected thereto, thereby performing the dual functions of funnel or spout and valve.

Distributor 12 may be mounted between the base and top plates 8 and 5 respectively, so that there is a slight vertical movement of said distributor, which prevents binding, thereby insuring free turning movement, and also permits of the accurate registration of the distributor outlet with any one of the discharge openings 9 of the base plate 8.

As shown in broken lines in Fig. 2, a receiving conveyer R may be coupled to each of the discharge flanges 10, of the base plate 8, so that the grain or other material being handled can be conveyed to receivers located at a distance from the supply source, which discharges through the intake opening of the top plate into the distributor funnel and valve.

It is understood that various changes in the details of construction, their combination and arrangement, and in the selection and use of materials employed, may be resorted to, within the scope of the invention, as defined by the claims hereof.

What is claimed is:

1. A discharge directional control device for fluent materials, comprising a top plate having a circular bearing and an intake opening disposed eccentrically of said bearing, a base plate parallel with said top plate and having a series of eccentrically disposed discharge openings, said top plate being supported by a plurality of parallel posts, the lower ends of which engage the base plate, said posts being disposed at right angles to said top plate and base plate, and a turnable distributor disposed between said top and base plates, said distributor being provided with a first circular flange on its upper end, having engagement with the bearing of the top plate and also provided with a second circular flange on its lower end, which is adapted to have an orifice area approximately equal to the orifice area of each of said discharge openings, said first and second flange being substantially parallel to said posts, said first flange and said second flange being connected by means of a wall, a major portion of which is inclined, while a minor portion of the wall is parallel to the posts, said second circular flange forming an eccentric discharge adapted to be rotated into successive registration with any one of the discharge openings of the base plate.

2. A discharge directional control device for grain, comprising a top plate having a circular

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bearing and an intake opening disposed eccentrically of said bearing, a base plate parallel with said top plate and having a series of eccentrically disposed discharge openings, said top plate being supported by a plurality of parallel posts, the lower ends of which engage the base plate, said posts being disposed at right angles to said top plate and base plate, and a turnable distributor disposed between said top and base plates, said distributor being provided with a first circular flange on its upper end, having engagement with the bearing of the top plate and also provided with a second circular flange on its lower end, which is adapted to have an orifice area approximately equal to the orifice area of each of said discharge openings, said first and second flange being substantially parallel to said posts, said first flange and said second flange being connected by means of a wall, a major portion of which is inclined, while a minor portion of the wall is parallel to the posts, said second circular flange forming an eccentric discharge, means for manually revolving said distributor so that the discharge opening of the same may be moved into registration with any one of the discharge openings of the base plate.

3. A discharge control device for grain, comprising a top plate having a circular bearing and an intake opening disposed eccentrically of said bearing, a base plate parallel with said top plate and having a series of eccentrically disposed discharge openings, said top plate being supported by a plurality of parallel posts, the lower ends of which engage the base plate, said posts being disposed at right angles to said top plate and base plate, and a turnable distributor disposed between said top and base plates, said distributor being provided with a first circular flange on its upper end, having engagement with the bearing of the top plate and also provided with a second circular flange on its lower end, which is adapted to have an orifice area approximately equal to the orifice area of each of said discharge openings, said first and second flange being substantially parallel to said posts, said first flange and said second flange being connected by means of a wall, a major portion of which is inclined, while a minor portion of the wall is parallel to the posts, said second circular flange forming an eccentric discharge, a shaft connected to the distributor and having a bearing in the lower plate for turning the distributor between the base and top plates, whereby the flow of grain may be directed from the intake opening of the upper plate to either one of the discharge openings of said base plate by moving the discharge opening of said distributor into registration therewith.

4. A distributing valve device for grain control, comprising a top plate having a depending circular flange on its lower side and provided with an intake opening disposed in eccentric relation to said circular flange, a base plate, posts connecting said base plate to said top plate, in spaced relation to each other, said base plate having a plurality of discharge openings spaced from each other at equal distances from the center of said plate and disposed in eccentric relation to said center and to the circular flange of said top plate, said base plate having a coupling flange concentric with each of said discharge openings, a directive spout having an intake in its upper end enclosing the circular flange of the top plate and a discharge opening in its lower end disposed in eccentric relation to said intake and adapted to be moved into registration with any one of the

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discharge openings of the base plate, a bearing tube secured to the bottom of the funnel, a shaft having a bearing in the base plate and having its upper end coupled in the bearing tube, and a handle on the lower end of the shaft to turn the spout between the top and base plates, whereby the lower end of said spout will act as a valve to close flow to an opening and to establish flow to an adjacent opening of said base plate.

ANTHONY VOLK. 10

REFERENCES CITED

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

6

UNITED STATES PATENTS

Number	Name	Date
193,695	Drake -----	July 31, 1877
481,080	Thompson -----	Aug. 16, 1892
850,395	Parker -----	Apr. 16, 1907
1,195,838	Morgan -----	Aug. 22, 1916

FOREIGN PATENTS

Number	Country	Date
196,014	Germany -----	Mar. 5, 1908