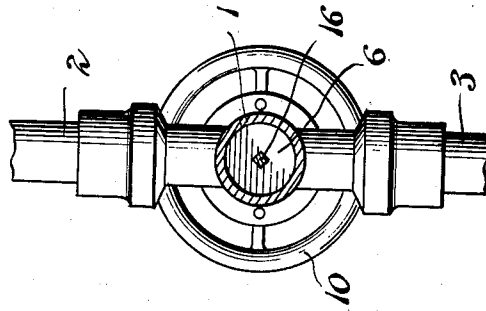
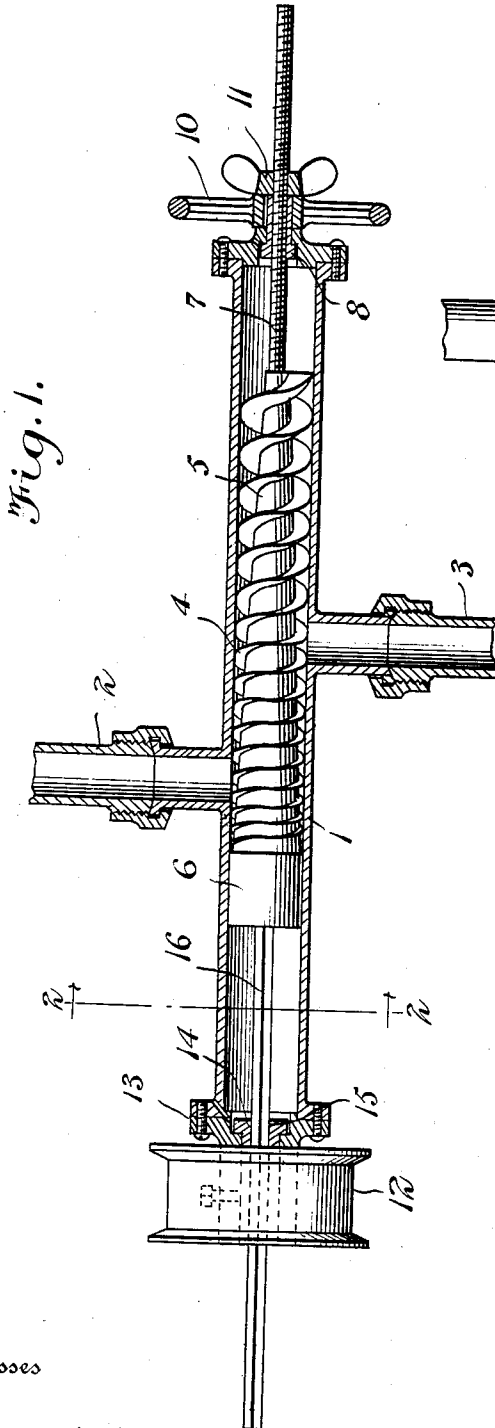


J. C. MIMS.
PROPORTIONER.

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1,177,792.

Patented Apr. 4, 1916.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN C. MIMS, OF NEW ORLEANS, LOUISIANA.

PROPORTIONER.

1,177,792.

Specification of Letters Patent.

Patented Apr. 4, 1916.

Application filed August 12, 1915. Serial No. 45,194.

To all whom it may concern:

Be it known that I, JOHN C. MIMS, a citizen of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented new and useful Improvements in Proportioners, of which the following is a specification.

The invention relates to what is termed a proportioner or feeder designed primarily for feeding any fine or powdered substance in regulatable proportions.

The feeder is constructed with a view to providing a simple means whereby it will automatically maintain a proper clearance, a feeding element which may be adjusted to control the quantity or proportion fed in a predetermined period and maintained in such adjusted position while operating.

The invention in the preferred form of details will be described in the following specification, reference being had particularly to the accompanying drawings, in which:

Figure 1 is a longitudinal sectional view partly in elevation of the improved proportioner. Fig. 2 is a section on the line 2—2 of Fig. 1.

Referring particularly to the accompanying drawing the improved proportioner or feeder comprises a shell 1 in the form of a tubular elongated structure which at an appropriate point is provided with an inlet 2 and at a spaced point therefrom with an outlet 3.

Within the shell is arranged the feeding element in the form of a screw conveyer 4. This conveyer is an important detail of the present invention and is particularly constructed in that the pitch of the screw varies from one end to the other, and the body of the screw also varies in diameter. In the specific illustration the body 5 is of gradually decreasing diameter from what may be termed the feed end of the conveyer toward the delivery end thereof, while the flights or projections forming the conveyer sections are of gradually increasing pitch from the larger toward the smaller end of the conveyer. At what may be termed the inlet end or initial feeding end of the conveyer the latter is provided with a plain surface cylindrical cut off 6, of such length that when the conveyer is advanced as illustrated and hereinafter described to a proper position the cut off 6 will close the communication between the inlet 2 and the shell 1. At

the forward end the conveyer is provided with a fixed rod extension 7 passing through and having threaded connection with a rotatable member 8 mounted in the removable head 9 of the shell. The connection between the rod 7 and the conveyer is such as to permit independent rotative movement of the parts, but prevent their independent longitudinal movement, the joint being any usual one for such purpose. The member 8 being provided beyond the head of the shell with an operating hand wheel 10 and the threaded rod being provided beyond the hand wheel with a wing nut 11 serving as a lock nut. The conveyer is adapted to be positively operated from any suitable type of mechanism, there being illustrated for this purpose a pulley wheel 12 arranged beyond the opposing head 13 of the shell, the pulley wheel being removably secured upon a member 14 mounted for rotation in the head 13. The member 14 is formed with a longitudinal bore 15 of angular contour in cross section and a rod 16 of similar contour is similarly mounted in the member and is fixedly connected to the end of the conveyer. This construction provides for the longitudinal adjustment of the conveyer without interfering with its driving connection with the band wheel.

In use it is obvious that the conveyer by means of the threaded rod 7, hand wheel 10 and lock nut 11, may be adjusted to position the cut off with relation to the inlet to determine the exact amount of material to be delivered in a given time, the lock nut serving to fix the conveyer in such position. The rotation of the conveyer will feed such material through and permit it to gravitate through the outlet. It is obvious that by reason of the increased pitch of the conveying elements of the conveyer and the correspondingly decreasing diameter of the body thereof, that the farther the said conveyer is adjusted toward the band wheel the greater the quantity of material delivered through the outlet.

While particularly effective for delivering powdered coal to a burner for such, it is obviously apparent that the improved proportioner will be equally effective for many other purposes, and all such are contemplated.

What is claimed as new is:

A proportional feeder including a shell, a screw conveyer operative therein, a non-

circular rod extending from one end of the conveyer and through the shell, means arranged on said rod to rotate the latter and conveyer, a screw rod connected with the
5 opposite end of the shell, said screw rod being connected with the conveyer for independent rotative movement but held against independent longitudinal movement, and means arranged beyond the shell

for coöperating with the screw rod to move 10 the conveyer longitudinally of the shell.

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

JOHN C. MIMS.

Witnesses:

HENRY H. PIER,
FRED. MAYER.