No. 756,298. PATENTED APR. 5, 1904.

G. H. TENCH.

FEEDING MECHANISM FOR GRANULAR MATERIAL.

APPLICATION FILED DEC. 11, 1897.

NO MODEL. 2 SHEETS—SHEET 1.

FIG. 4.

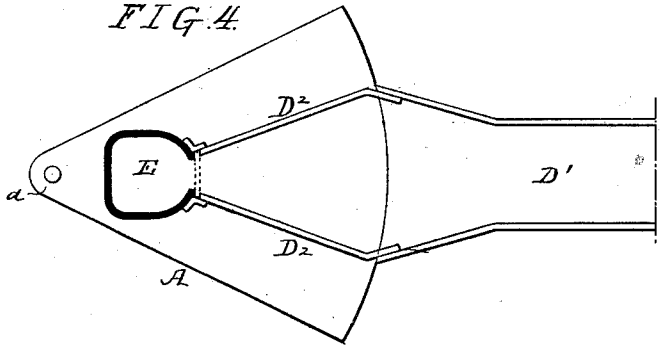


FIG. 1.

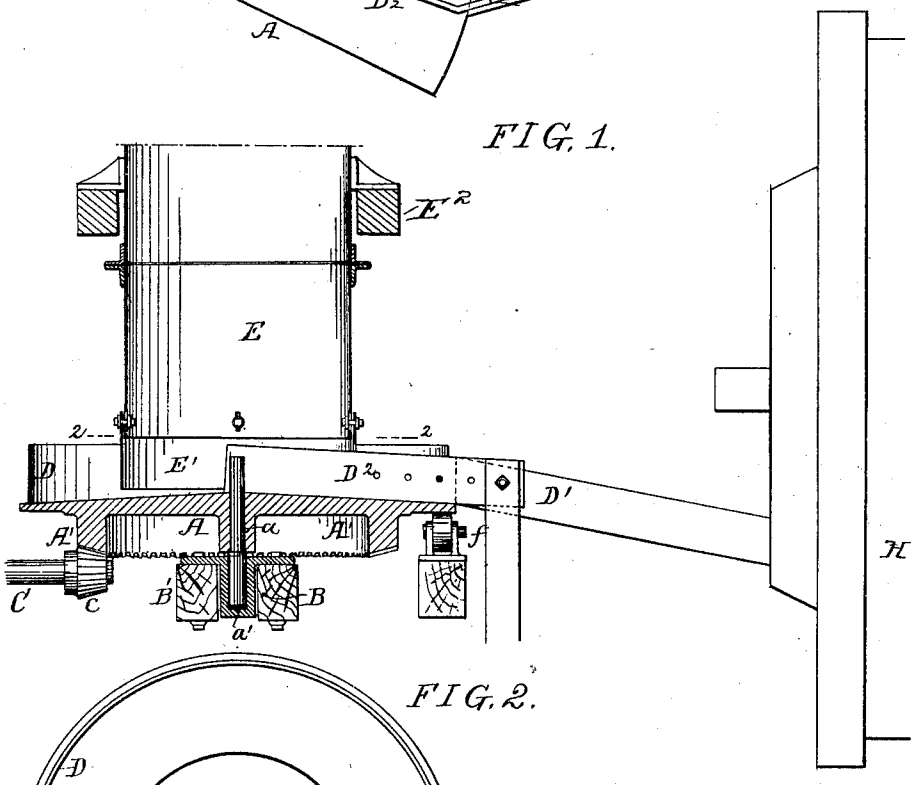
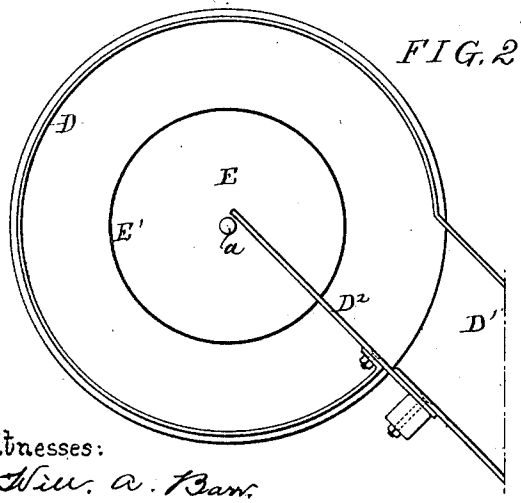


FIG. 2.



Witnesses:

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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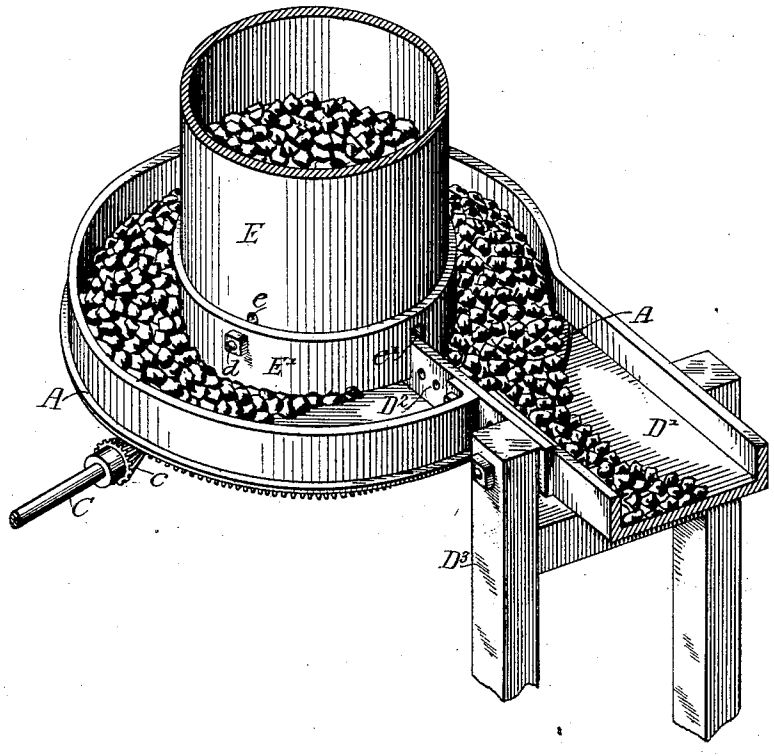
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FEEDING MECHANISM FOR GRANULAR MATERIAL.

APPLICATION FILED DEC. 11, 1897.

NO MODEL. 2 SHEETS—SHEET 2.

Fig. 5.



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Chas. D. Clon.

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by his Attorneys;
Howson & Howson

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No. 756,298. Patented April 5, 1904.

UNITED STATES PATENT OFFICE.

GEORGE H. TENCH, OF HAZLETON, PENNSYLVANIA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE AERO PULVERIZER COMPANY, OF JERSEY CITY, NEW JERSEY, A CORPORATION OF NEW JERSEY.

FEEDING MECHANISM FOR GRANULAR MATERIAL.

SPECIFICATION forming part of Letters Patent No. 756,298, dated April 5, 1904.

Application filed December 11, 1897. Serial No. 661,485. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. TENCH, a citizen of the United States, and a resident of Hazleton, Luzerne county, Pennsylvania, (whose post-office address is Hazleton, Luzerne county, Pennsylvania,) have invented certain Improvements in Feeding Mechanism for Granular Material, of which the following is a specification.

The object of my invention is to construct an automatic feeding device for feeding coal or like material to a screen conveyer or elevator, so that the delivery will be regular and in given quantities, thus insuring the proper screening of the material when the apparatus is used to feed a screen or to properly load conveyers or elevators with given quantities of material and to prevent the stalling or breaking down of machinery caused by overloading. This object I attain in the following manner, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical sectional view showing my improved feeding apparatus for coal or similar material. Fig. 2 is a sectional plan on the line 2 2, Fig. 1; and Fig. 3 is a perspective view of the apparatus.

Referring to Figs. 1, 2, and 3, A represents a circular table adapted to be rotated in a horizontal plane, which table in the present instance is pivoted at the center, the pivot *a* resting upon a hard-metal disk in the step-box B, mounted on the frame B′. The upper surface of this disk is preferably higher at the center than at the edges, and mounted above the table is a ring D, which acts as a flange for the table, preventing the coal or other material being fed from escaping except at the chute D′. Within the ring D extends the feed-cylinder E, which may be supported in any suitable manner—as, for instance, by the framework E^2, having at its lower end a vertically-adjustable regulating-sleeve E′, which can be adjusted toward or from the upper surface of the table, so as to allow more or less coal or other material to pass out from under the feed-cylinder to the space between the cylinder and the outer ring D, bolts *d*, carried by the sleeve, being adapted to slots *e* in the cylinder providing for this adjustment, such bolts having suitable nuts to retain the sleeve in the adjusted position. D^2 represents a stationary shear-plate extending vertically between the table A and the neck E and inwardly within the space inclosed by the sleeve E′ and arranged out of line with the diameter of the table. This shear-plate is adjustable in the direction of its length, so as to regulate the amount of material swept off the table, and is secured to one side of the chute D′ and also to a timber D^3 outside of the ring D. The pivot-pin *a* in the present instance extends up through the table and forms a post against which the shear-plate can rest when pushed into or past the center of the table, and this pivot-pin serves to hold the shear-plate out of line with the diameter of the table. The vertically-adjustable regulating-sleeve E′ is slotted at *e′* for the passage of the shear. The neck E is suitably supported by a framework. (Not shown, as it forms no part of the invention.) The table in the present instance is driven by means of an annular rack A′, in which meshes a bevel-pinion *c* on a driving-shaft C. This rack may either form part of the table, as shown in the drawings, or may be attached thereto, as desired. The table is supported not only by the center-bearing, but by a series of rollers *f*, bearing upon the under side of the table near the periphery.

In the present instance I have shown the apparatus as feeding a coal-screen H; but it will be understood that it may be used in feeding any design of screen or any conveyer or elevator and may be used to feed any granular material. When used for feeding coal from a coal-breaker, the operation is as follows: The coal comes in all sizes in the cars from the mines, and these cars are hoisted to the top of the breaker and run on a car-dump and emptied. As delivered by the cars the coal passes over suitably-arranged bars, and in this action some of the coal passes between the bars into the feed-cylinder E and onto the table A. As this table is revolved the coal passes under the regulating-sleeve E′ to the

outer portion of the table and is swept off by the shear-plate D^2 into the chute D', which directs it to the screen. It will thus be seen that a large quantity of coal can be dumped at once into the feeding-cylinder, and this coal will be delivered in an even stream, so that it may be thoroughly screened, and the liability of stalling or breaking the machinery is entirely prevented. When used in connection with a conveyer or elevator, the flow of material can be so regulated that the buckets will be fed steadily with a given amount of material, preventing the overloading of the buckets.

I claim as my invention—

1. An improved feeding device comprising in combination, a rotatable table mounted in a horizontal plane, a neck through which the material is fed, a regulating-sleeve moving longitudinally with respect to said neck, and a stationary shear extending vertically between the table and neck and inwardly within the space inclosed by the sleeve and arranged out of line with the diameter of the table.

2. An improved feeding device comprising in combination, a rotatable table mounted in a horizontal plane, a neck through which the material is fed, a regulating-sleeve moving longitudinally with respect to said neck, and a stationary shear extending vertically between the table and neck and inwardly within the space inclosed by the sleeve, and arranged out of line with the diameter of the table, said sleeve being slotted and the shear working in said slot.

3. The combination in feeding mechanism for granular material, of a rotatable table mounted in a horizontal plane, means for moving said table, a neck through which the material is fed, a regulating-sleeve movable longitudinally with respect to said neck, a discharge-chute, and a stationary shear extending vertically between the table and the neck and inwardly within the space inclosed by the sleeve and arranged out of line with the diameter of the table, said shear being connected to one side of the discharge-chute.

4. The combination in feeding mechanism for granular material, of a rotatable table mounted in a horizontal plane, means for moving the same, a neck through which the material is fed, a regulating-sleeve movable longitudinally with respect to said neck, a discharge-chute, and a stationary shear extending vertically between the table and neck and inwardly within the space inclosed by the sleeve and arranged out of line with the diameter of the table, said shear serving to divert the material from the table to said discharge-chute and being adjustable longitudinally in line with one side of the same.

5. The combination in apparatus for feeding granular material, of a rotatable table mounted in a horizontal plane, means for moving said table, a neck through which the material is fed, a regulating-sleeve movable longitudinally with respect to said neck, an annular flange adjacent to the outer edge of the table, a discharge-chute, and a stationary shear extending vertically between the table and neck and inwardly within the space inclosed by the sleeve and arranged out of line with the diameter of the table, said shear being connected to one side of the discharge-chute, while the annular flange is connected to the other side of said chute and is thereby supported clear of the rotating table.

6. The combination in apparatus for feeding granular material, of a rotatable table mounted in a horizontal plane, means for moving the same, a centrally-situated feeding-neck, a regulatable sleeve movable longitudinally with respect to said neck, an annular flange partially inclosing the surface of the table, a discharge-chute leading from the table and having one side connected to the annular flange, and a stationary shear forming a continuation of the other side of the discharge-chute, said shear extending vertically between the table and the neck and inwardly within the space inclosed by the table and arranged out of line with the diameter of the table.

7. The combination in a feeding device for granular material, of the rotatable table mounted in a horizontal plane, a spindle for said table, a step-bearing for the same, said spindle extending up through the table, an annular rack carried by the under side of the table, a pinion engaging therewith whereby said table may be rotated, a neck through which the material is fed, an annular rim or flange adapted to confine the material to the table, a discharge-chute, a regulating-sleeve longitudinally movable with respect to said neck, a stationary shear extending vertically between the table and the neck, and inwardly within the space inclosed by the table and arranged out of line with the diameter of the table, said shear being connected to one wall of the discharge-chute while the opposite wall of said chute is connected to the annular rim or flange, and a support for the table whereby the surface of the latter will be maintained in the same plane as the surface of the discharge-chute.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE H. TENCH.

Witnesses:
C. W. KEENE,
ABNER SMITH.