O. H. JOHNSON.

ROTARY DRUM FEEDER.

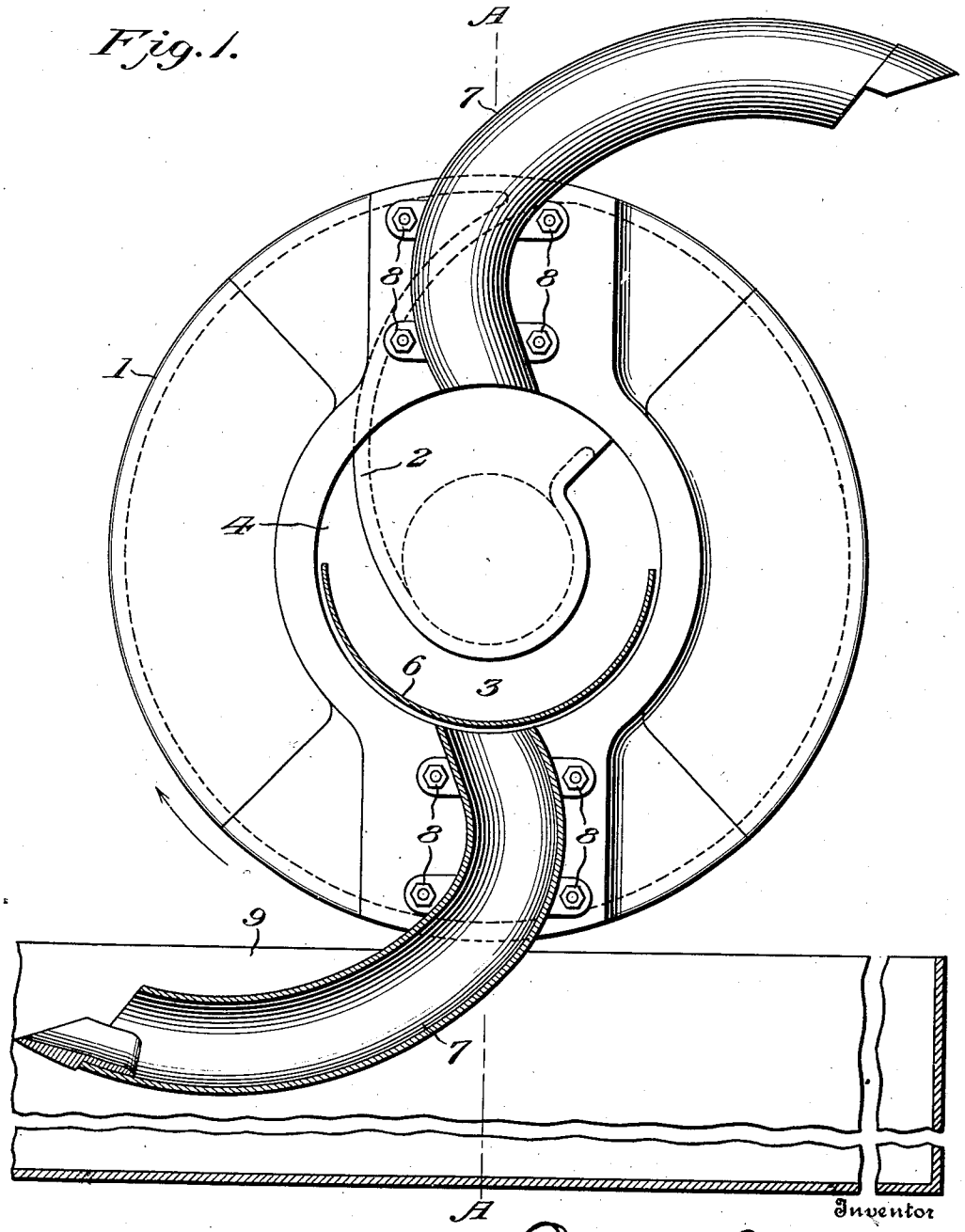
APPLICATION FILED DEC. 5, 1917.

1,284,700.

Patented Nov. 12, 1918.

3 SHEETS—SHEET 1.

Fig. 1.



Witness

Inventor

Oscar H. Johnson

By Vernon E. Hodges

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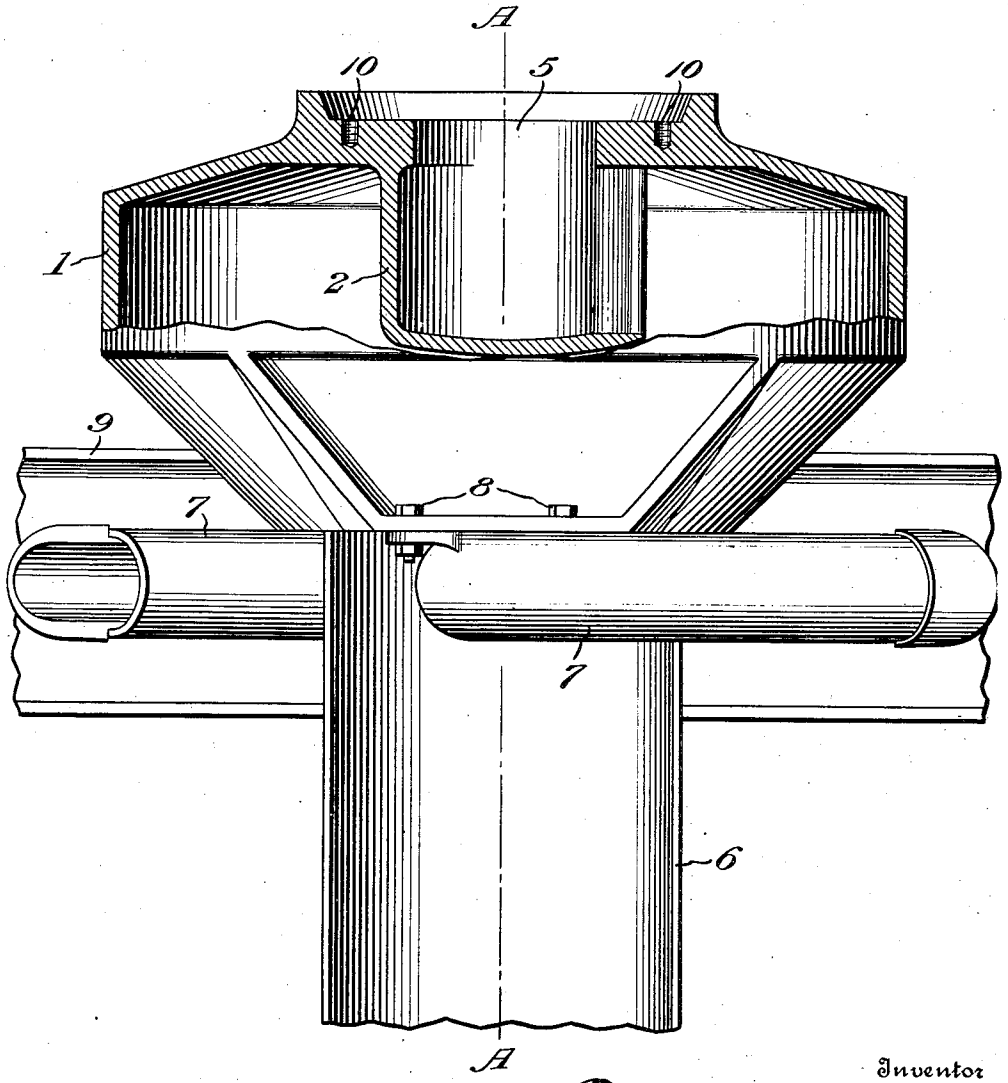
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3 SHEETS—SHEET 2.

Fig. 2.



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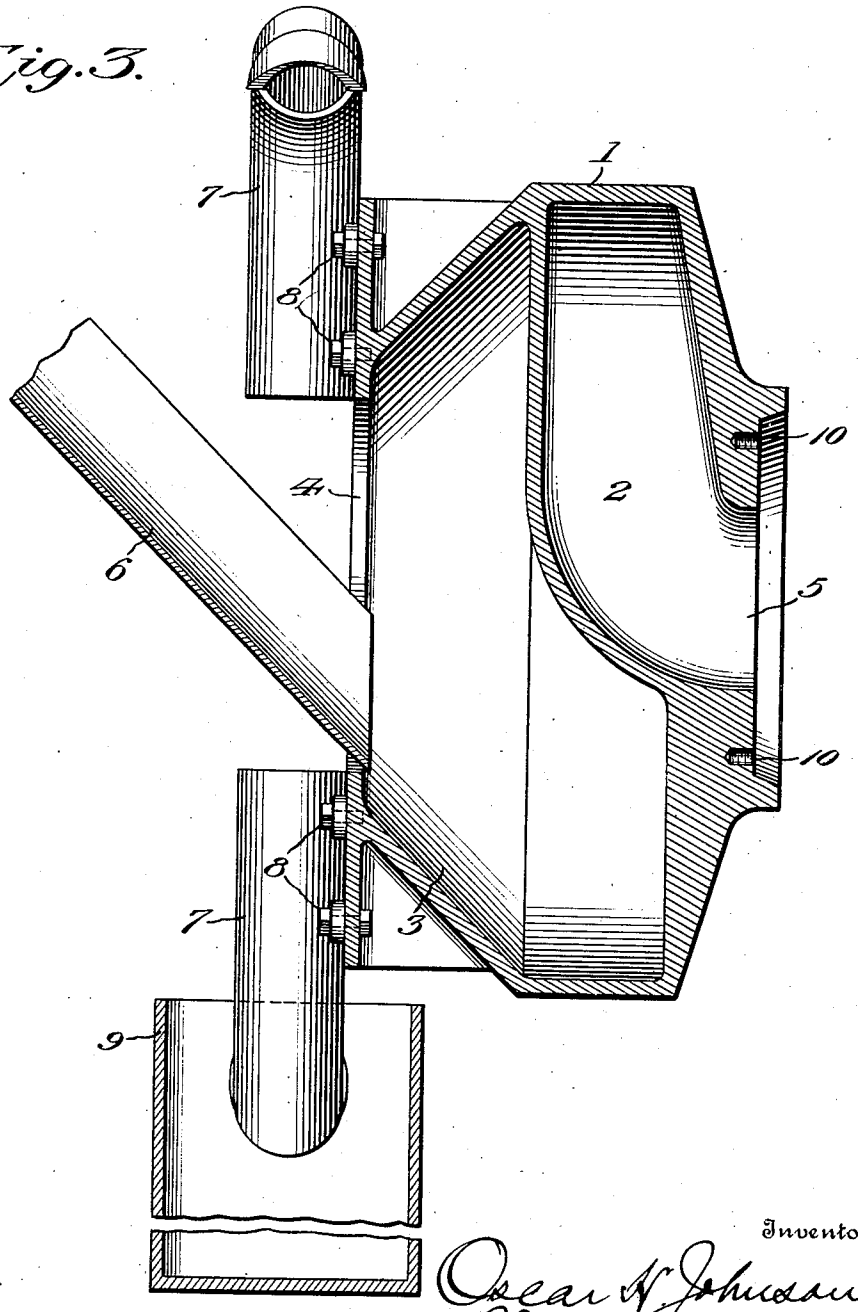
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3 SHEETS—SHEET 3.

Fig. 3.



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UNITED STATES PATENT OFFICE.

OSCAR H. JOHNSON, OF DENVER, COLORADO, ASSIGNOR TO THE MINE & SMELTER SUPPLY COMPANY, OF DENVER, COLORADO, A CORPORATION OF COLORADO.

ROTARY DRUM-FEEDER.

1,284,700. Specification of Letters Patent. Patented Nov. 12, 1918.

Application filed December 5, 1917. Serial No. 205,522.

To all whom it may concern:

Be it known that I, OSCAR H. JOHNSON, a citizen of the United States, residing at the city and county of Denver and State of Colorado, have invented certain new and useful Improvements in Rotary Drum-Feeders, of which the following is a specification.

My invention relates to an improvement in rotary drum feeders for ball or tube mills, or the like.

My present invention comprises one or more tubular, spiral scoops or conduits detachably secured to the outer end of a rotary drum feeder, in position to scoop the material to be crushed or ground from a trough or receptacle, whence it is discharged into a feed-launder at a point just outside of the drum, along with the other material being fed into the drum.

Among other advantages of such a construction may be mentioned the following:—

First, that the coarse new feed and the returned oversize become more or less mixed before entering the drum-feeder, and are carried through the drum-feeder much more readily than when they are mixed after entering the latter.

Second, in my invention there is no peripheral opening in the drum-feeder to permit material to escape, as in constructions hitherto employed, which has been an objectionable feature on account of the spilling of coarse feed from the scoop.

Third, my improved tubular spiral scoops are capable of being detached, and the same drum-feeder can be used without them when it is not required to transmit any returned over-size for re-grinding or re-crushing.

Fourth, any desired radius or length of spiral conduit can be used on the same drum-feeder by employing different lengths of conduit.

Fifth, the conduits of different lengths are interchangeable by bolting to the drum-feeder.

In the accompanying drawings:—

Figure 1 is a view in end elevation;

Fig. 2 is a top plan view; and

Fig. 3 is a vertical section on the lines A—A of Figs. 1 and 2.

The numeral 1 is a drum-feeder of an approved type, having an internal spiral 2 extending therethrough for conducting material fed into the outer chamber 3, through the central opening 4 in the outer end, to the discharge opening 5 at the inner end into the mill (not shown).

A feed-launder 6 extends and discharges into the outer chamber 3 through the outer opening 4 of the drum.

One or more tubular spiral scoops 7 (two of which are shown) are detachably secured to the outer end of the drum 1 by bolts or other means 8, 8. Where two are used, they are located opposite each other, as shown in Figs. 1 and 3, and adapted to scoop the material from a pit or trough 9, and discharge it by gravity as their inner or discharge ends reach a point somewhere above the feed-launder 6, upon the latter, at a point outside of the drum, where the material thus scooped up mixes with that discharging through the feed-launder, as will be clearly understood, thus mixing the two together before it enters the drum-feeder, so that it is all fed together in mixed form into the mill.

It is understood, of course, the drum-feeder is bolted or otherwise secured to the outer end of a trunnion (not shown) at the inner discharge end 5, as indicated by the screw-threaded orifice 10.

One of the advantages of the tubular spiral scoops is that they are detachable, and consequently may be removed at any time, and the same drum-feeder can then be used when it is not desired to transmit any returned over-size for re-grinding or re-crushing.

A construction of this type is easily made and assembled, and gives the required results with the several advantages hereinbefore set forth, while at the same time obviating the disadvantages therein specified.

I claim:

1. The combination with a rotary drum feeder, having an axial inlet and outlet at opposite ends, a stationary feed-launder leading into the inlet, and a scoop attached to the drum and adapted to discharge its contents directly into the launder at a point outside of the drum.

2. The combination with a rotatable drum feeder having openings at opposite ends, and a spiral passageway therethrough, of at least one spiral tubular scoop attached to the outer end thereof in position to scoop material and discharge it outside of the opening into the drum, and a stationary

feed launder extending into the opening in the end of the drum at a point beneath the discharge from the scoop in position to receive the material discharging from said scoop.

3. A rotary drum-feeder consisting of a rotatable body having axial inlet and outlet openings, with a scoop at the outside of the inlet end of said body and adapted for rotation therewith, in combination with a stationary feed launder having a receiving portion within the path of the rotary movement of said scoop, and a portion of said feed launder extending into said rotatable body.

In testimony whereof I affix my signature.

OSCAR H. JOHNSON.