No. 791,425. PATENTED MAY 30, 1905.

A. E. JOHNSON.

PULP DISTRIBUTER.

APPLICATION FILED JUNE 6, 1904.

2 SHEETS—SHEET 1.

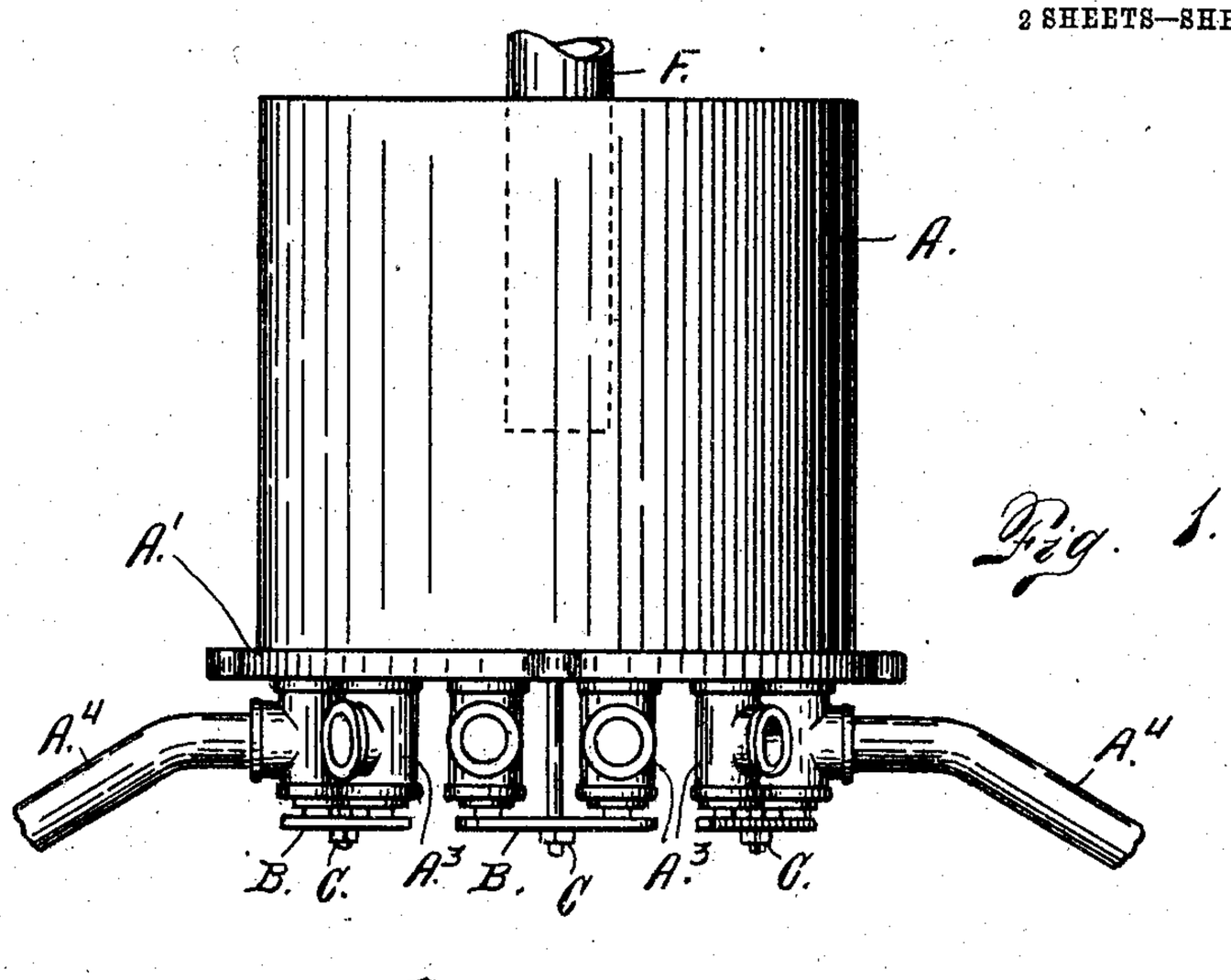

Fig. 1.

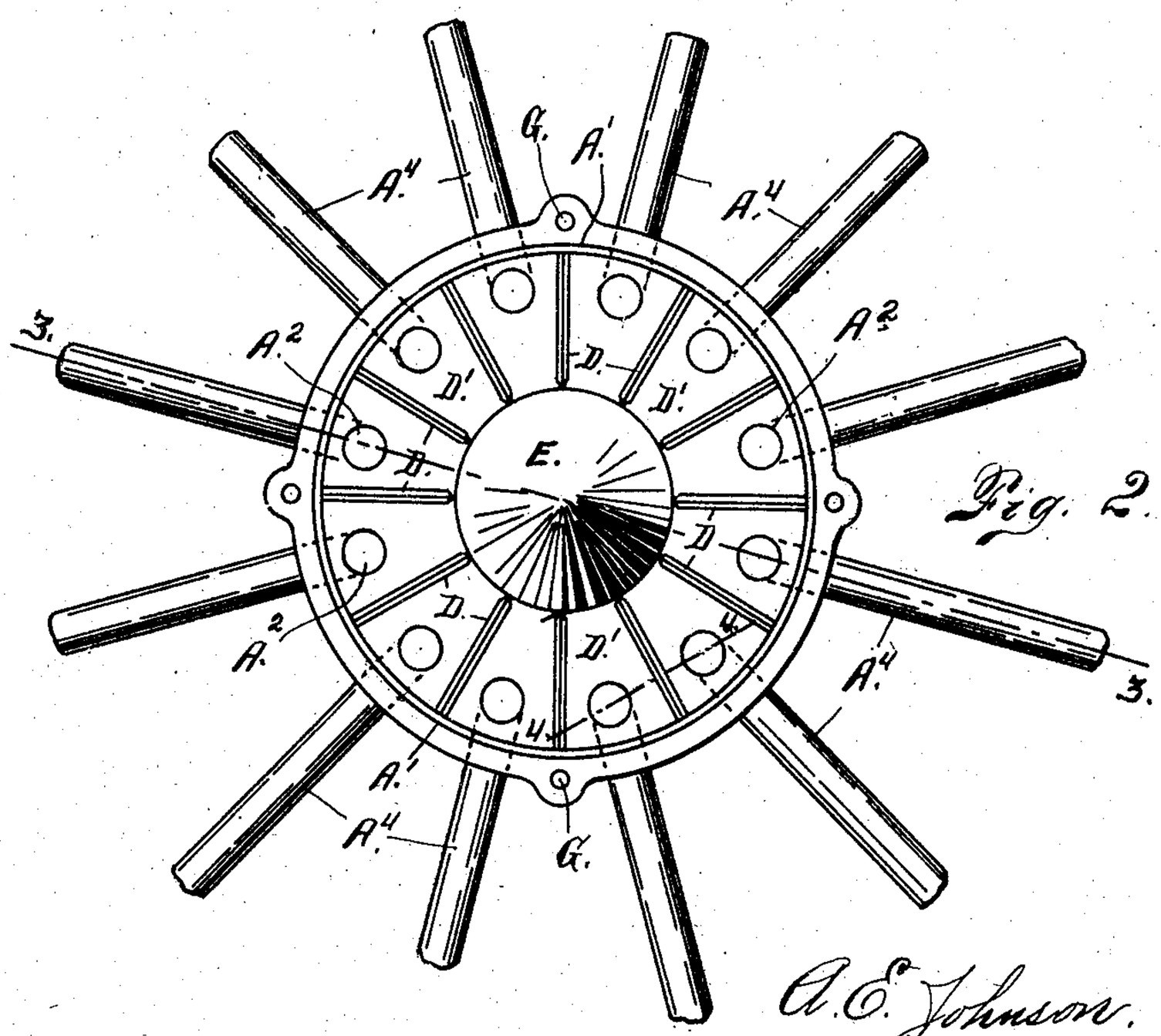

Fig. 2.

Witnesses
Otto E. Hoddick.
Dena L. Nelson.

A. E. Johnson.
Inventor
By
Attorney

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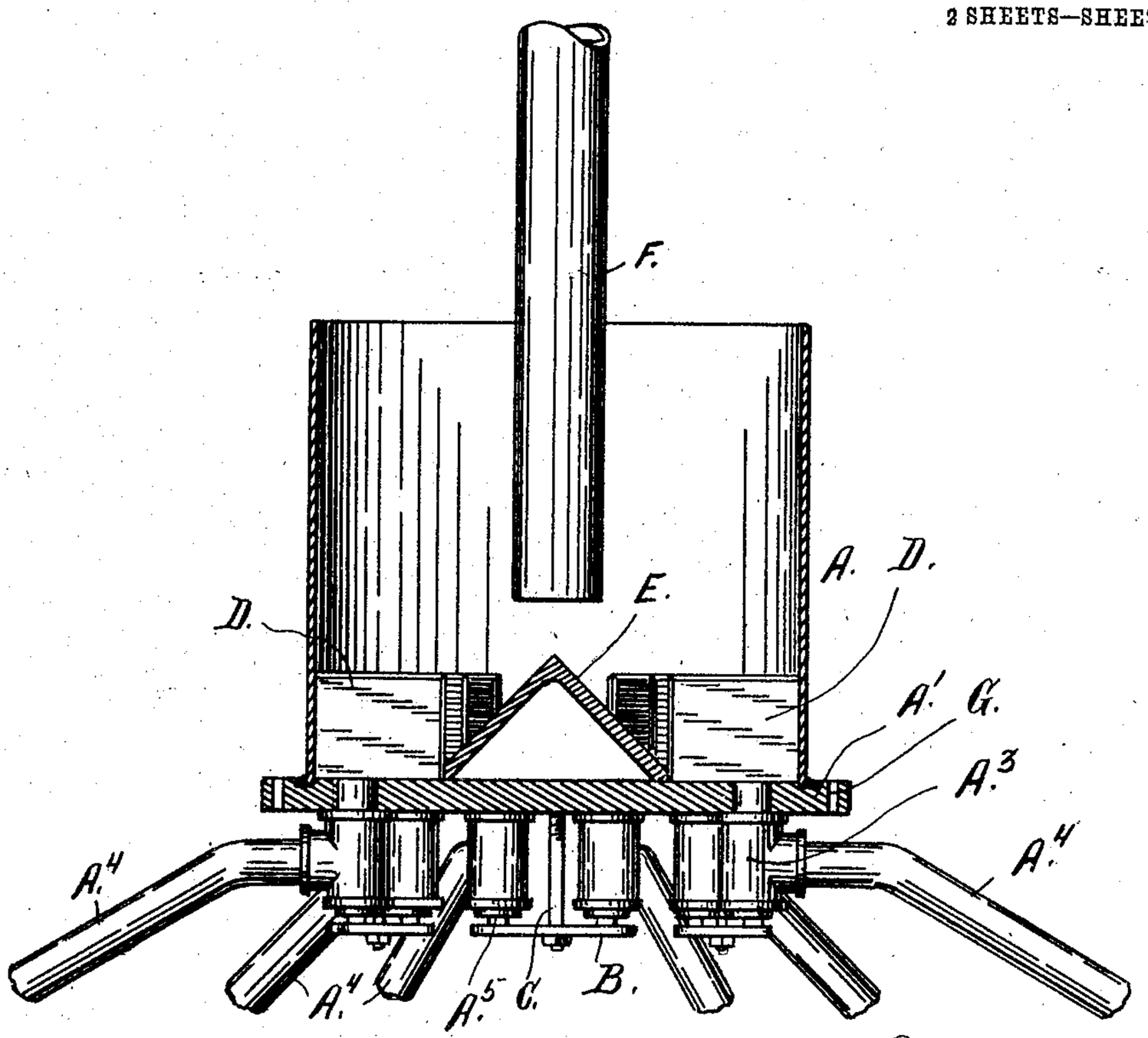

Fig. 3.

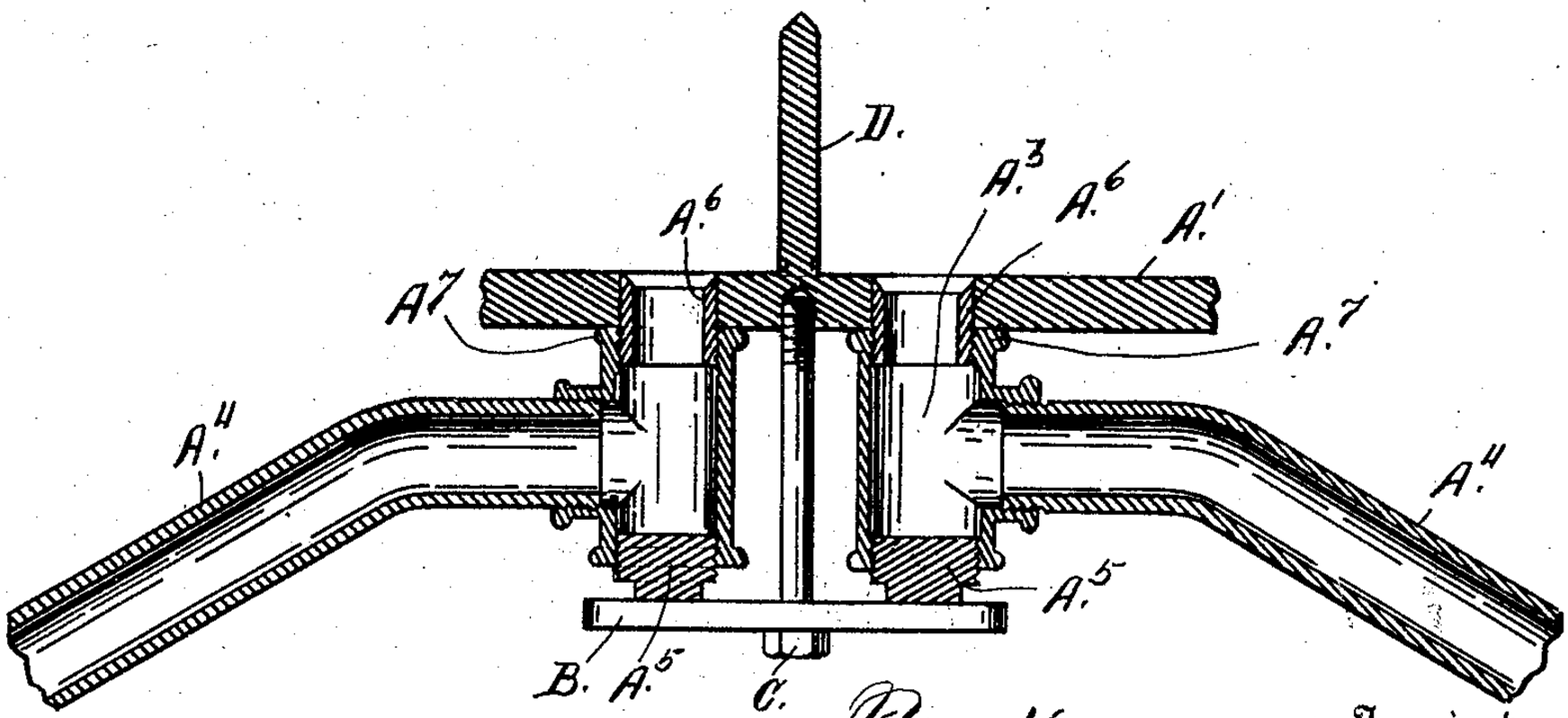

Fig. 4.

Witnesses
Otto E. Hoddick.
Dena S. Nelson.

Inventor
A. E. Johnson.
By A. B. Brien Attorney

No. 791,425. Patented May 30, 1905.

UNITED STATES PATENT OFFICE.

ALFRED E. JOHNSON, OF COLORADO SPRINGS, COLORADO.

PULP-DISTRIBUTER.

SPECIFICATION forming part of Letters Patent No. 791,425, dated May 30, 1905.

Application filed June 6, 1904. Serial No. 211,323.

To all whom it may concern:

Be it known that I, ALFRED E. JOHNSON, a citizen of the United States, residing at Colorado Springs, county of El Paso, and State of Colorado, have invented certain new and useful Improvements in Pulp-Distributers; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in pulp-distributers; and while the invention is adapted for use wherever pulp or similar material is to be distributed or delivered from a central tank or receptacle to a number of different instrumentalities my special object is to provide an apparatus suitable for the distribution of pulp to concentrators in ore-mills or mills where pulverized ore is treated for the purpose of recovering its metallic values.

The term "pulp" as used in this specification means pulverized ore mixed with water in such quantity that the mass is adapted to flow readily for the purposes of treatment on concentrating-tables or other similar devices.

My improved apparatus is adapted to distribute the pulp from a centrally-located receptacle in predetermined or measured quantities to the various concentrating-tables located in the mill and is so constructed that an equal quantity of the pulp may be delivered to each of the tables; and to this end the construction consists of a tank provided with a number of radial partitions surrounding the central portion of the tank, in which is located a removable distributing-cone which fits into the circular space surrounded by the radial partitions. These partitions divide the lower part of the tank or receptacle into a series of compartments of equal size. Openings are formed in the bottom of the tank or receptacle communicating with the several compartments, and a depending T-coupling is connected with each of these openings, from which leads a distributing-conduit. The T-couplings are so connected with the bottom of the tank or receptacle that by loosening the clamping or holding device the coupling may be readily turned in the opening in the bottom of the tank, whereby the direction of the various pulp-distributing conduits may be changed at pleasure. The pulp to be distributed is discharged upon the distributing-cone in the pulp-receptacle from a pipe whose discharge extremity is located directly above the apex of the cone.

Having briefly outlined my improved construction, as well as the function it is intended to perform, I will proceed to describe the same in detail, reference being made to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is an elevation of my improved pulp-distributer. Fig. 2 is a top plan view of the same with the feed-pipe removed. Fig. 3 is a section taken through the pulp tank or receptacle. This section is taken on the line 3 3, Fig. 2, without cutting the pulp-distributing conduits through which the line passes. Fig. 4 is a fragmentary section taken through the bottom of the tank. This section may be said to be taken on the line 4 4, Fig. 2, the parts being shown on a larger scale.

The same reference characters indicate the same parts in all the views.

Let A designate the receiving-tank, which in this case is cylindrical in shape and provided with a bottom A′, having escape-openings A^2, through which the pulp passes to the T-couplings A^3, with each of which is connected a distributing-conduit A^4. The bottom of each T-coupling is closed by a screw-plug A^5, while at the top of the coupling, opposite the screw-plug, is threaded a nipple A^6. This nipple is provided with exterior threads which engage interior threads of the T. The nipple A^6 of each coupling is inserted in and loosely engages an opening A^2 in the bottom of the tank, while the adjacent extremity of the T proper forms a shoulder which engages the lower surface of the tank, as shown at A^7, and limits the movement of the nipple when the latter is inserted in the opening. The T's are held in place on the bottom of the tank by a number of clamping-plates B, each

plate engaging the plugs A^5 of two T's, the plate being held in place by a stud-bolt C, which passes through an opening in the center of the plate and is threaded into the bottom of the tank. When the pulp-distributing conduits are properly adjusted, the stud-bolt C is screwed tightly into place, whereby the T's are held securely in their adjusted position. When it is desired to change the direction of a distributing-pipe A^4, the stud-bolt C may be loosened sufficiently to permit the turning of the T the necessary degree for the purpose, after which the stud-bolt is tightened, whereby the distributing-conduits are securely held in place.

Engaging the upper surface of the bottom of the tank and suitably secured in place is a series of radial partitions D, whose outer extremities engage the vertical wall of the tank and whose lower edges engage the upper surface of the bottom of the tank, dividing the lower portion of the latter into a number of compartments D′ of equal size. The inner extremities of these radial partitions surround a circular space in the center of the tank, in which is located a hollow distributing-cone E, which fits closely within the space surrounded by the said partitions and maintains its position in the tank when the latter is in use. This distributing-cone may, however, be removed at will when for any reason it should be required. The discharge extremity of the feed-pipe F projects into the tank A, occupying a position directly above the apex of the distributing-cone E. The apex of this cone should occupy a position in line with the center of the feed-pipe, whereby as the pulp is discharged upon the cone from the feed-pipe the pulp will pass in equal quantities to all of the surrounding compartments D′, whence it passes by way of the T-couplings A^3 to the distributing-conduits A^4.

From the foregoing description the use and operation of my improved apparatus will be readily understood.

The tank or receptacle A should be centrally located with reference to the concentrating-tables (not shown) to be supplied in the mill and may be supported or suspended at the desired elevation through the instrumentality of rods (not shown) passed through the exteriorly-located opening G in the bottom of the tank, or the openings G may be utilized for the purpose of bolting the pulp-receiving tank to any suitable support. As shown in the drawings, the cylindrical body portion of the tank is made of sheet metal, while the bottom A′ is cast integral with the partitions. The lower edge of the cylindrical body part A engages a circular groove formed in the bottom and is secured by calking. It is evident, however, that the body and bottom of the tank may consist of an integral casting, if desired. The distributing-conduits A^4 are properly adjusted to distribute to the various concentrating-tables, after which the pulp is discharged upon the apex of the distributing-cone E from the feed or supply pipe F, and the pulp is thus distributed in equal quantities to the various compartments D′ and passes thence through the openings A^2 into the T-couplings and thence through the distributing-conduits to the tables.

Having thus described my invention, what I claim is—

1. In a pulp-distributer, the combination with a suitable tank, of a distributing-cone centrally located therein, a number of radial partitions surrounding the cone whereby the lower portion of the tank is divided into the compartments, couplings fitted loosely into openings in the bottom of the tank and communicating with the respective compartments and distributing-conduits connected with the respective couplings and clamping means for supporting the couplings in place.

2. The combination with a suitable receptacle having a centrally-located distributing-cone surrounded by a series of radial partitions, an opening being formed in the bottom of the tank communicating with each compartment formed by the said partitions, the distributing-cone being loosely fitted in the space surrounded by the partitions, whereby it is readily removable, couplings fitted loosely into the openings in the bottom of the tank, and clamping means for supporting the couplings in place.

3. In a pulp-distributer, the combination with a suitable tank provided with a series of radial partitions whose inner extremities are arranged in a circle around the central part of the tank, a distributing-cone loosely fitted within the central space surrounded by the radial partitions, the bottom of the tank being provided with openings communicating with the respective compartments formed by the radial partitions, T-couplings adjustably connected with the bottom of the tank and communicating with the openings in the bottom thereof, clamping means for supporting the couplings in place and distributing-conduits connected with the said couplings.

4. The combination with a suitable tank or receptacle, the tank being provided with a centrally-located distributing-cone, partitions surrounding the said cone whereby the lower part of the tank is divided into a series of compartments, the bottom of the tank being provided with openings communicating with the several compartments, T-couplings whose extremities are provided with nipples fitted loosely into the openings in the bottom of the tank, and suitable means for supporting the T-couplings in place whereby they may be adjusted for the purpose set forth.

5. The combination with a pulp tank or receptacle, a feed-pipe centrally located and projecting into the tank, a distributing-cone centrally located on the bottom of the tank,

its apex being directly beneath the center of the supply or feed pipe, partitions surrounding the distributing-cone, openings formed in the bottom of the tank and communicating with the compartments formed by the partitions, T-couplings provided with nipples loosely fitted into the openings in the bottom of the tank, clamping-plates engaging the lower extremities of the said couplings, and stud-bolts passing through the said plates and threaded into the bottom of the tank whereby the couplings are held in place and capable of adjustment for the purpose set forth.

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

ALFRED E. JOHNSON.

Witnesses:
CLAYTON R. WOODWARD,
G. M. TAYLOR.