

C. M. HALL & G. P. HOLMES.

FEED REGULATOR.

APPLICATION FILED DEC. 5, 1907.

931,195.

Patented Aug. 17, 1909.

2 SHEETS—SHEET 1.

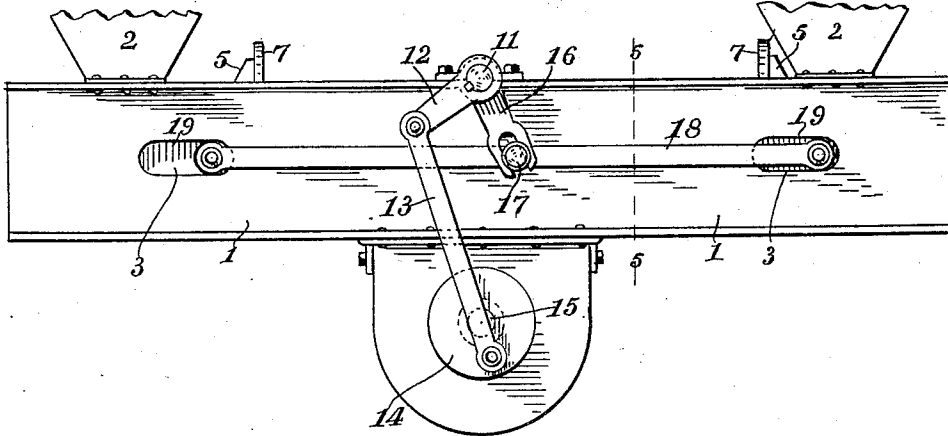


Fig. 1.

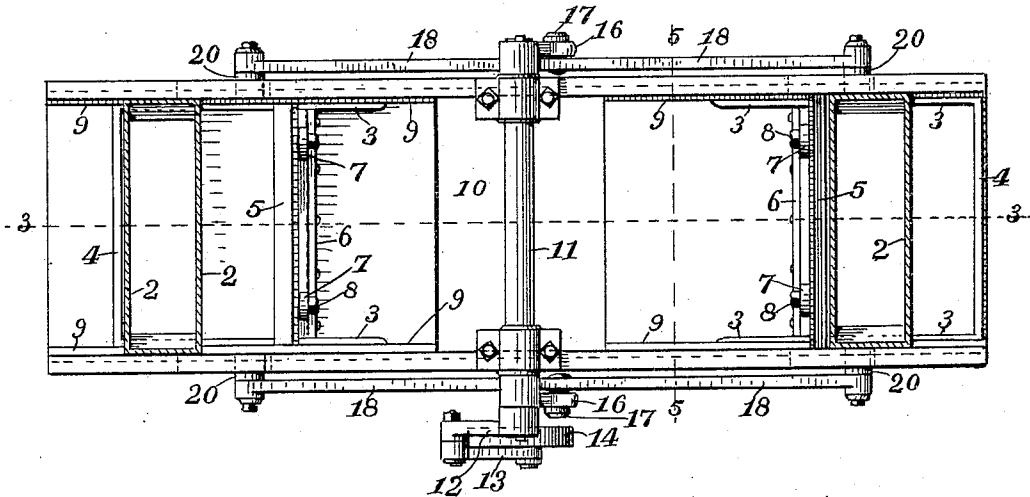


Fig. 2.

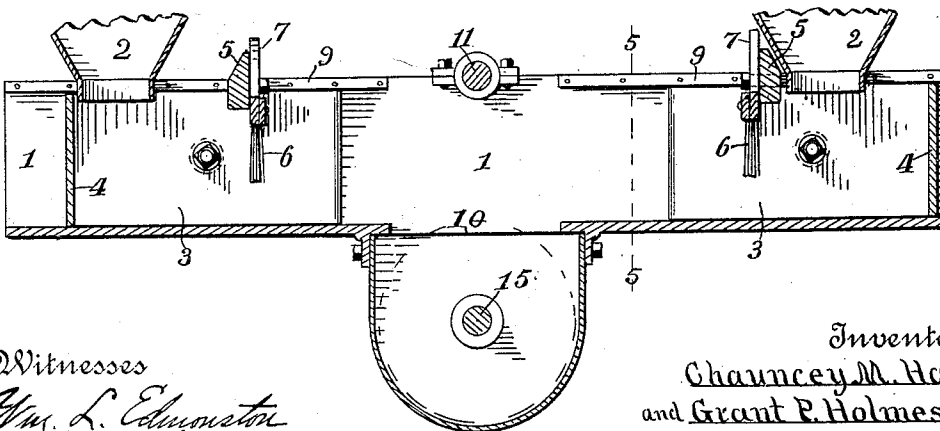


Fig. 3.

Witnesses
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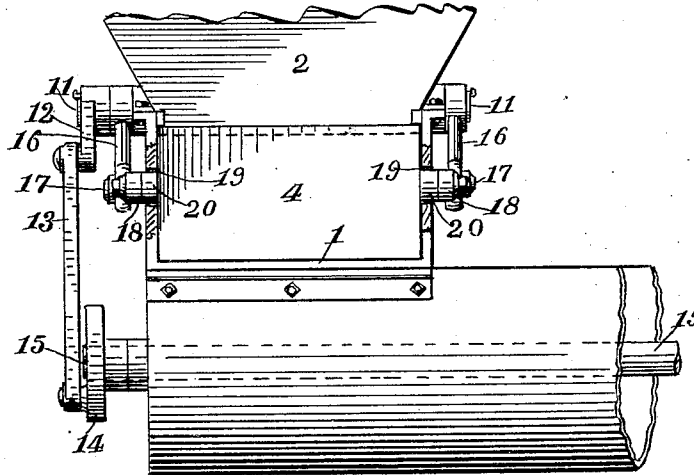


Fig. 4.

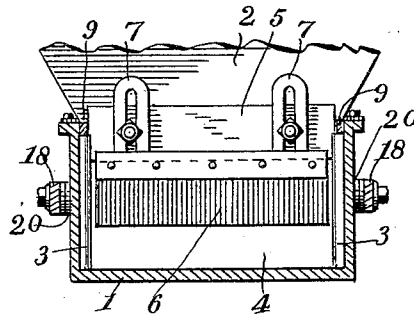


Fig. 5.

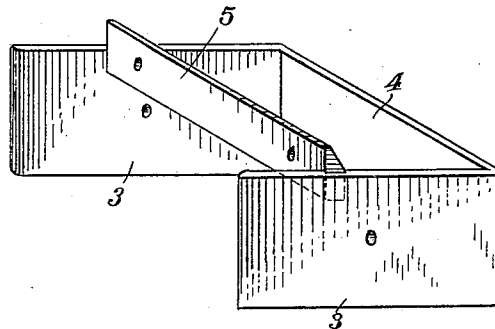


Fig. 6.

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UNITED STATES PATENT OFFICE.

CHAUNCEY M. HALL AND GRANT P. HOLMES, OF JACKSON, MICHIGAN.

FEED-REGULATOR.

No. 931,195.

Specification of Letters Patent.

Patented Aug. 17, 1909.

Application filed December 5, 1907. Serial No. 405,200.

To all whom it may concern:

Be it known that we, CHAUNCEY M. HALL and GRANT P. HOLMES, both citizens of the United States of America, residing at Jackson, in the county of Jackson and State of Michigan, have invented certain new and useful Improvements in Feed-Regulators; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in feed regulators and more particularly to feed mechanisms for concrete mixing machines and its object is to provide a simple, practical device especially adapted to feed material having hard lumps therein, such as sand, gravel having therein small stones, or broken stone, and to provide the device with various new and useful features, as herein-after more fully described and particularly pointed out in the claims.

Our invention consists essentially of a trough or channel having a bed plate provided with a bottom opening, a slide movable on the same, said slide having side walls and an end wall, and open at top, bottom and one end, a brush carried near the open end of the slide, means for reciprocating the slide and a hopper above the slide and opening between the brush and the end wall, and in various features of arrangement and combination as hereinafter more fully described, reference being had to the accompanying drawings, in which:

Figure 1. is a side elevation of a device embodying our invention; Fig. 2. a plan view of the same; Fig. 3. a longitudinal vertical section on the line 3—3 of Fig. 2.; Fig. 4. an end elevation of the same; Fig. 5. a transverse section on the line 5—5 of Figs. 1, 2 and 3; and Fig. 6. an isometrical perspective of the slide.

Like numbers refer to like parts in all of the figures.

1 represents a stationary trough or way having a bed plate at the bottom, and side walls, being open at the ends and having a central opening 10 in the bed plate through which the material is discharged into a mixer or other receptacle. 2, 2 represent hoppers mounted on this trough near its respective ends and opening downward within the slides, which slides each have side walls 3

and an end wall 4. Extending across the top of each slide is a transverse bar 5, spaced apart from the end wall 4 sufficiently to admit the lower end of the hopper 2 and provide for clearance equal to the reciprocating movement of the slide. Attached to the bar 5 by means of vertically adjustable hangers 7, is a brush 6 made preferably with steel strips stiff enough to retain the material and yieldable enough to let stones or other hard substances of moderate size pass beneath the same. This brush extends downward within the slide and near its open end. This brush is also spaced apart from the bottom of the trough and is vertically adjusted to determine the quantity of material escaping beneath the same.

8 are bolts to adjustably secure the hangers 7 to the bar 5.

9 are strips at the top of the side walls of the trough to engage the side walls of the slide and guide the same.

11 is a rockshaft mounted on the trough and reciprocated by means of an arm 12 fixed thereon and connected by a rod 13 to a crank wheel 14 mounted on the shaft 15 of the mixer. This rock shaft may obviously be reciprocated in any other convenient manner. At each side of the trough and mounted on the rock shaft are forked arms 16 which extend downward outside the trough at each side thereof and engage pins 17 on parallel rods 18 connected to the slides at their respective ends by means of studs 20 extending through slots 3 in the sides of the trough and mounted on the side walls of the slides, whereby the slides are reciprocated a distance equal to the clearance at the sides of the hopper.

We have shown two hoppers and two sets of feeding mechanisms adapted to discharge through a single bottom opening into a mixer.

Obviously the number of slides and hoppers may be increased without materially modifying the invention so as to feed more than two kinds of material, as for instance three may be used to feed sand, broken stones, and cement.

Obviously the device may also be used for mixing various other material such as grain or chemical ingredients.

In operation the respective kinds of material are supplied to the respective hoppers, and flowing therefrom, falls upon the bed

plate between the brush and end wall of the slide and beneath the respective hoppers, and as the slides reciprocate, the material will escape in greater or less quantity beneath each brush 6 and at each reciprocation be crowded or swept along toward and into the opening 10 by the end wall of the slide. The higher the brush is adjusted, the greater the amount of material will escape beneath the same; this brush being of flexible material, in the event of a stone or other hard substance passing close beneath the same, the brush will yield and let the same escape without materially modifying the amount of feed or in anywise interfering in the operation of the machine.

It will be noted that the transverse wall of the slide does not pass beneath the hopper so that no clogging between its upper edge and the lower edge of the hopper can occur, at the same time it pushes the material from beneath the hopper as it advances and permits fresh material to escape from the hopper and in front of it as it recedes.

25 We claim—

1. In a feed regulator, a hopper having a bottom opening, a bed plate beneath the hopper and spaced apart therefrom, a reciprocating slide having a wall traversing the bed plate at one side only of the hopper, and a brush carried by the slide at the opposite side of the hopper to yieldingly retard the movement of the material.

2. In a feed regulator, a hopper having a bottom opening, a bed plate spaced apart from the hopper and located beneath the same, a reciprocable slide having an end wall traversing the bed plate at one side of the hopper, a reciprocable brush at the other side of the hopper and spaced apart from the bed plate, and means for simultaneously reciprocating the brush and slide.

3. A feed regulator comprising a fixed bed plate having an opening, reciprocable slides traversing the plate and each having a vertical end wall and vertical side walls, brushes carried by the side walls and located between the end walls of the slides and the bottom opening of the bed plate to yieldingly control the flow of material to the said opening at all times, hoppers opening between the respective brushes and end walls of the slides, and means for reciprocating the slides.

4. A feed regulator comprising a trough having a bed plate, a slide movable in said trough and having side walls and an end wall, a brush carried by said slide and spaced apart from the end wall thereof, a hopper above the slide and having an open

lower end between the brush and end wall, and means for reciprocating the slide.

5. In a feed regulator, the combination of a trough having a bed plate provided with a central opening, slides reciprocable in said trough and each having side walls and an end wall, a hopper above each slide, brushes carried by the slides above the bed plate and between the hoppers and the said opening, and means for reciprocating the slides.

6. In a feed regulator, the combination of a trough having a bed plate provided with a central opening, hoppers mounted on said trough near each end thereof, slides each having side walls, and also having an end wall at the side of the hopper remote from said opening, means for reciprocating the slides, a transverse bar mounted on each slide, and at the side of the hopper nearest to said opening, and a vertically adjustable brush mounted on each bar.

7. In a feed regulator, a trough having side walls and a bed plate provided with a central opening, a hopper mounted on said trough near each end thereof, a slide beneath each hopper and having side walls and an end wall, a transverse bar mounted on each slide, a brush extending between each hopper and the opening in the bed plate, slotted hangers and bolts adjustably connecting the brushes to the bars, a rockshaft mounted on the trough, means for oscillating the rockshaft, and means for connecting said shaft with the slides to reciprocate the same.

8. A feed regulator comprising a bed plate having an opening, reciprocable slides traversing the bed plate, each slide having a vertical end wall and vertical side walls, a brush carried by each slide and supported between the end wall of a slide and the opening of the bed plate to yieldingly control the flow of material to said opening, a hopper between the brush and the end wall of a slide, and means for reciprocating the slides.

9. In a feed regulator, the combination of a trough having a bed plate provided with a central opening, slides reciprocable in said trough, each slide having side walls and one end wall, a hopper above said slide, a brush carried by the slide above the bed plate and spaced apart therefrom, and also located between a hopper and said opening and means for reciprocating the slides.

In testimony whereof we affix our signatures in presence of two witnesses.

CHAUNCEY M. HALL.
GRANT P. HOLMES.

Witnesses:

R. H. ROSSMAN,
C. M. JENKS.