

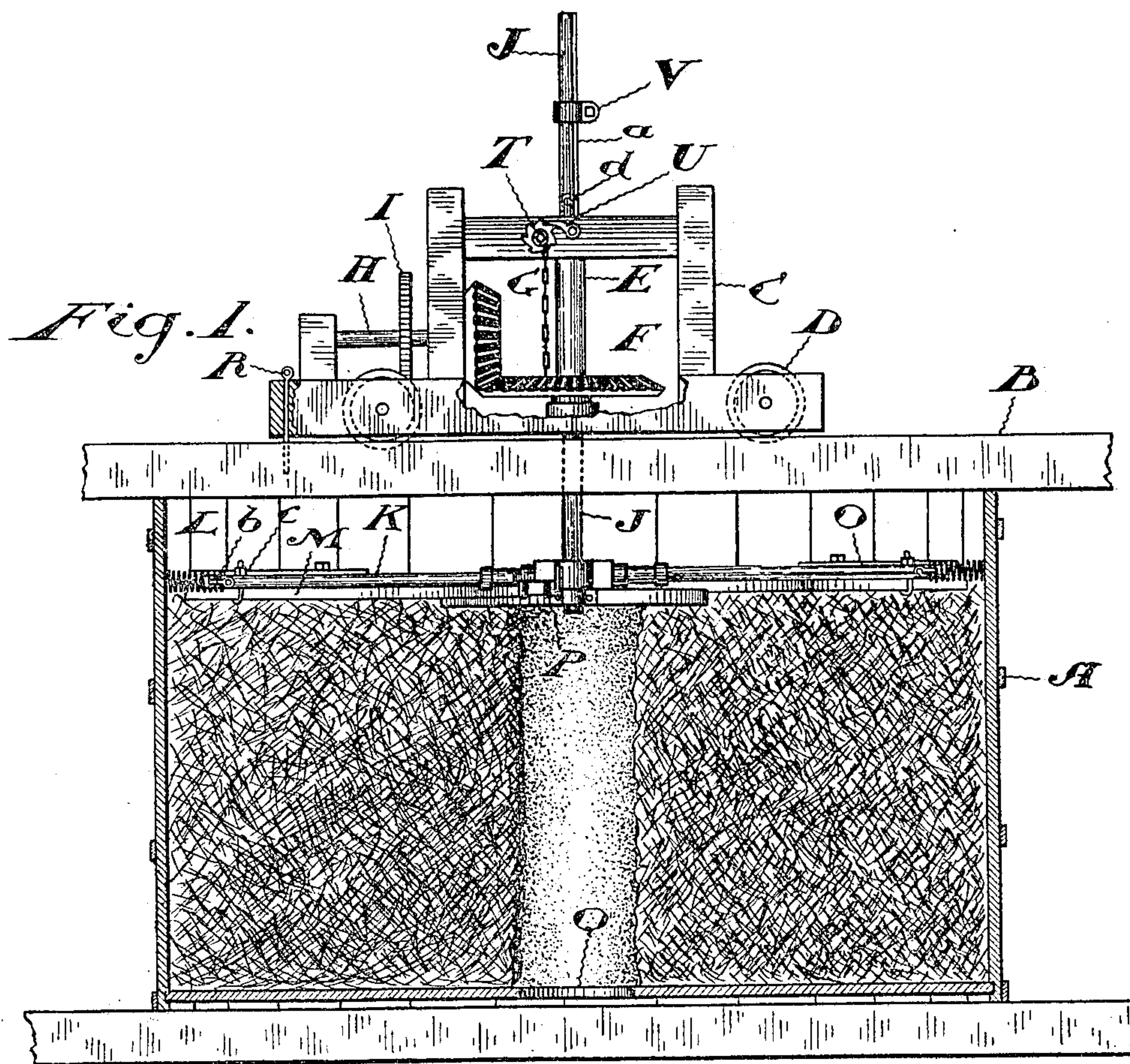
No. 818,752.

PATENTED APR. 24, 1906.

J. C. DUNN.
LEACH PITCHER.

APPLICATION FILED NOV. 9, 1904.

2 SHEETS—SHEET 1.



WITNESSES:

B. J. Jones
A. M. R. R.

INVENTOR.

James C. Dunn
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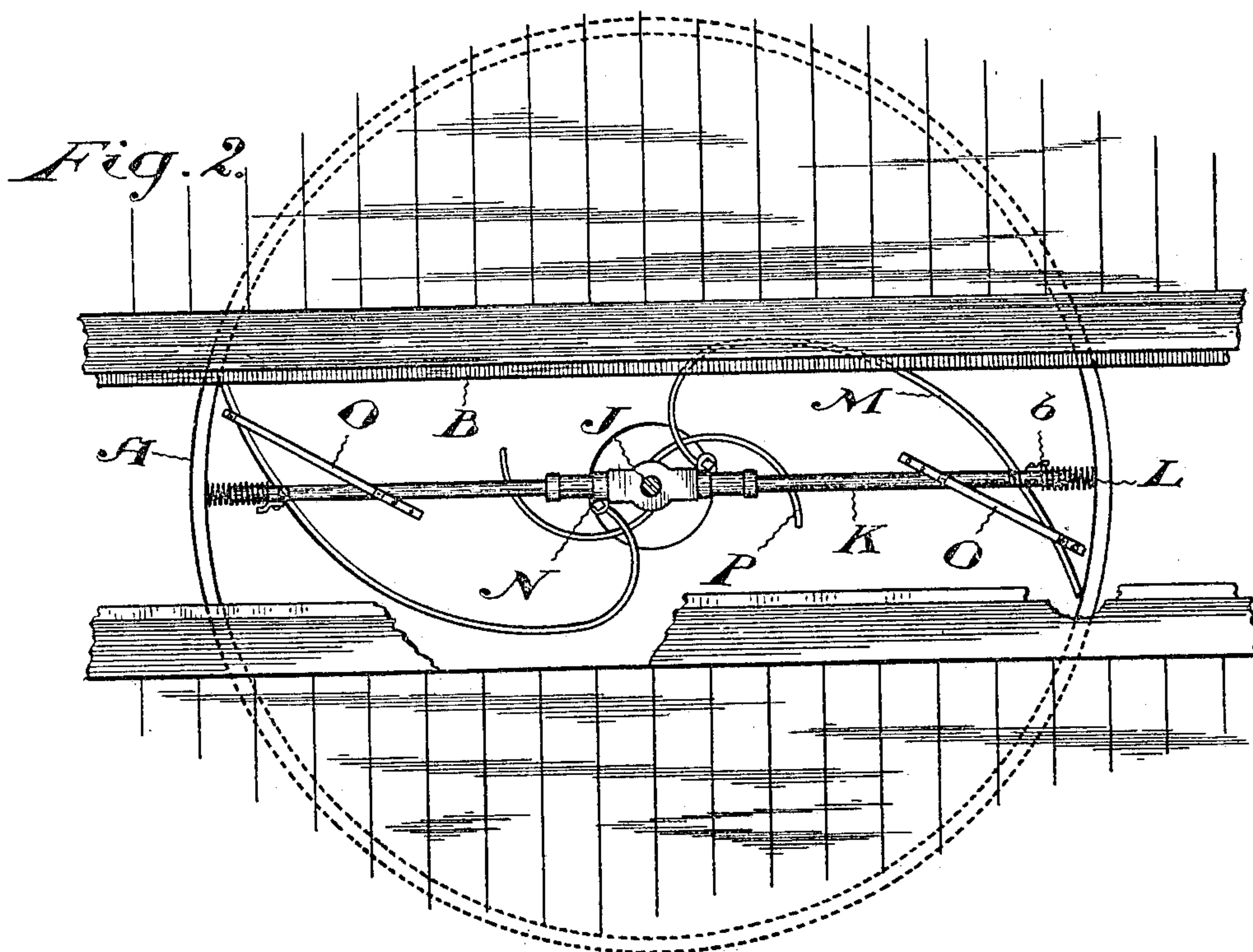
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WITNESSES:
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UNITED STATES PATENT OFFICE.

JAMES C. DUNN, OF ACTON, CANADA, ASSIGNOR TO THE ACTON TANNING COMPANY LIMITED, OF ACTON, CANADA.

LEACH-PITCHER.

No. 818,752.

Specification of Letters Patent.

Patented April 24, 1906.

Application filed November 9, 1904. Serial No. 232,053.

To all whom it may concern:

Be it known that I, JAMES C. DUNN, a resident of the village of Acton, in the county of Halton, Province of Ontario, Canada, have
5 invented certain new and useful Improvements in Leach-Pitchers, of which the following is a specification.

The object of my invention is to devise a leach-pitcher which will dispense with the
10 use of a permanent vertical shaft in the leach-vat and which may be quickly moved from vat to vat to avoid the expense of equipping each vat with a separate pitcher; and it consists, essentially, of a vertical shaft, vertically-movable means for rotating the said
15 shaft without interfering with its freedom of vertical movement, and curved sweeps suitably connected with the lower end of the shaft and adapted when the shaft is suitably
20 rotated to draw the spent tanbark to the center.

My invention further lies in certain other features of construction hereinafter more specifically described and then definitely
25 claimed.

Figure 1 is a sectional elevation of my improved apparatus. Fig. 2 is a sectional plan view with the operating parts removed. Fig. 3 is an enlarged cross-section of the
30 shaft and the sleeve through which it operates.

In the drawings like letters of reference indicate corresponding parts in the different figures.

35 A is a leaching-vat, partly covered in, as shown, and crossed by the timbers B, forming a track on which a car C is adapted to run. This car is provided with the wheels D, running on the timbers B. The car is suitably shaped to support the different operating
40 parts of the apparatus.

E is a sleeve vertically journaled on the car, and F a beveled gear-wheel secured to the sleeve. With this beveled gear-wheel meshes
45 a beveled pinion G, secured to a horizontal shaft H, suitably journaled on the car. To this shaft is secured a sprocket-wheel I, intended to be driven from any suitable shaft journaled in the building parallel with the
50 timbers B. Through the sleeve E extends a vertical shaft J. This shaft is provided with a key-slot *a*, working on feather-keys carried by the sleeve E. (See Fig. 3.) Thus the shaft may move freely up and down, while at

the same time it always has a driving connection with the sleeve, so that it may be rotated whenever the shaft H is set in motion. The lower end of the shaft has secured thereto in any suitable manner the oppositely-extending arms K K. These arms are preferably somewhat shorter than the radius of the
55 vat, and coil-springs L are fitted thereon and suitably held by clamps *b*. These coil-springs extend into contact with the sides of the vat. It is seldom that a vat is truly circular in
60 shape, and these coil-springs accommodate themselves to any irregularities which may exist and insure that the tanbark will be scraped away from the inner wall of the vat. Each arm supports a curved sweep M, preferably
65 shaped as the involute of a circle, as shown. The inner end of each sweep is detachably bolted to a lug N, formed on or secured to the arm. Each sweep toward
70 its outer end passes underneath one of the arms and is secured thereto by means of a clip *c*. A brace O is also suitably secured to each sweep near its point and is also bolted to the arm, several bolt-holes being provided in each brace for adjustable purposes.
75 These braces suitably stiffen and hold in place the free ends of the sweeps. These ends of course must not touch the inside of the vat to avoid binding due to irregularity of the shape of the vat, as already described.
80 85

P P are two short curved sweeps secured to the lower end of the vertical shaft or to the arms in any suitable manner. These extend in substantially the same direction as the longer sweeps. They are, however, set a
85 90 little lower down and serve to scrape the material moved inward by the longer sweeps into the central hole usually left in the tanbark. A hole Q is also left in the center of the bottom of the vat for the exit of the bark.
95 Of course if the sweeps were rotated with their convex sides foremost the material would be moved toward the outside of the vat and the exit-opening would require to be made near the periphery. I find, however,
100 that it is preferable to work the material toward the center.

The car is held stationary over the vat by means of a pin R slipped through a hole formed in one of the said timbers of the car
105 and into a hole formed in one of the timbers B, and the car may be further braced, if necessary, to retain it in position.

When it is desired to eject the spent bark, from a vat, the car C is run along to its proper position over the vat and locked in position. The long sweeps are secured in position and the sprocket-wheel I connected with the source of power. The sweeps are thus rotated over the surface of the tanbark and the latter is ejected down the central hole. As the shaft is free to move vertically, it follows the constantly-lowering surface of the tanbark until the whole is ejected, when the apparatus is stopped. The sweeps are now raised by means of a chain S, wound on a spindle T. This spindle is provided with a squared end for the attachment of a crank-handle and also with a retaining ratchet and pawl U. The lower end of the chain is secured when desired to one of the arms K and passes up through the beveled gear-wheel F. By rotating the spindle T the arms and sweeps may be raised again to the top of the vat, the shaft moving through the sleeve. As it is not possible to leave a wide opening between the timbers B, it is necessary to remove the detachable sweeps. The car may then be moved along to another vat and the sweeps M again connected, when the second vat may be cleared in the same manner as the first.

If it be desired to retain the vertical shaft at any given position for any length of time, I provide a clamp-collar V above the upper cross-piece of the arm of the car. The collar is slipped down into contact with the upper end of the sleeve E, when by tightening up the bolt the collar will be clamped to the vertical shaft and the latter supported as desired.

The advantages of my present device are obvious. In all leach-pitchers with which I am acquainted it has been necessary to have a vertical shaft permanently located in the vat. This is a great disadvantage, as owing to the corrosive nature of the tanning solution it was necessary to make the shaft of brass, a very expensive material for the purpose. With my arrangement no part of the apparatus comes in contact with the tanning-bark until the latter is spent and the corrosive solution entirely drawn off. By using only two long sweeps and making these detachable I am enabled to transport the whole apparatus from vat to vat, thus avoiding the expense of having a separate installation for each vat. Of course it will be understood that the advantages of portability and of having no shaft permanently located in the vat may be attained with the use of any form of sweep to come in contact with and move the spent bark; but I find my particular arrangement of sweeps very desirable, as I am enabled to make the device portable from vat to vat without interfering with the ordinary covering in of the vats.

To make the device suitable for leach-

houses in which the rafters come close to the tops of the leaching-vats, I may find it necessary to joint or hinge the shaft so that when the latter is raised to its highest point, as it must be for moving, the upper part of the shaft may be turned down or otherwise disconnected to enable it to pass under the rafters. In the drawings I show at *d* a hinge-joint on the shaft.

What I claim as my invention is—

1. In a leach-pitcher, the combination of a vat; a track over said vat; a car adapted to run on said track; an upright vertically-movable shaft supported from the car; a sweep secured to the lower end of said shaft; and means carried by the car for rotating the shaft but permitting its vertical movement, whereby the sweep may operate in the vat or be raised out of the vat to permit the car with its connected parts to be moved to another vat.

2. In a leach-pitcher the combination of a suitably-supported upright vertically-movable shaft; an arm secured to its lower end; a coil-spring secured to and projecting beyond the end of the arm; and bark-moving means carried by the said arm, substantially as described.

3. In a leach-pitcher the combination of a suitably-supported upright vertically-movable shaft; an arm secured to its lower end; a curved sweep detachably secured to the said arm; and a short curved sweep connected with the lower end of the shaft, substantially as described.

4. In a leach-pitcher the combination of a suitably-supported upright vertically-movable shaft; an arm secured to its lower end; a coil-spring secured to and projecting beyond the end of the arm; and a curved sweep detachably secured to the said arm, substantially as described.

5. In a leach-pitcher the combination of a suitably-supported upright vertically-movable shaft; an arm secured to its lower end; a coil-spring secured to and projecting beyond the end of the arm; and a short curved sweep connected with the lower end of the shaft, substantially as described.

6. In a leach-pitcher, the combination of a vat, an upright vertically-movable shaft, a sweep secured to the lower end of the shaft, means for rotating the shaft while permitting its vertical movement whereby the sweep may be allowed to follow the varying height of the surface of the contents of the vat or be entirely raised out of the vat to permit the apparatus to be moved to a new vat, and means for holding the shaft at any desired height while permitting its rotation, substantially as described.

7. In a leach-pitcher the combination of a vat; a track over said vat; a car adapted to run on said track; an upright vertically-movable shaft journaled on the car; an arm se-

cured to its lower end; and a curved sweep detachably secured to the said arm, substantially as described.

8. In a leach-pitcher the combination of a
5 vat; a track over said vat; a car adapted to run on said track; an upright vertically-movable shaft journaled on the car; an arm secured to its lower end; a curved sweep detachably secured to the said arm; and a short
10 curved sweep connected with the lower end of the shaft, substantially as described.

9. In a leach-pitcher the combination of a

car; a sleeve journaled thereon and vertically movable above the car; an upright jointed shaft movable on a feather-key through the
15 sleeve; bark-moving means secured to the lower end of the shaft; and means for rotating the aforesaid sleeve, substantially as described.

Acton, Ontario, November 2, 1904.

JAMES C. DUNN.

In presence of—

A. O. BEARDMORE,

W. W. BEARDMORE.