

W. A. NEILL.

AGITATOR.

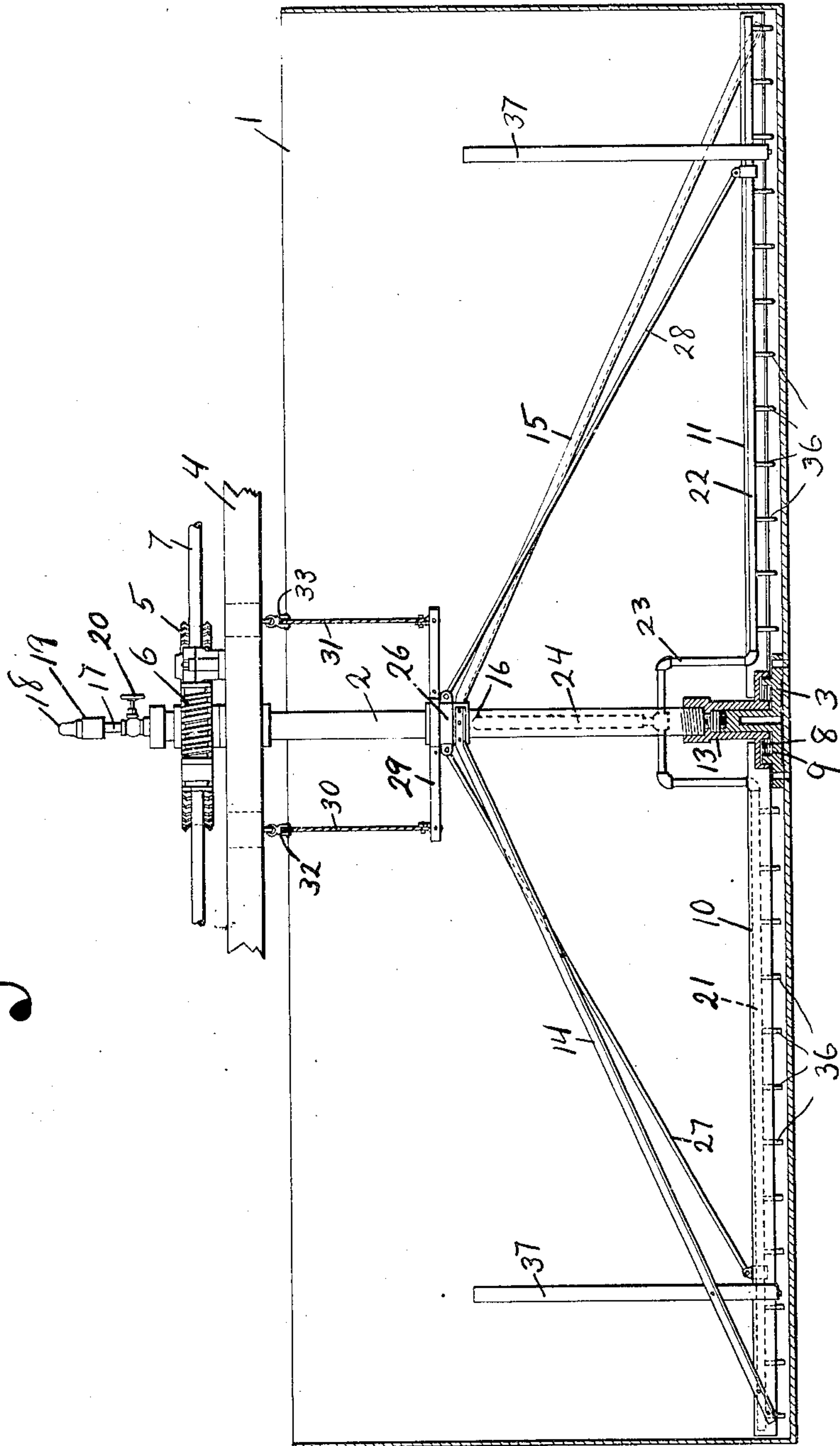
APPLICATION FILED JULY 22, 1907.

915,372.

Patented Mar. 16, 1909.

2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES:
John C. Rennie
Frank E. Dennett

W. A. Neill INVENTOR
BY
G. J. DeWitt ATTORNEY.

W. A. NEILL.
AGITATOR.

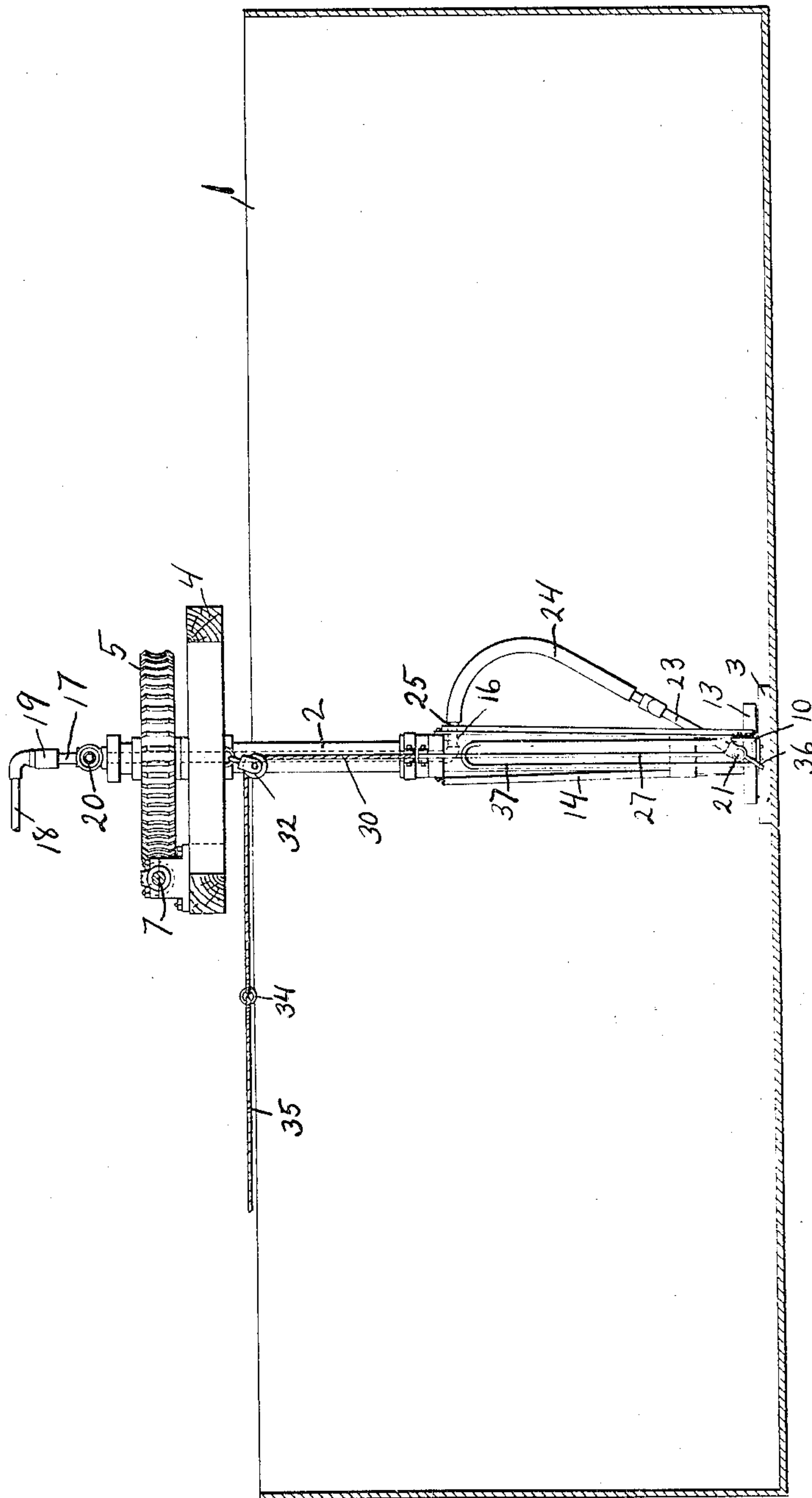
APPLICATION FILED JULY 22, 1907.

915,372.

Patented Mar. 16, 1909.

2 SHEETS—SHEET 2.

Fig. II.



WITNESSES:

John C. Rennie
Frank E. Dennett

W. A. Neill

INVENTOR

BY

G. J. DeWitt

ATTORNEY.

UNITED STATES PATENT OFFICE.

WILLIAM A. NEILL, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO ALLIS-CHALMERS COMPANY, OF MILWAUKEE, WISCONSIN, A CORPORATION OF NEW JERSEY.

AGITATOR.

No. 915,372.

Specification of Letters Patent.

Patented March 16, 1909.

Application filed July 22, 1907. Serial No. 384,873.

To all whom it may concern:

Be it known that I, WILLIAM A. NEILL, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a certain new and useful Agitator, of which the following is a specification.

This invention relates to agitators for cyanid tanks and similar apparatus, and the purpose of the invention is to provide means for readily raising and lowering the air pipe even though the agitating shaft of the apparatus be in motion.

Referring to the drawings which accompany this specification and form a part thereof, and on which the same reference characters are used to designate the same elements wherever they may appear in each of the several views, and which drawings illustrate an embodiment of this invention,—Figure 1 illustrates, partly in section, an agitator showing this invention applied thereto. Fig. 2 is an elevation of the apparatus disclosed by Fig. 1, the tank and some of the other parts being shown in section, the view being taken at right angles to the view as shown by Fig. 1.

Referring to the drawings, the numeral 1 designates a cyanid tank of any approved or preferred construction provided with the vertical shaft 2 supported upon the bottom of the tank by the step bearing 3, the upper end of the shaft being steadied in the frame work 4, and being provided with the worm-wheel 5 adapted to be acted upon by the worm 6 upon the shaft 7, the shaft being adapted to be connected with any convenient or suitable form of actuating mechanism, not shown.

The numeral 8 designates mercury placed in a receptacle 9 formed in the lower part of the step bearing, which forms a seal to prevent grit from gaining access to the bearing proper.

Secured to the lower end of the shaft 2 are the radially projecting stirring arms 10 and 11 which are formed of angle iron secured to the sleeve 13 upon said shaft and braced and supported by the braces 14 and 15.

The shaft 2 is hollow and is provided in its side with an aperture 16. A pipe 17 is extended down through said hollow shaft, being connected with an air supply pipe 18 by

a coupling 19 permitting rotation of the pipe 17 with respect to the pipe 18, a stop valve 20 being provided by means of which the flow of air through pipe 17 may be controlled.

Pipes 21 and 22 extend parallel with arms 10 and 11 and are adapted to be supported thereby within the angles of said arms. Said pipes are connected by the inverted U-shaped coupling member 23, with which is connected a flexible pipe 24 which is placed in communication with the pipe 17 within the shaft 2 by way of the aperture 16 and the nipple 25 which extends therethrough.

The numeral 26 designates a sleeve upon the shaft 2 from which extend rods or guys 27 and 28, these guys being attached respectively to pipes 21 and 22, whereby said pipes may be lifted bodily by vertical movement of the collar 26. This vertical movement is provided for by the yoke 29 which rotatably engages with the collar 26 and to which are secured the hoisting ropes 30 and 31 which pass over the pulleys 32 and 33 fixed to the frame work 4, said hoisting ropes for convenience being led to a ring 34 from which ring a single rope 35 leads to the hoisting drum or to any convenient point for operation.

The air pipes 21 and 22 are supplied with nipples 36 through which the air is discharged into the material contained in the tank.

The numeral 37 designates two U-shaped guides which are secured to the agitating arms 10 and 11 and which may also be secured to the braces 14 and 15. The purpose of these guides is to retain the pipes 21 and 22 in vertical alinement with the agitator arms 10 and 11.

The function and operation of the apparatus is as follows: When it is desired to raise the air pipes 21 and 22, it is only necessary to actuate the rope 35, and the shaft 2 and arms 10 and 11 may be either in motion or at rest. When it is desired to lower the air pipes from their elevated position, it is simply necessary to slack away on rope 35 until they have settled by their own weight onto the agitator arms 10 and 11, without regard to whether the arms are in motion or are at rest. Before this invention it was necessary to bring the shaft and

arms to rest before the position of the air pipes could be altered, which resulted in much vexatious delay and inconvenience.

What I claim is,—

- 5 1. The combination with a tank of a rotatable shaft provided with stirring arms supported therein, means for rotating said shaft, air pipes adapted to discharge air in said tank, an air pipe connected with said air
10 pipes by a connection which permits said air pipes to be moved vertically in said tank, and means secured to said air pipes for raising or lowering the same with respect to said stirring arms, said air pipes being rotatable
15 with respect to said raising or lowering means.
2. The combination with a tank of a ro-

tatable shaft mounted therein and provided with stirring arms, means to rotate said shaft, guides carried by said stirring arms, air pipes extended within said guides, 20 a yoke secured to said air pipes for raising or lowering said pipes, said pipes being rotatable with respect to said yoke, and means for supplying air to said air pipes while permitting the rotation thereof. 25

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

WILLIAM A. NEILL.

Witnesses:

H. C. CASE,

FRANK E. DENNETT.