

No. 834,088.

PATENTED OCT. 23, 1906.

C. VOELKER.
LEACHING TANK.

APPLICATION FILED MAR. 6, 1906.

Fig. 1

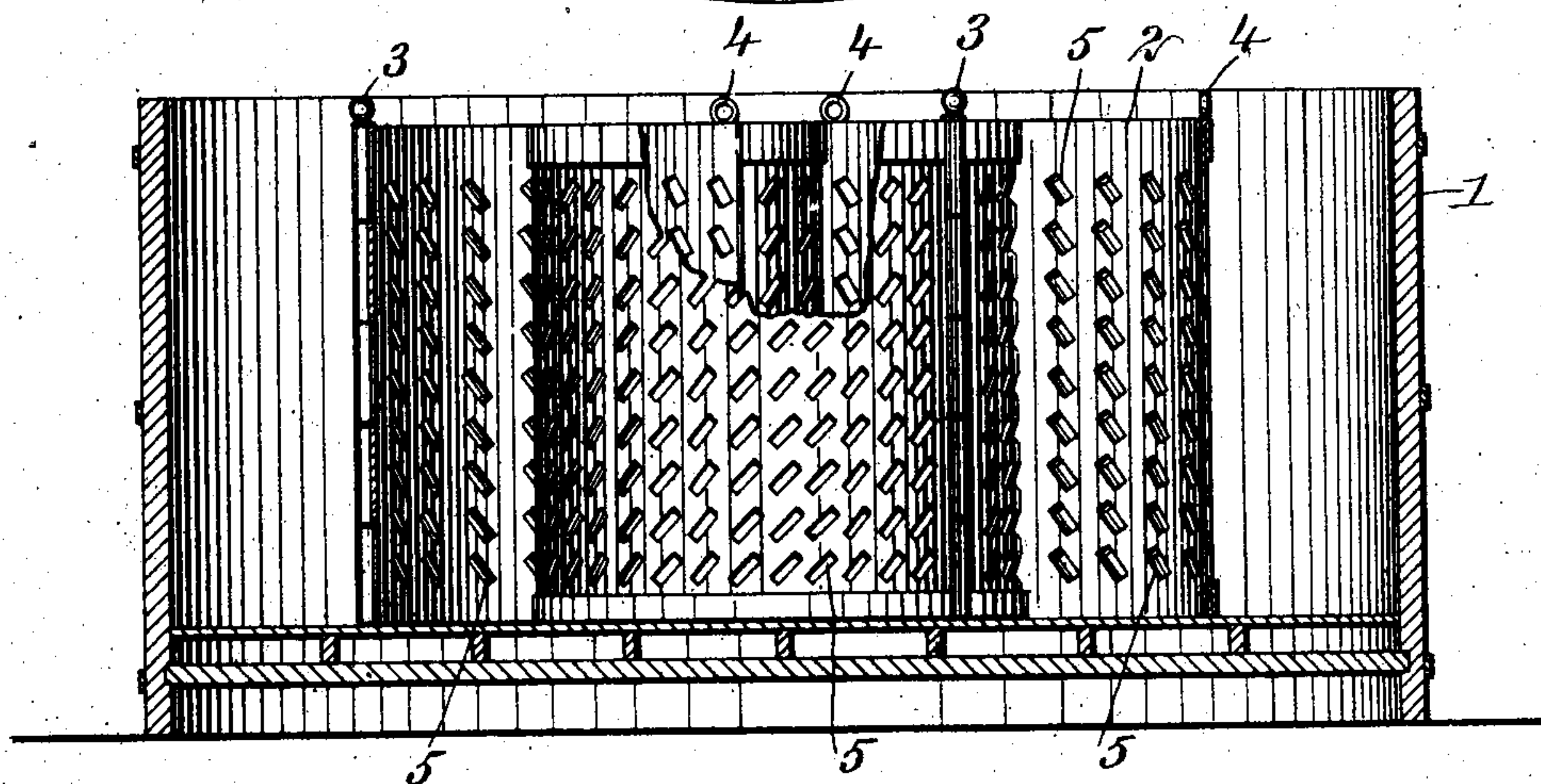
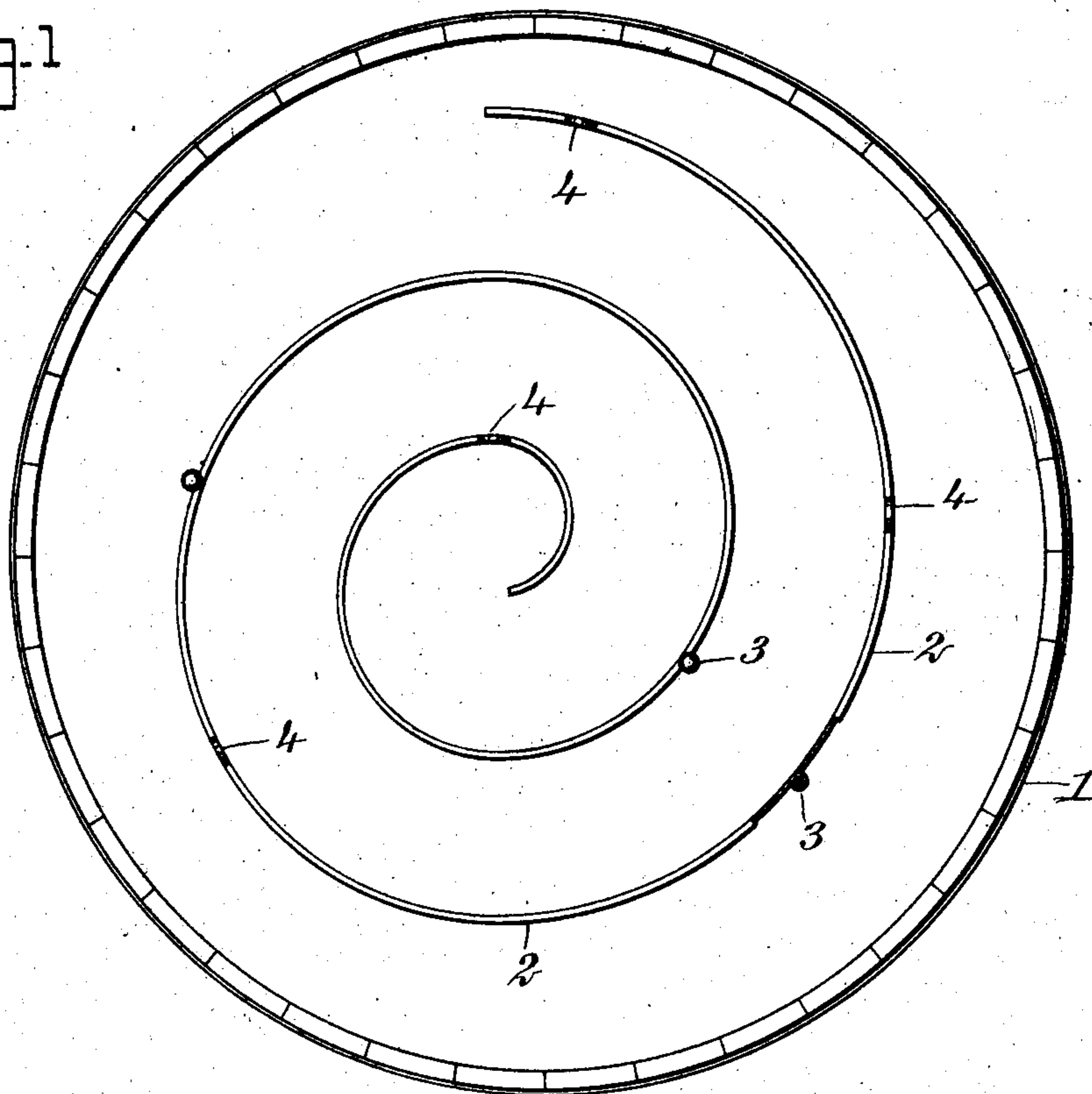


Fig. 2

WITNESSES:

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CHRISTOPHER VOELKER, OF HELENA, MONTANA.

LEACHING-TANK.

No. 834,088.

Specification of Letters Patent.

Patented Oct. 23, 1906.

Application filed March 6, 1906. Serial No. 304,485.

To all whom it may concern:

Be it known that I, CHRISTOPHER VOELKER, a citizen of the United States, and a resident of Helena, in the county of Lewis and Clarke and State of Montana, have invented a new and Improved Leaching-Tank, of which the following is a full, clear, and exact description.

This invention relates to improvements in leaching tanks or apparatus for pulp, the object being to provide in the leaching-tank a simple and novel device to prevent the packing of the pulp, thus permitting a free circulation of the leaching liquid.

I will describe a leaching-tank embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both the figures.

Figure 1 shows in plan a leaching apparatus embodying my invention, and Fig. 2 is a sectional elevation thereof.

Referring to the drawings, 1 designates a tank, removably placed in which is a distributing plate or coil 2 of spiral form and consisting of any suitable material—such, for instance, as sheet metal, prepared felt sheeting, or the like—not acted upon by acids or other liquids. The spiral coil is made in a plurality of sections hinged together, as here shown, by means of rods 3, which pass through socket members formed in adjoining ends of the sections. These rods may be readily drawn out when it is desired to remove a section. On the top edge of the spiral coil are eyes 4, in which hooks or similar devices may be engaged when it is desired to remove the coil 2 from the tank. The coil 2 serves as a medium to guide the leaching agent along its sides up or down, as the case may be, through the tailings, slimes, or other matter subject to extraction, and to permit the leaching liquid to pass into the pulp the coil is provided with perforations 5, which are preferably in the form of slots arranged at an angle. The introduction into any leaching-tank of this spiral will keep the pulp from packing in the tank, which has heretofore been a deterrent to free and quick percolation, talcose and other heavy matter that were part of the contents of the tank settling and packing almost solid before the leaching was fully effected. In common leaching-

toward the center, reaching a maximum there, the section near the staves only remaining sufficiently buoyant to allow the insertion of a rod or pole to reach the filtering-cloth without exertion, whereas the inner part of the tank contents have solidly settled and will in cases only give way to a crow-bar or similar instrument. The spiral will overcome this difficulty by serving as a system of staves inside the tank and while taking up little space will support the pulp, keeping the same loose and mellow. The leaching percolation penetrates both ways, from inner to outer circles, and vice versa, whereby the liquids of extraction can be readily drawn off and others substituted sufficiently to exhaust the ore without hindrance.

The spiral should be proportional for different sizes of tanks by lengthening the outer curves for tanks of larger diameter, the curls running parallel, at best three feet part. Tanks with inclined filters need spirals fitted to suit the incline. The apparatus can remain in the tanks, and thus serve as a curved sluice while washing out the finished pulp, or be raised above the pulp by hooks engaging in the eyes 4, as before mentioned. Preferably the spiral will be coated with a suitable paint, especially when the coil is of steel, so as to preserve the same from decay. By arranging the slots 5 at an angle the course of the liquids will not be impeded.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In combination with a leaching-tank, a spirally-disposed distributing-plate therein.

2. In combination with a leaching-tank, a spirally-disposed distributing-plate consisting of a plurality of detachably-connected sections.

3. In combination with a leaching-tank, a spirally-disposed distributing-plate having perforations.

4. In combination with a leaching-tank, a spirally-disposed distributing-plate therein having slots arranged at an obtuse angle.

5. In combination with a leaching-tank, a spirally-disposed distributing-plate therein, and means on said plate for engaging with a lifting device.

6. In combination with a leaching-tank, a spirally-disposed distributing-plate therein having eye members on its upper edge.

7. In combination with a leaching-tank, a spirally-disposed distributing-plate therein,

the said plate consisting of detachably-connected sections, and eye members on the upper edge of said plate.

8. In combination with a leaching-tank, a
5 spirally-disposed distributing-plate therein consisting of connected sections, the said plate being perforated, and eye members on the upper edge of the plate.

9. In combination with a leaching-tank, a
10 spirally-disposed distributing-plate consist-

ing of sections, socket members formed on engaging ends of the sections, and rods engaging in said socket members.

In testimony whereof I have signed my name to this specification in the presence of 15 two subscribing witnesses.

CHRISTOPHER VOELKER.

Witnesses:

WALTER MATHESON,
H. W. CHASE.