

No. 756,307.

PATENTED APR. 5, 1904.

W. M. WHEILDON.
APPARATUS FOR FEEDING MATERIAL.

APPLICATION FILED JUNE 26, 1900.

NO MODEL.

2 SHEETS—SHEET 1.

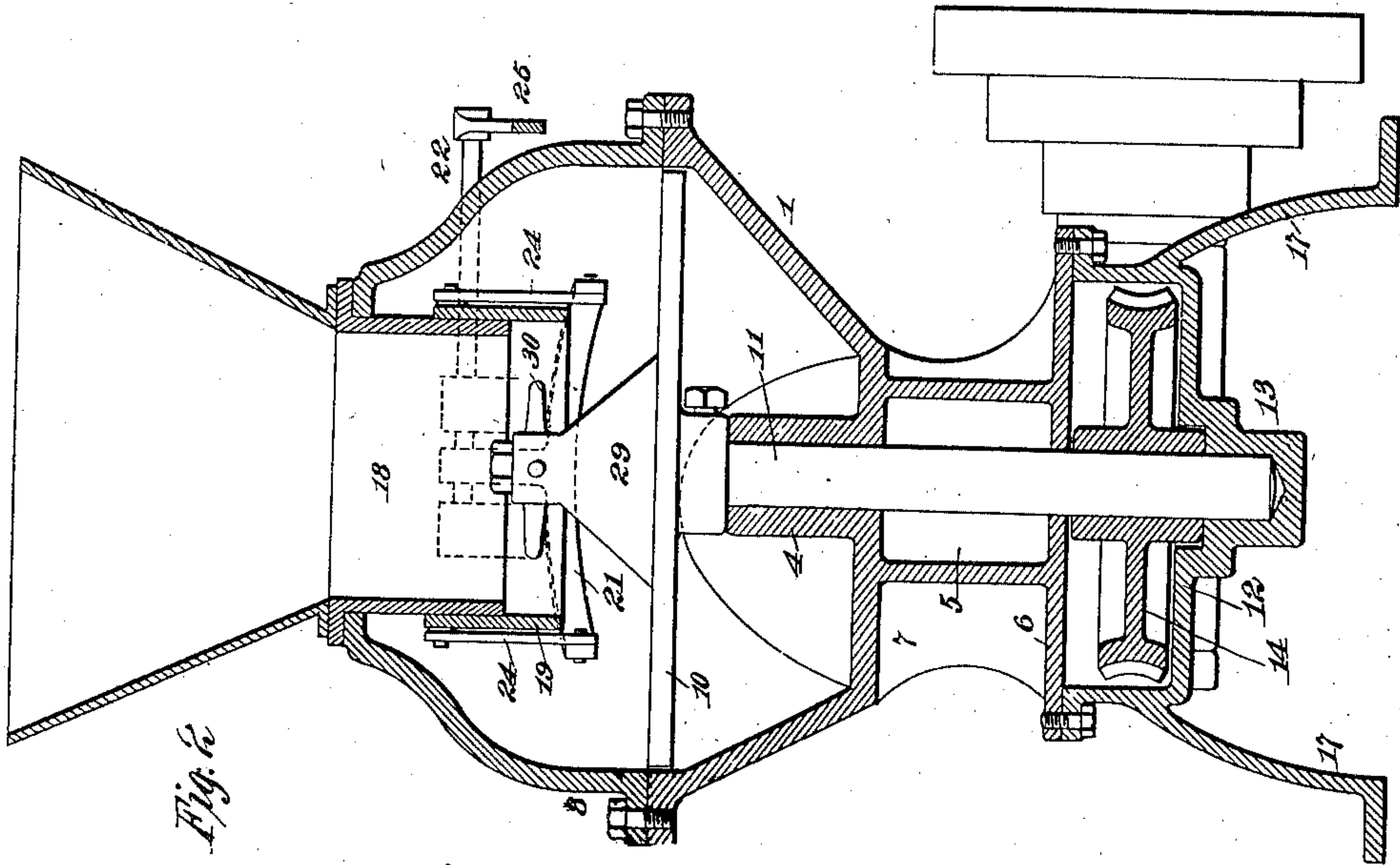


Fig. 2

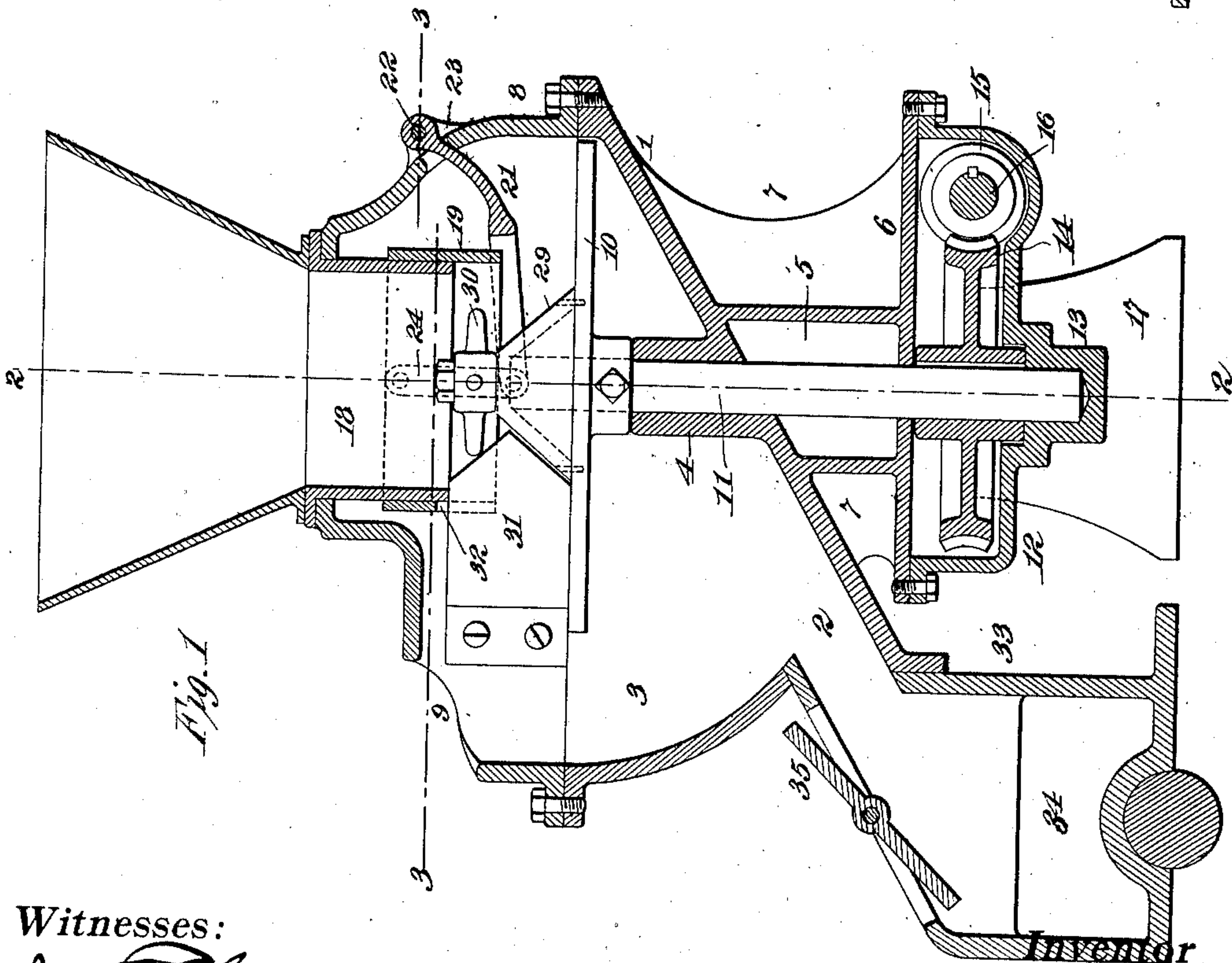


Fig. 1

Witnesses:

James F. Coleman
John R. Taylor

William Maxwell Wheldon

By Ayer, Edmunds & Ayer
Att'ys.

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2 SHEETS—SHEET 2.

Fig. 4

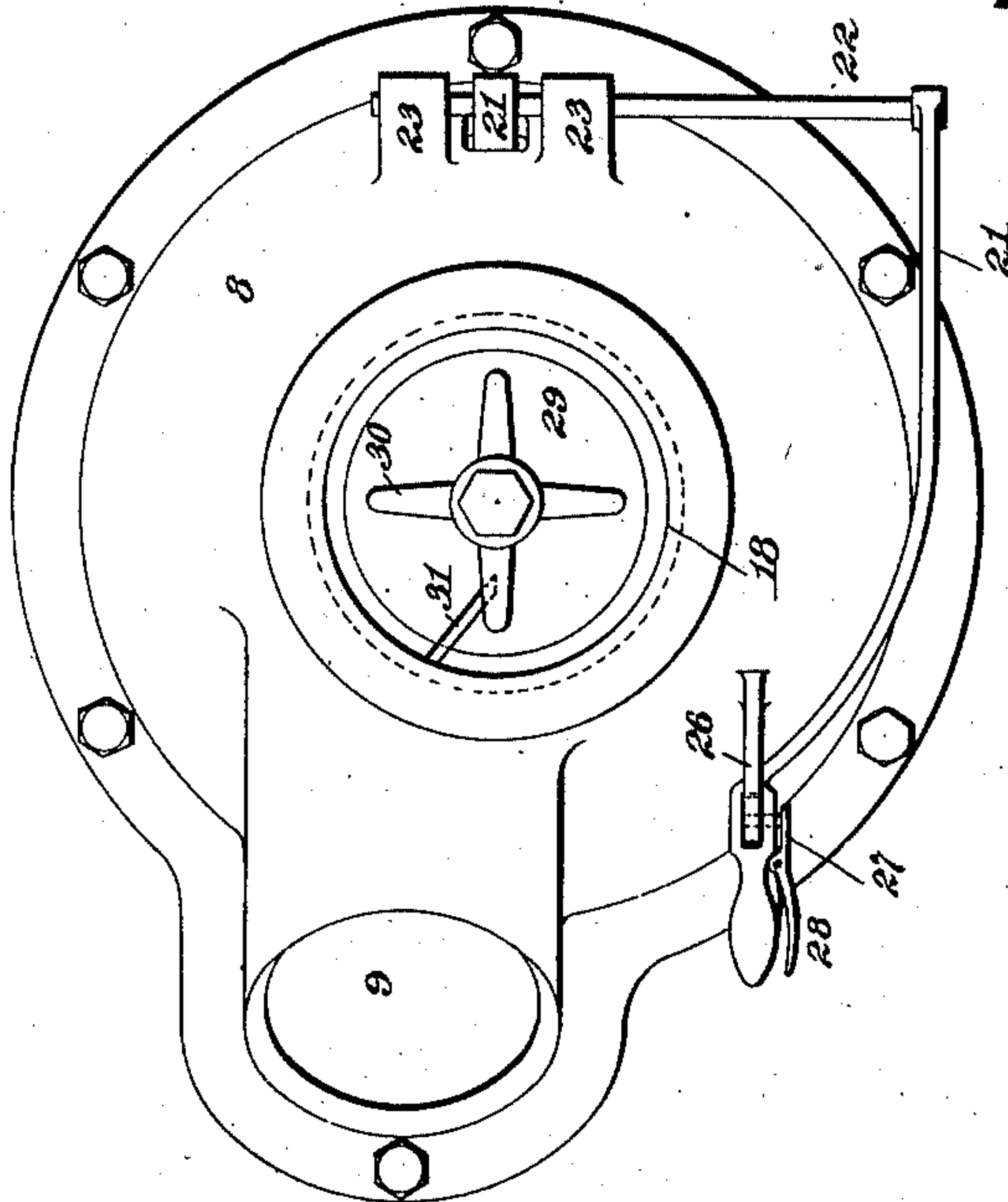
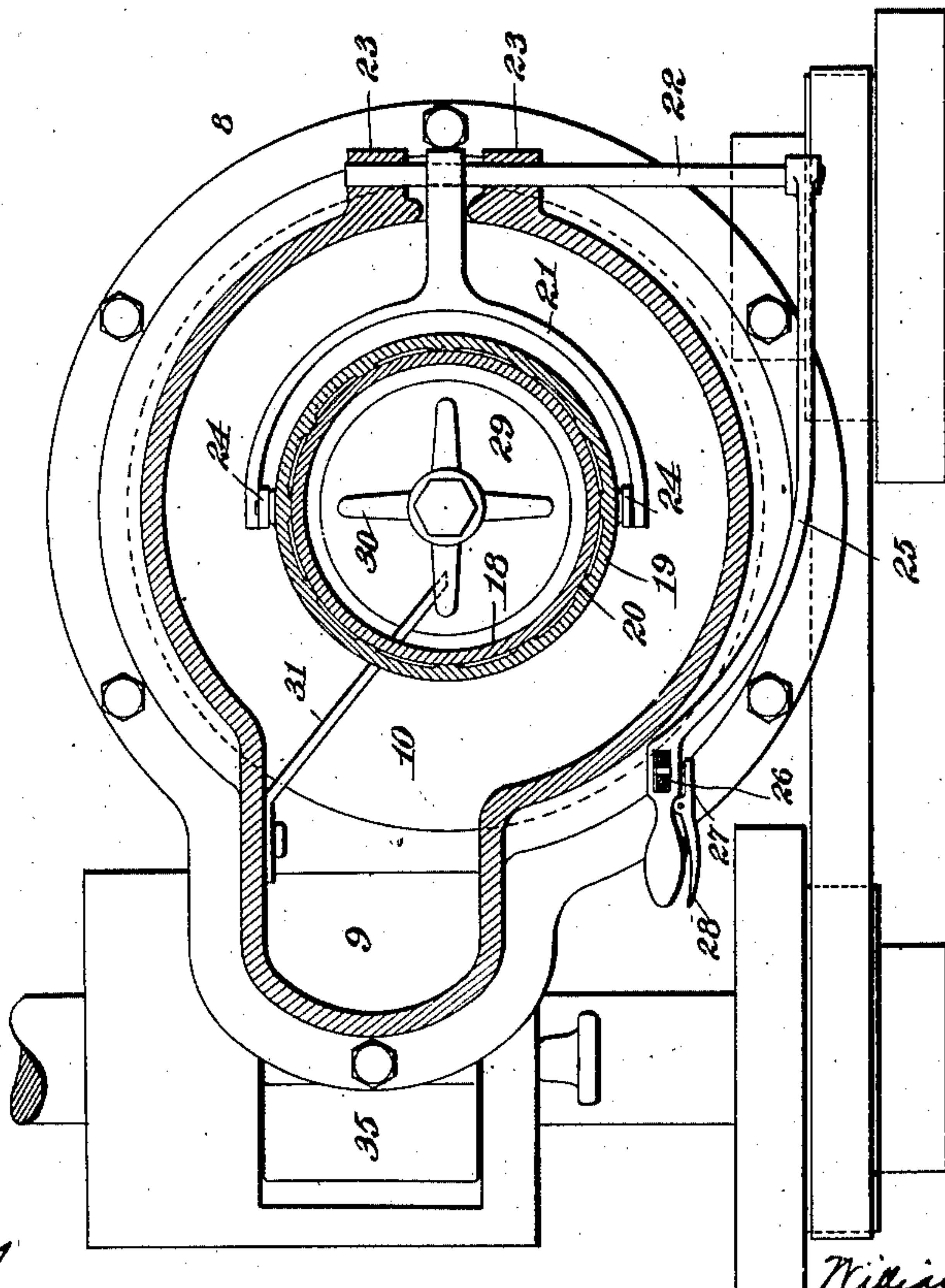


Fig. 3



Witnesses:

Joos. Coleman
Geo. R. Taylor

Inventor.

William Maxwell Wheldon
by *Asper Edmunds & Co.*
Att'ys.

UNITED STATES PATENT OFFICE.

WILLIAM MAXWELL WHEILDON, OF BOSTON, MASSACHUSETTS, ASSIGNOR
TO AERO-PULVERIZER COMPANY, OF JERSEY CITY, NEW JERSEY, A
CORPORATION OF NEW JERSEY.

APPARATUS FOR FEEDING MATERIAL.

SPECIFICATION forming part of Letters Patent No. 756,307, dated April 5, 1904.

Application filed June 26, 1900. Serial No. 21,635. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MAXWELL WHEILDON, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a certain new and useful Improvement in Apparatus for Feeding Material, of which the following is a description.

My invention relates to improvements in apparatus for feeding material in a regulable and uniform quantity for any desired purpose—as, for instance, the feeding of coal or other material to a pulverizer. In my Patents Nos. 635,112 and 635,113, dated October 17, 1899, I show apparatus for this purpose, the first of said patents describing a stationary neck through which the material is fed, a rotatable table adjustable toward and away from the neck to regulate the feed, and a shear held from rotation, but adjustable vertically with the table for scraping off from the table the material deposited thereon through the neck, and the second of said patents describing a device for the purpose comprising a stationary neck having a regulating-sleeve mounted on its interior and adjustable toward and away from a stationary table to regulate the feed, the material being swept off of said table by one or more rotating shear-knives.

The object of my present invention is to provide a feeding apparatus wherein are utilized the best features of the said prior devices, while at the same time the construction is simpler and the operation more effective than with the construction of either patent.

To this end my present invention comprises in a feed device for pulverulent material a horizontal rotatable table on which the material is deposited, a fixed shear for scraping the material from said table, a neck through which the material is delivered to the table, and a regulating-sleeve mounted on the exterior of said neck for effecting the desired regulation, all as will be more fully hereinafter described and claimed.

When my improved feeding device is used in connection with a pulverizer wherein a regulable air-supply is necessary, the invention

comprises a further improvement in the means for securing such an air-supply in connection with the feed of the material.

In order that my invention may be better understood, attention is directed to the accompanying drawings, forming part of this specification, and in which—

Figure 1 is a vertical sectional view of my improved feeding device, showing its attachment to an additional air-supply for a pulverizer; Fig. 2, a section on the line 2 2 of Fig. 1; Fig. 3, a section on the line 3 3 of Fig. 1, and Fig. 4 a plan.

In all of the above views corresponding parts are represented by the same numerals of reference.

1 represents the main part of a casing, having an exit-opening 2 at its lower end, as shown, said casing being generally circular in cross-section at its upper part and being formed with a hollow projection 3. The part 1 has a hub 4 cast with it and also a hollow cylinder 5, formed with a flat flange 6 at its bottom, suitably strengthened by a web 7 7.

8 represents the upper part of the casing, which is bolted to the lower part, as shown, and is formed with an opening 9 directly above the projection 3 and through which the hand of the operator may be introduced to clean out the casing in the event of clogging.

10 is the table, rotating in a horizontal plane at the top of the part 1 of the casing and carried on a shaft 11, which passes through the hub 4 and downwardly past the flange 6. Bolted to the bottom of the flange 6 is a worm-casing 12, having a bearing 13 cast therewith, which supports the lower end of the shaft 11. By casting the worm-casing 12 in one piece, as shown, it is made oil-tight and dustproof. Mounted in the worm-casing on the shaft 11 is a worm-gear 14, driven from a worm 15 on a driving-shaft 16. Cast with the worm-casing 12 are the legs or supports 17 for sustaining the feeding device. At the top of the casing I employ a neck 18, preferably removably secured in position and to which the material is constantly supplied, so as to be fed therefrom to the table 10. Mounted upon

the outside of said neck is a regulating-sleeve 19, which, as shown particularly in Fig. 3, is formed with a series of shallow ribs 20, which bear on the neck 18, thereby reducing friction and lessening the liability of the sleeve becoming rusted or wedged upon the neck. In order to adjust the sleeve, I employ a regulating-lever 21, mounted on a shaft 22 in lugs or ears 23, the forked ends of said lever being connected by links 24 to the regulating-sleeve 19 near its upper end, as shown. By employing this construction a very smooth adjustment of the regulating-sleeve is secured without the necessity of employing slotted connections. The shaft 22 carries a regulating-lever 25, having a handle at its end and formed with an opening therein in which is mounted a rack-rod 26, with which a spring-pressed latch 27 is adapted to engage, said latch being actuated by a finger-piece 28, whereby the latch may be withdrawn from the teeth of the rack when it is desired to effect an adjustment of the regulating-sleeve. The table 10 preferably carries a cone 29, as I describe in my said patents, said cone being hollow and pinned in place, as shown in Fig. 1, and preferably carrying agitating-arms 30 for agitating the material in the neck 18 and preventing its accumulation therein. In order to remove the material from the table 10, I employ a stationary shear-knife 31, bolted or screwed in place, and which extends through a slot 32 in the regulating-sleeve 19, as shown, the edge of said shear-knife reaching substantially to the periphery of the cone 29, so as to remove practically the entire bulk of the material deposited on the table through the neck.

When my improved feeding device is used in connection with a pulverizer where a regulable air-supply is necessary, I bolt it at the side of the casing 33, having an opening 34, through which the material is fed, and provided with an open top in which is mounted a damper 35 for regulating the amount of air passing therethrough.

The operation of my improved feeding device will be as follows: Power is applied to the shaft 16 to drive the shaft 11 through the worm 15 and worm-gear 14, thereby rotating the table 10 at the desired speed. The material to be fed is constantly supplied to the neck 18 and is deposited upon the table 10 in an amount depending upon the distance between the lower end of the regulating-sleeve

19 and said table, which amount may be regulated by shifting the position of said sleeve, as will be obvious. As the table rotates the material will be swept off of the same by the shear-knife 31 and will be deposited in the casing, passing through the opening 2 into the casing 33 and out through the opening 34. The additional air necessary when the device is used in connection with a pulverizer will be supplied through the open upper end of the casing 33.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is as follows:

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, 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, and means for manually shifting the position of said sleeve, substantially as set forth.

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 mounted exteriorly thereof, 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, and means for manually shifting the position of said sleeve, substantially as set forth.

3. In an improved feeding device, the combination of a rotatable table mounted in a horizontal plane, a stationary shear with respect to which the table rotates, a neck through which the material is fed, a regulating-sleeve surrounding the neck and movable longitudinally with respect to the same, the sleeve being provided with shallow parallel vertical ribs for engagement with said neck, and means for adjusting said sleeve vertically, substantially as set forth.

This specification signed and witnessed this 14th day of June, 1900.

WILLIAM MAXWELL WHEILDON.

Witnesses:

FRANK L. DYER,
JNO. R. TAYLOR.