

C. G. THOMPSON.
 DRIVING MECHANISM FOR SHAKING BOLTS.
 APPLICATION FILED NOV. 23, 1920.

1,383,676.

Patented July 5, 1921.

FIG. 1.

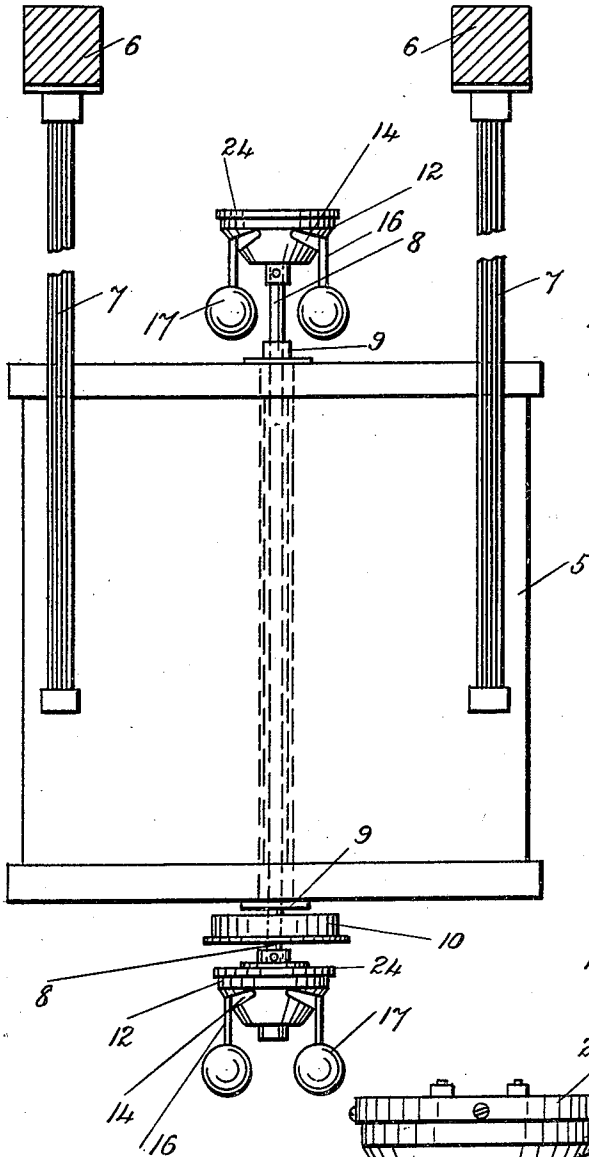


FIG. 2.

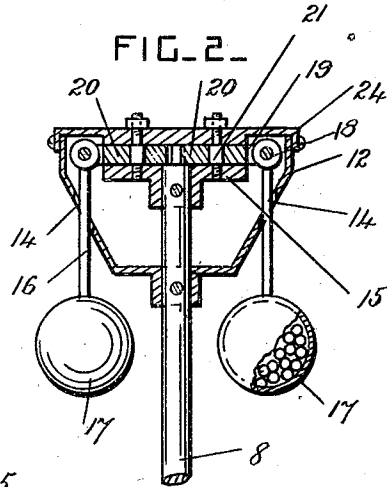


FIG. 3.

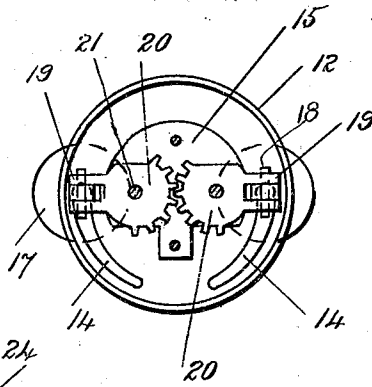
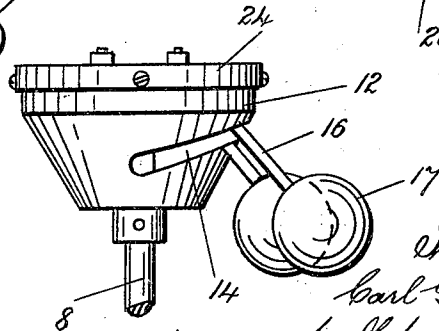


FIG. 4.



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FIG. 1-

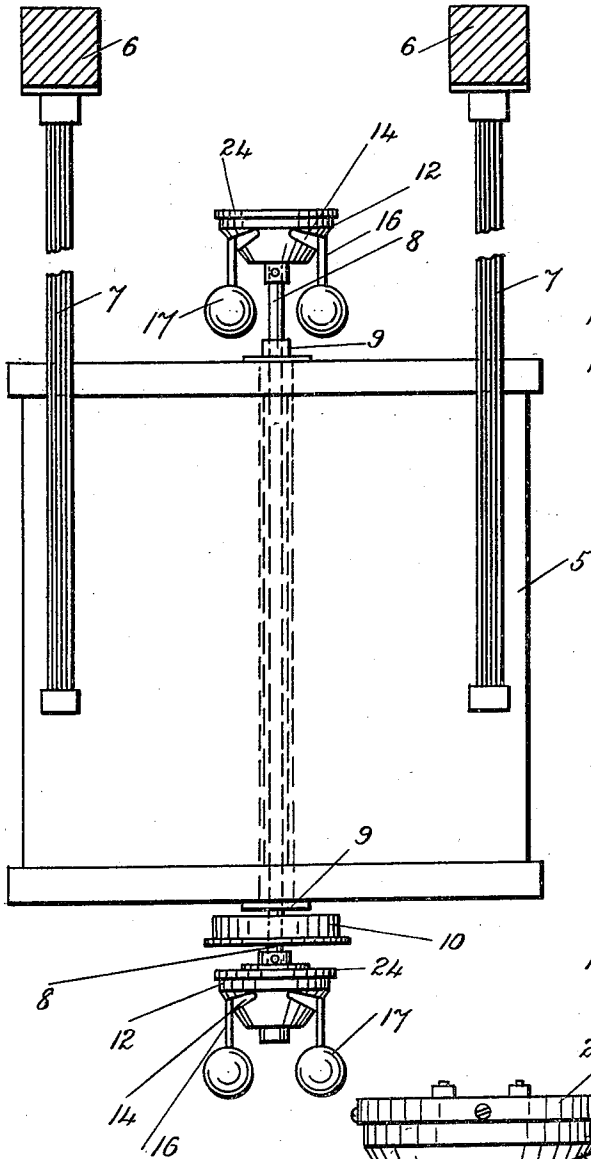


FIG. 2-

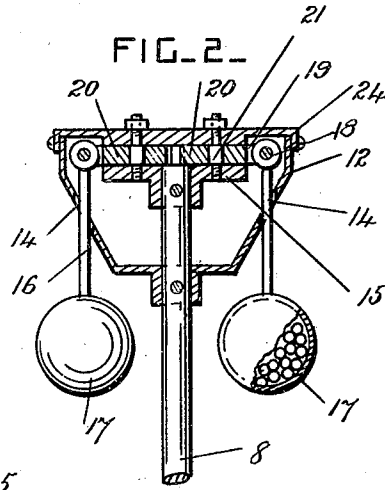


FIG. 3-

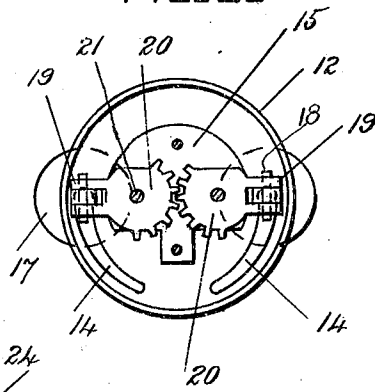
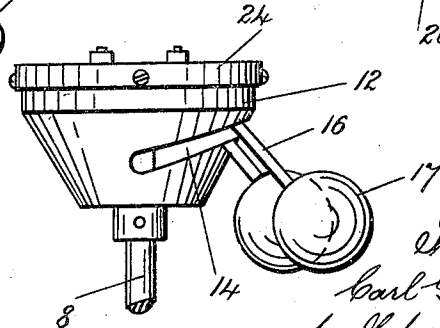


FIG. 4-



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UNITED STATES PATENT OFFICE.

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DRIVING MECHANISM FOR SHAKING-BOLTS.

1,383,676.

Specification of Letters Patent.

Patented July 5, 1921.

Application filed November 23, 1920. Serial No. 425,985.

To all whom it may concern:

Be it known that I, CARL G. THOMPSON, a citizen of the United States, residing at Knoxville, in the county of Knox and State of Tennessee, have invented certain new and useful Improvements in Driving Mechanism for Shaking-Bolts, of which the following is a specification.

the guides or guide slots 14, and the guide slots are curved upwardly in opposite directions so that their upper ends are adjacent to each other upon one side of the housing. The weights are preferably hollow metal balls filled with lead shot, and more or less shot is used according to the power required.

The arms 16 are pivoted to lugs 19 formed on toothed segments 20, and the toothed segments are pivotally connected with the housing by vertical pins 21, and are arranged in gear with each other. A cap or cover 24 is provided, and is secured to the top of the housing over the toothed segments. The vertical pins 21 are secured to the cover 24 and to the head 15.

The driving mechanism at the lower part of the casing is the same as that at the upper part of the casing with the exception that the shaft 8 is secured to the head 15 in the upper mechanism, and in the lower mechanism the shaft 8 is secured to the cover 24.

The weights normally hang upon opposite sides of the driving shaft, in which position they substantially balance each other, and they remain in this position while the shaft is being revolved slowly.

When the shaft 8 is revolved rapidly the weights fly outward by centrifugal force, and are moved by the arms and guides toward each other, and to one side of the shaft, as shown in Fig. 4. When thus moved the weights unbalance each other, and they operate to gyrate the sieve casing when in their unbalanced position. There is no gyrating motion until considerable speed has been given to the driving shaft, and the power is then applied gently, so that jerky gyrations in excess of the regular path of travel are not made, and the sifting action is thereby greatly improved.

What I claim is:

1. The combination, with a gyratory device, of a vertical driving shaft journaled in the said device, a pair of weighted arms pivotally connected with the driving shaft and normally arranged on opposite sides of it, and means operating to guide the weighted arms toward each other into an unbalanced position on one side of the shaft as they are moved outwardly by centrifugal force.

2. The combination, with a gyratory device, of a vertical driving shaft journaled in the said device, and two similar driving de-

This invention relates to mechanism for gyrating shaking bolts or chop graders which are provided with sieves and suspended from suitable supports; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed whereby the sieve casing is normally balanced and is not placed out of balance or gyrated until the driving mechanism has attained a predetermined speed of revolution.

In the drawings, Figure 1 is a side view of a gyratory sieve casing provided with driving mechanisms according to this invention. Fig. 2 is a vertical section through one of the driving mechanisms. Fig. 3 is a plan view of the same with the top cover plate removed. Fig. 4 is a side view of one of the driving mechanisms showing the weights in the positions they assume when driven at full speed.

The sifter casing 5 is suspended from rafters 6, or other supports, by means of resilient rods 7 which permit the casing to gyrate freely in a horizontal plane. The sieves and other devices for grading the flour are arranged inside the casing 5, and are of any approved construction.

In order to gyrate the casing and the sieves inclosed in it, a vertical shaft 8 is journaled in bearings 9 secured to the upper and lower parts of the casing. This shaft is revolved by means of a belt pulley 10 on its lower end portion. The driving belt is supported and guided by any approved means so that it is always taut.

Two similar driving mechanisms are provided, and are secured to the upper and lower end portions of the driving shaft 8. Each driving mechanism has a housing 12 which is secured to the shaft 8, and which is provided with guides or guide slots 14. A head 15 is secured on the shaft 8 inside the housing of the upper driving mechanism, and arms 16 provided with weights 17 are pivotally supported by the shaft 8 by pins 18, and are normally arranged on opposite sides of its axis. The arms are slidable in

vices carried by the upper and lower end portions of the shaft, each said driving device comprising a pair of weighted arms pivotally connected with the driving shaft
5 and normally arranged on opposite sides of it, and means operating to guide the weighted arms toward each other into an unbalanced position on one side of the shaft as they are moved outwardly by centrifugal
10 force.

3. The combination, with a gyratory device, of a vertical driving shaft journaled in the said device, a pair of intergearing toothed segments pivoted on vertical pivots
15 and carried by the said shaft, a pair of weighted arms pivoted to the said segments and normally arranged on opposite sides of the driving shaft, and means operating to guide the weighted arms toward each other

into an unbalanced position on one side of 20 the shaft as they are moved outwardly by centrifugal force.

4. The combination, with a gyratory device, of a vertical shaft journaled in the said device, a housing secured to the said 25 shaft, a pair of intergearing toothed segments pivoted in the said housing on vertical pins, and a pair of weighted arms pivoted to the said segments and normally arranged on opposite sides of the driving shaft, said 30 housing being provided with guides which constrain the weighted arms to move toward each other into an unbalanced position on one side of the shaft as they are moved outwardly by centrifugal force. 35

In testimony whereof I have affixed my signature.

CARL G. THOMPSON.