L. C. ROBERTS.

FEED REGULATOR.

APPLICATION FILED SEPT. 3, 1909.

958,314.

Patented May 17, 1910.

Fig. 1.

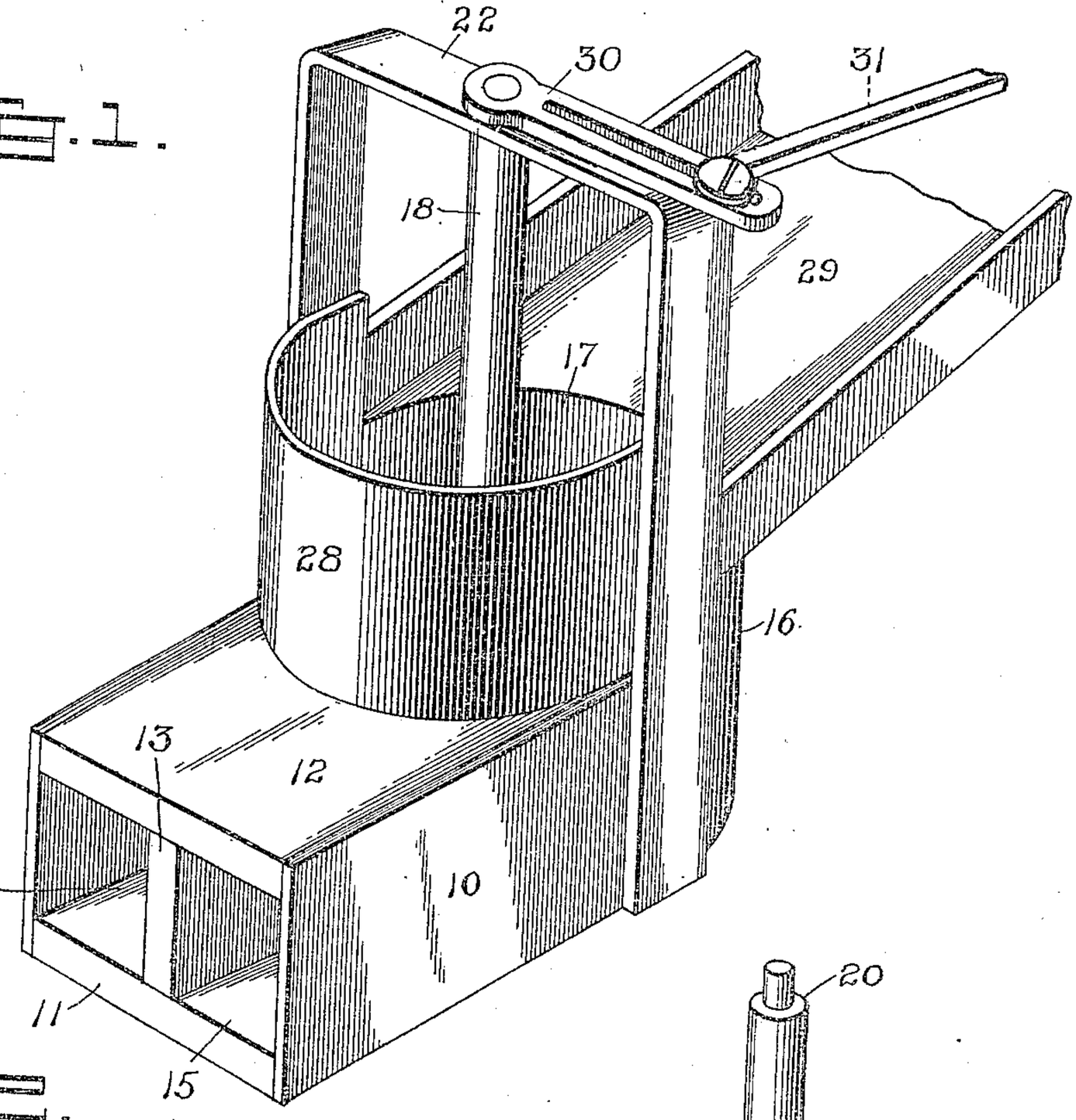


Fig. 2.

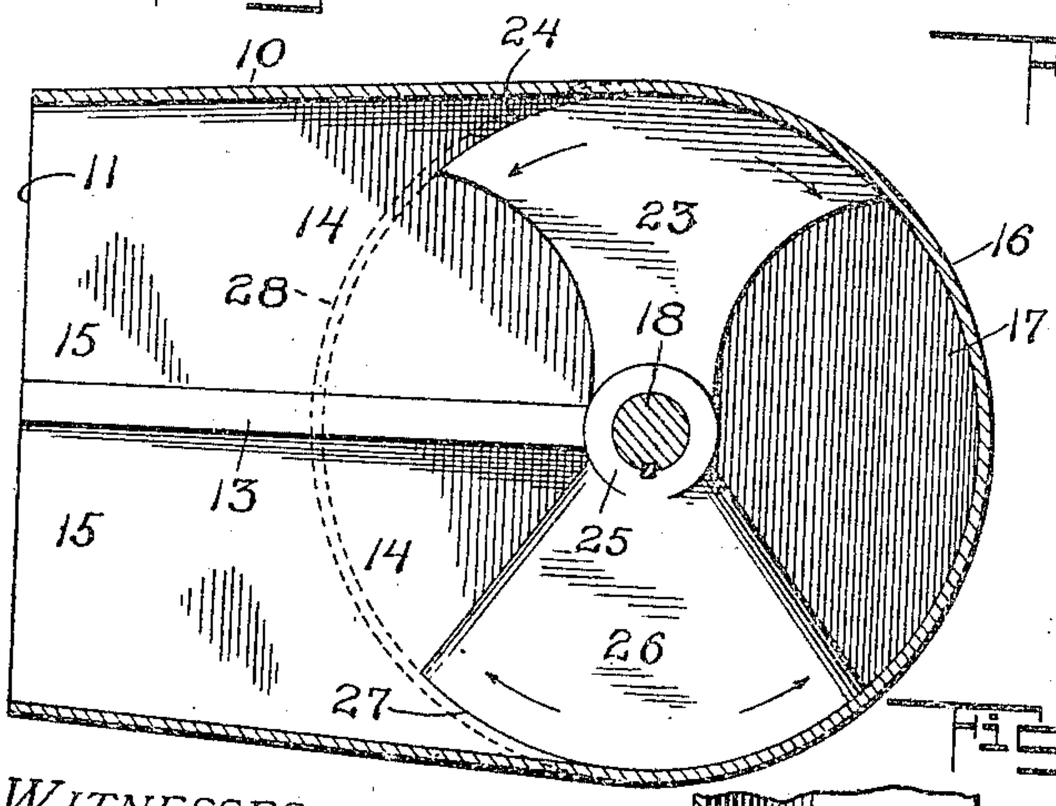


Fig. 3.

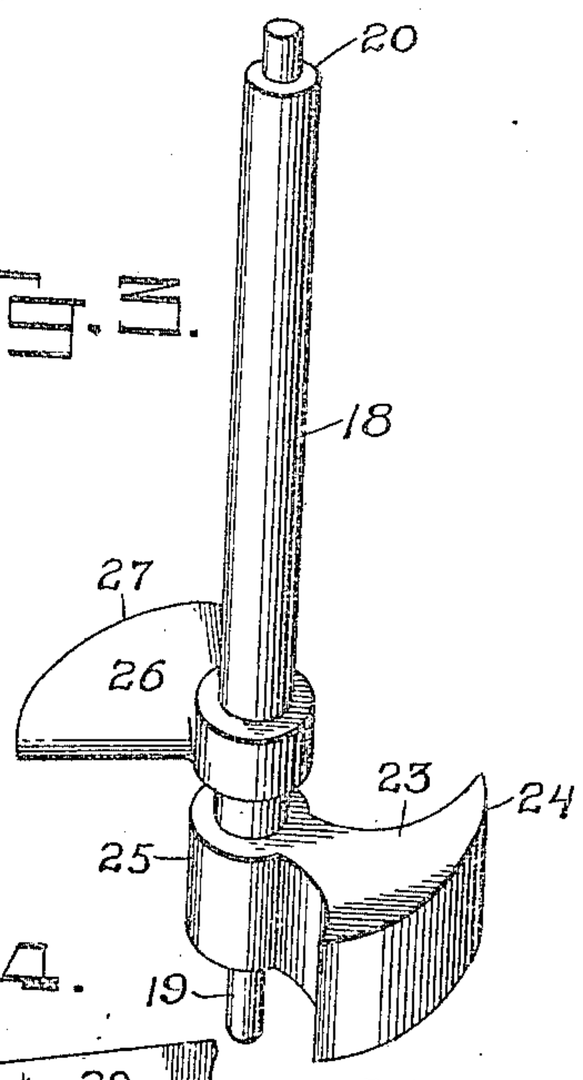
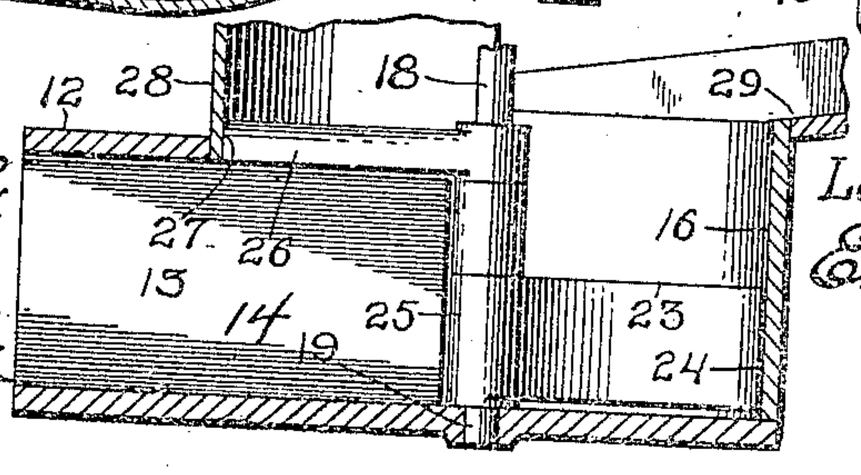


Fig. 4.



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FEED-REGULATOR.

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Application filed September 3, 1909. Serial No. 516,048.

To all whom it may concern:

Be it known that I, LEONARD C. ROBERTS, a citizen of the United States, residing at Nunda, county of Livingston, State of New York, have invented certain new and useful Improvements in Feed-Regulators, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a feed regulating device and particularly to a structure adapted to measure and feed broken stone, sand, cement or any other desired material by a continuous movement.

The invention has for an object to provide a casing having a feed chamber and a plurality of measuring chambers together with an oscillating feed arm mounted to traverse the feed chamber and alternately deliver material into the measuring chambers from which it may be discharged by the subsequent feed of material therein.

A further object of the invention is to provide a strike arm adapted to traverse the upper portion of the measuring chambers and to be carried by the shaft of the feed arm for movement simultaneously therewith.

Other and further objects and advantages of the invention will be hereinafter set forth and the novel features thereof defined by the appended claims.

In the drawing—Figure 1 is a perspective of the invention; Fig. 2 is a longitudinal horizontal section; Fig. 3 is a detail perspective of the shaft carrying the feed and strike arms; and Fig. 4 is a reduced longitudinal vertical section.

Like numerals of reference refer to like parts in the several figures of the drawing.

The numeral 10 designates the casing of the device which may be of any desired size or configuration and is formed with a base plate 11 and top plate 12 between which a partition 13 extends to form a plurality of measuring chambers 14, each of which discharge at their open ends 15. The opposite end of the casing 10 is curved as shown at 16 to form a feed chamber 17. At one end of the partition 13 the vertical shaft 18 is located having a reduced portion 19 at its lower end in the base 11 of the casing and a similar portion 20 at its upper end in the yoke or frame 22 extended from the casing. This shaft has secured at its lower portion a feed arm 23 which may be of any desired configuration for instance segmental as shown and provided with an outer curved face to travel adjacent the curved end of the casing while traversing the feed chamber thereof. The hub 25 of this arm may be secured to the shaft in any desired manner. Upon the same shaft and spaced from the feed arm is the strike arm 26 which may be also of any desired configuration preferably segmental as shown with a curved outer face 27 to travel adjacent the guard plate 28 which extends upward from the top 12 of the casing. Opposite this guard plate a feed board or chute 29 is disposed to deliver material into the feed chamber 17. For the purpose of oscillating the shaft 18 and the arms carried thereby a slotted lever 30 is secured to said shaft and adapted to be connected adjustably with any desired driving connection. An adjustment of this connection in the slot of the lever 30 will determine the extent of travel of the feed arm and the consequent quantity of material fed in the operation of the device. It will be observed that the upper face of the strike arm 26 is curved longitudinally so as to offer the minimum resistance in its operation. The discharge openings 15 of the casing are also contracted in area as indicated in Fig. 2 so as to offer a resistance to the discharge from the measuring chambers thus retaining sufficient material to form an abutment for a subsequent charge of material.

In the operation of the device the material to be measured is fed from the chute into the feed chamber and the oscillation of the feed arm carries the material from the feed chamber into one of the measuring chambers. This action also discharges from the measuring chamber any material remaining therein from a prior operation and such material forms an abutment against which the material last fed presses in order that the measuring chamber may be completely filled and subsequently struck or leveled in the opposite movement of the feed arm which carries therewith the strike arm for that purpose. It will be observed that there is an alternate measuring and feeding action in each of the measuring chambers due to the continuous oscillation of the feed and strike arms. The travel of these arms and the quantity of material consequently fed thereby is controlled by the operating connection with the crank arm on the shaft.

The invention is particularly for feeding

and measuring crushed stone or gravel and giving a leveled quantity thereof which is fed to the discharge by the subsequently introduced material from the feed chamber.

It will therefore be seen that the invention presents a simple, efficient and economically constructed device for simultaneously measuring and feeding material for any purpose desired.

Having described my invention and set forth its merits what I claim and desire to secure by Letters Patent is—

1. In a measuring device, a casing having a feed chamber and a plurality of measuring chambers separated by a partition, and an oscillating feed device having oppositely disposed members adapted to traverse the feed chamber in opposite directions and to enter each measuring chamber to discharge material therefrom.

2. In a measuring device, a casing having a feed chamber and a plurality of measuring chambers, an oscillating feed device disposed to traverse the feed chamber in opposite directions and extend into each measuring chamber to discharge material therefrom, and an oscillating strike arm disposed at the upper portion of said measuring chambers.

3. In a measuring device, a casing having a feed chamber and a plurality of measuring chambers, an oscillating feed device adapted to traverse the feed chamber in opposite directions, an oscillating strike arm disposed at the upper portion of said measuring chambers, a shaft upon which said feed and strike arms are mounted, and a lever arm carried by the upper end of said shaft to effect an oscillation thereof.

4. In a measuring device, a casing having a feed chamber and a plurality of measuring chambers, an oscillating feed device adapted to traverse the feed chamber in opposite directions, an oscillating strike arm disposed at the upper portion of said measuring chambers, a shaft upon which said feed and strike arms are mounted, a slotted lever arm carried by said shaft and a driving connection adjustably secured to said arm to control the extent of movement thereof.

5. The combination with a casing open at one end and provided with a partition to form opposite parallel measuring chambers therein, segmental feed arms disposed at opposite sides of a shaft mounted in said casing and adapted to alternately traverse a portion of each of said measuring chambers, and means for oscillating said shaft and arms.

6. The combination with a casing open at one end and provided with a partition to form opposite measuring chambers therein, a segmental feed arm disposed in said casing to alternately feed to said measuring chambers, means for oscillating said shaft and arm, and a segmental strike arm carried by said shaft opposite said feed arm.

7. In a measuring device, a casing provided with a curved end and an opposite open end, a partition disposed at said open end to form opposite parallel measuring chambers, a vertical shaft mounted at the inner end of said partition, a feed arm carried by said shaft and having opposite members to alternately enter and discharge material from said chambers, and means for oscillating said shaft and arm.

8. In a measuring device, a casing provided with a curved end and an opposite open end, a partition disposed at said open end, a vertical shaft mounted at the inner end of said partition, a feed arm carried by said shaft, means for oscillating said shaft and arm, and a strike arm mounted upon said shaft above said feed arm and adapted to oscillate over the inner end of said partition.

9. In a measuring device, a casing provided with a curved end and an opposite open end, a partition disposed at said open end, a vertical shaft mounted at the inner end of said partition, a feed arm carried by said shaft, means for oscillating said shaft and arm, a strike arm curved upon its upper face and secured to said shaft above said feed arm, and a guard plate disposed above said partition beyond the path of travel of said strike arm.

10. In a measuring device, a casing provided with a feed chamber and measuring chambers, of a vertically disposed shaft, a segmental arm secured to the lower portion of said shaft and provided with opposite concave faces, and a segmental strike arm secured to said shaft and spaced above the first mentioned arm to operate simultaneously therewith.

In testimony whereof I affix my signature in presence of two witnesses.

LEONARD C. ROBERTS.

Witnesses:
JOHN R. GREENER,
CHAUCEY A. NORTON.