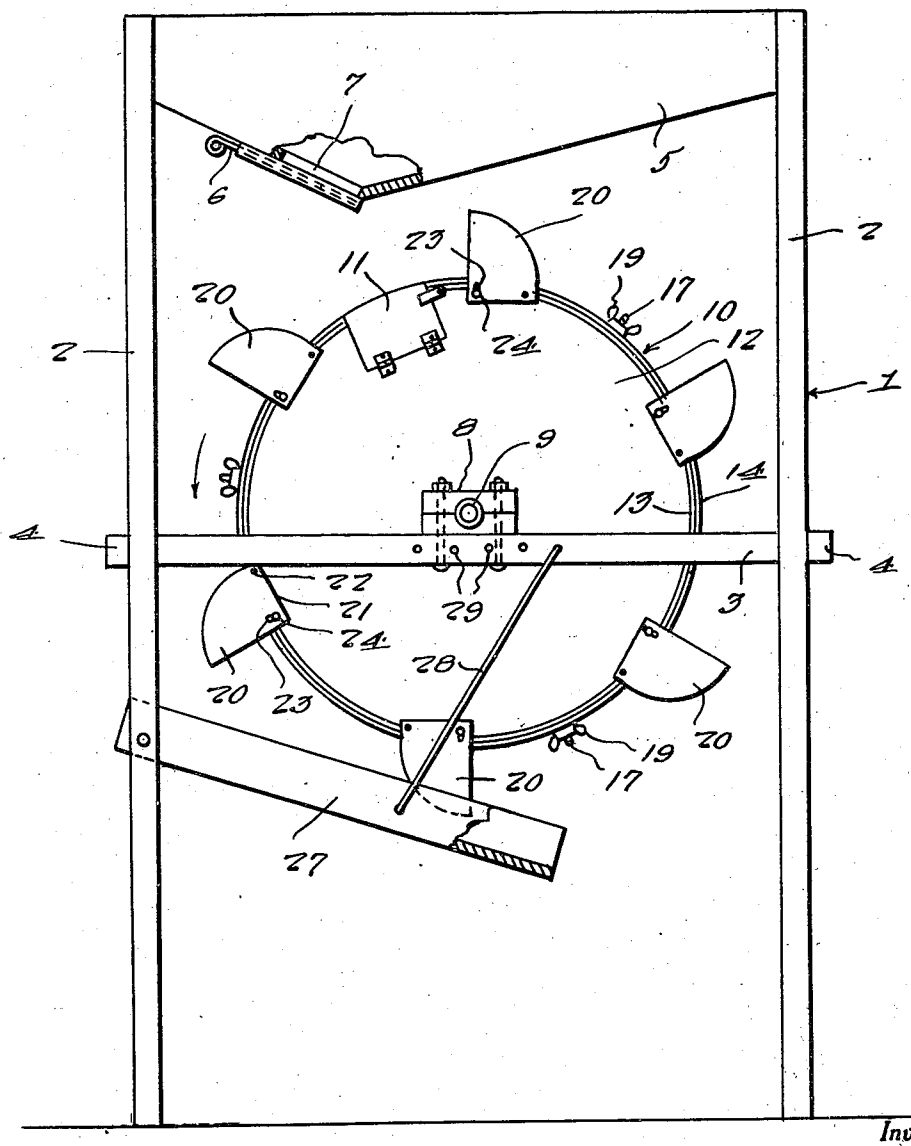
May 14, 1940. J. F. STOKES 2,200,434

GRAIN TREATING MACHINE

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Fig. 1.



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GRAIN TREATING MACHINE

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Fig. 2.

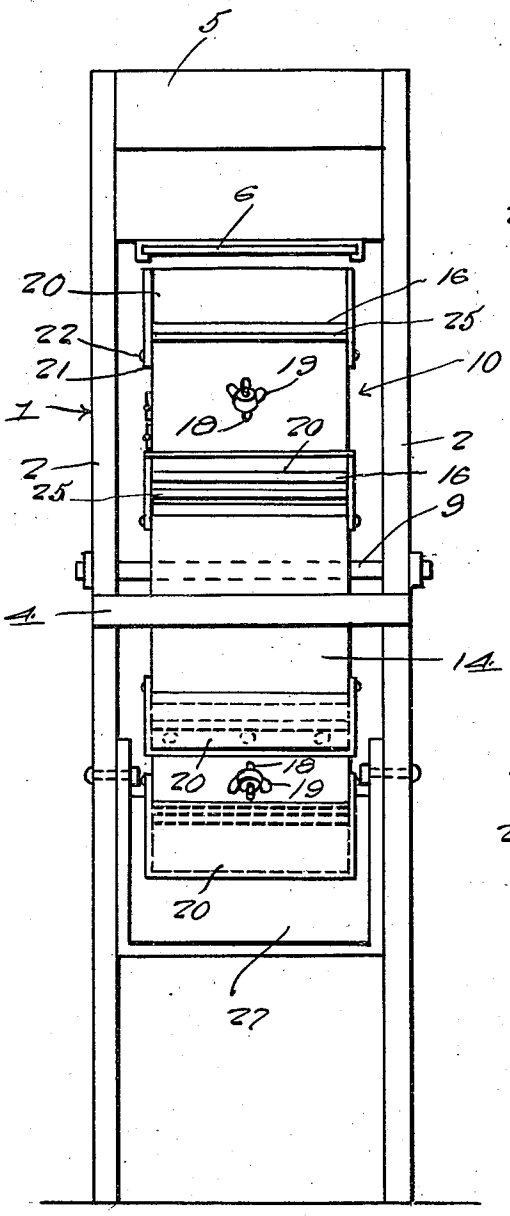
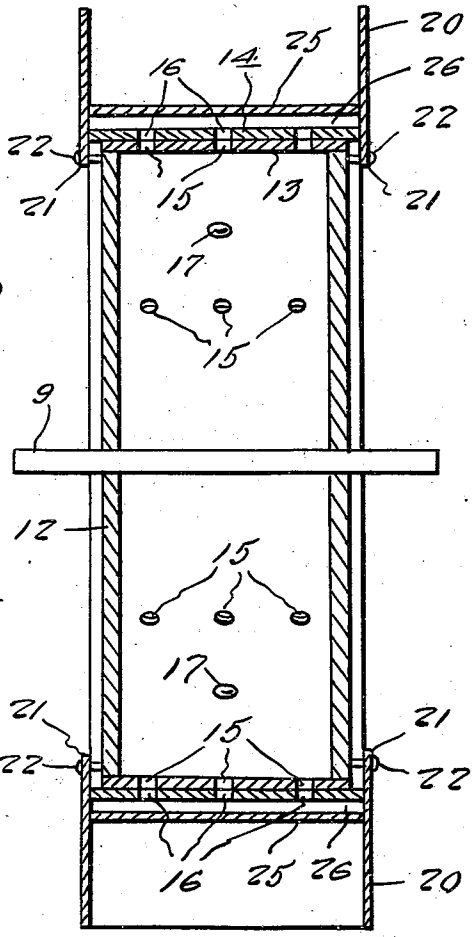


Fig. 3.



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Fig. 4.

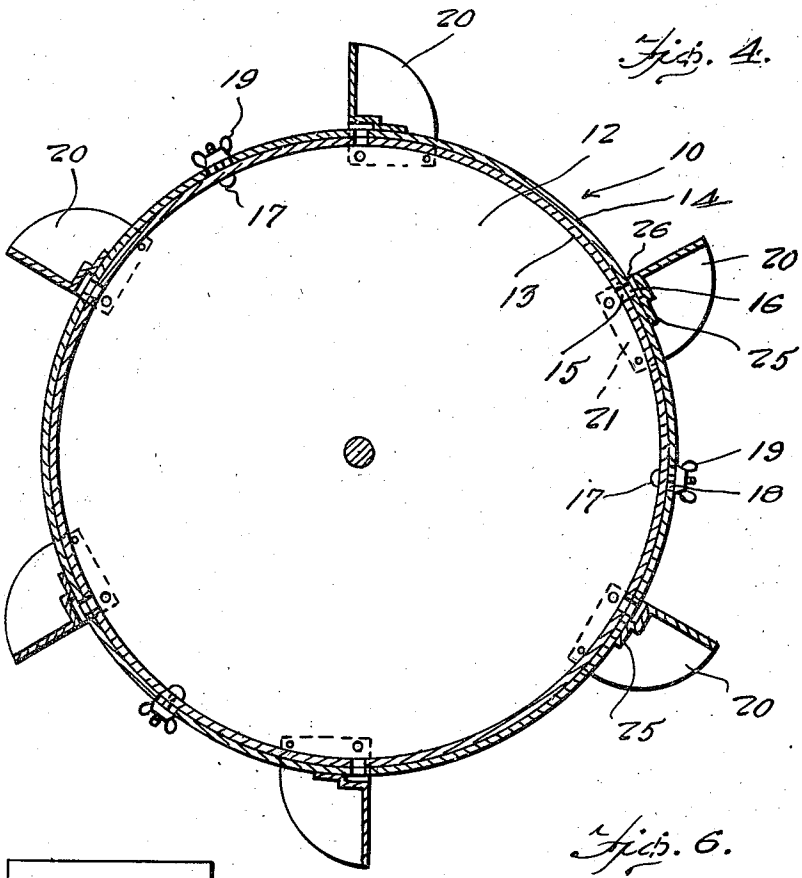


Fig. 6.

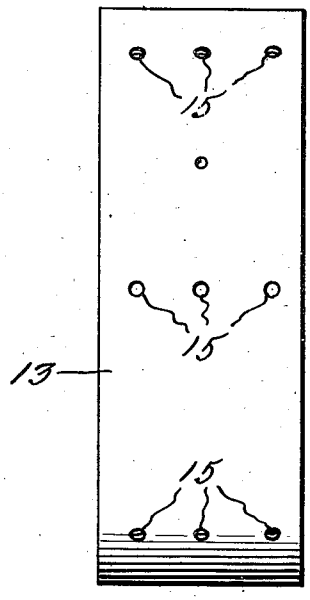
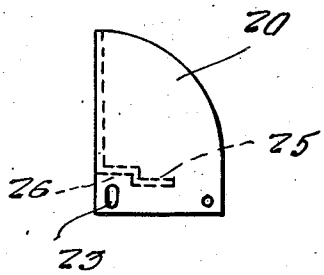


Fig. 5.



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Patented May 14, 1940 2,200,434

UNITED STATES PATENT OFFICE

2,200,434

GRAIN TREATING MACHINE

John Fillmore Stokes, Barlow, N. Dak.

Application October 23, 1939, Serial No. 300,882

5 Claims. (Cl. 83—28)

The present invention relates to new and useful improvements in grain treating machines and has for its primary object to provide, in a manner as hereinafter set forth, a device of this character comprising novel means for thoroughly mixing dust with the grain.

Another very important object of the invention is to provide a machine of the aforementioned character wherein the force of the grain, flowing by gravity from a hopper, is utilized to actuate the mixing mechanism.

Still another very important object of the invention is to provide a grain treating machine of the character described embodying novel adjusting means wherein the volume of dust which is mixed with the grain may be conveniently regulated as desired.

Other objects of the invention are to provide a grain treating machine of the character set forth which will be comparatively simple in construction, strong, durable, highly efficient and reliable in use, compact, light in weight, portable and which may be manufactured at low cost.

All of the foregoing and still further objects and advantages of the invention will become apparent from a study of the following specification, taken in connection with the accompanying drawings wherein like characters of reference designate corresponding parts throughout the several views, and wherein:

Figure 1 is a view in side elevation of a grain treating machine constructed in accordance with the present invention, showing portions broken away in section.

Figure 2 is a view in front elevation of the machine.

Figure 3 is a cross sectional view through the rotary drum.

Figure 4 is a view in vertical longitudinal section through the rotary drum.

Figure 5 is an elevational view of the rotatably adjustable inner ring constituting a part of the drum.

Figure 6 is a detail view in side elevation of one of the drum buckets or cups.

Referring now to the drawings in detail, it will be seen that the embodiment of the invention which has been illustrated comprises a frame structure of suitable material which is designated generally by the reference numeral 1. The frame structure 1 includes vertical legs 2, side braces or bars 3, end bars 4, etc. Mounted on the upper portion of the frame structure 1 is a hopper 5 for the reception of the grain to be treated. A manually adjustable slide 6 regulates the flow of the grain through the discharge opening 7 of the hopper 5.

Journaled in suitable bearings 8 on the member 3 of the frame structure 1 is a shaft 9. Mounted on the shaft 9 for rotation beneath the hopper 5 is a drum for the reception of dust which is designated generally by the reference numeral 10. Access to the interior of the drum 10 for placing the dust therein is had through a suitable closure 11.

The drum 10 includes a pair of discs 12 which are mounted on the shaft 9. Mounted on the peripheries of the discs 12 are inner and outer rings 13 and 14, respectively. The rings 13 and 14 are rotatably adjustable relative to each other and said rings have formed therein communicating ports 15 and 16 for the discharge of the dust from the drum. It will be noted that the ports 15 and 16 are arranged in transverse series at circumferentially stated points in the rings 13 and 14.

Fixed in the inner ring 13 are bolts 17. The bolts 17 are operable in circumferentially extending slots 18 which are provided therefor in the outer ring 14. Wing nuts 19 are provided on the bolts 17 for securing the inner ring 13 in adjusted position relative to the outer ring 14.

Adjustably mounted on the periphery of the drum 10 over the ports 15 and 16 are grain buckets or cups 20. The buckets 20 include side flanges 21 which are pivotally connected, as at 22, to the discs 12 of the drum 10. The flanges 21 have formed therein slots 23 which accommodate securing elements 24. The slots 23 permit swinging adjustment of the buckets 20 on the pivots 22. The bottoms 25 of the buckets 20 are formed to provide pockets 26 which communicate with the ports 15 and 16 for receiving dust from the drum 10.

Pivotally mounted on the frame structure 1 for swinging adjustment in a vertical plane beneath the drum 10 is a chute 27. Rods 28 suspend the free end of the chute 27 beneath the drum 10. The upper ends of the rods 28 are engageable selectively in openings 29 which are provided therefor in the frame members 3 for adjusting the inclination of the chute 27.

It is thought that the operation of the machine will be readily apparent from a consideration of the foregoing. Briefly, the grain to be treated is placed in the hopper 5 and the dust to be mixed with said grain is placed in the drum 10 through the door 11. The slide 6 is then opened to permit the desired volume of grain to flow by gravity from the hopper 5. This grain

enters the buckets 20 and the drum 10 is turned by gravity in an obvious manner. This grain then drops into the inclined chute 27. As the drum 10 is thus rotated the dust therein flows through the communicating ports 15 and 16 and, during the ascent of the buckets 20, collects in the pockets 26. Then, during the descent of the buckets 20 this dust falls by gravity from the pockets 26 and is thoroughly mixed with the grain on the inclined chute 27. As hereinbefore stated, the flow of grain from the hopper 5 is regulated by the slide 6. By loosening the wing nuts 19 and rotating the ring 13 relative to the ring 14, thus shifting the ports 15 relative to the ports 16, the flow of dust from the drum 10 may be controlled as desired. By varying the inclination of the chute 27 the speed at which the grain will be discharged therefrom may also be regulated as desired. Thus, adjustments may be conveniently made to successfully meet substantially all conditions. By adjusting the buckets 20 on the pivots 22 the capacity of the pockets 26 may be increased or decreased.

It is believed that the many advantages of a grain treating machine constructed in accordance with the present invention will be readily understood and although a preferred embodiment of the device is as illustrated and described, it is to be understood that changes in the details of construction and in the combination and arrangement of parts may be resorted to which will fall within the scope of the invention as claimed.

What is claimed is:

1. A grain treating machine comprising a supporting structure, a hopper mounted on said supporting structure, a drum, for the reception of dust, rotatably mounted on the supporting structure beneath the hopper, said drum having peripheral ports therein for the discharge of the dust, and means on the drum engageable by the grain flowing from the hopper for rotating said drum.

2. A grain treating machine comprising a supporting structure, a hopper mounted on said supporting structure, a drum, for the reception of dust, rotatably mounted on the supporting structure beneath the hopper, said drum having ports therein for the discharge of the dust therefrom, means mounted on the periphery of the drum and engageable by the grain flowing from the hopper for rotating said drum, and a chute mounted on the supporting structure beneath the drum for receiving and mixing the grain and the dust.

3. A grain treating machine comprising a supporting structure, a hopper, for the reception of grain, mounted on said supporting structure, a drum, for the reception of dust, rotatably mounted on the supporting structure beneath the hopper, said drum having peripheral ports therein for the discharge of the dust therefrom, buckets mounted on the periphery of the drum and adapted to catch the grain from the hopper for rotating said drum, pockets in the buckets communicating with the ports for receiving the dust therefrom, and means for regulating the flow of the dust from the drum.

4. A grain treating machine comprising a supporting structure, a hopper, for the reception of grain, mounted on said supporting structure, a drum rotatably mounted on the supporting structure beneath the hopper, said drum for the reception of dust and including a pair of spaced discs, relatively rotatable rings mounted on the periphery of the discs and having discharge ports therein for communication with each other, means for securing the rings in adjusted position, and buckets mounted on the periphery of the drum and engageable with the grain from the hopper for rotating said drum.

5. A grain treating machine of the class described comprising a supporting structure, a drum, for the reception of dust, mounted on said supporting structure, said drum having discharge ports in its periphery for the escape of the dust, buckets pivotally mounted for swinging adjustment on the periphery of the drum, said buckets including pockets communicating with the ports for the reception of the dust, means for securing the buckets in adjusted position on the drum, and means for discharging grain to be treated into the buckets for rotating the drum.

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