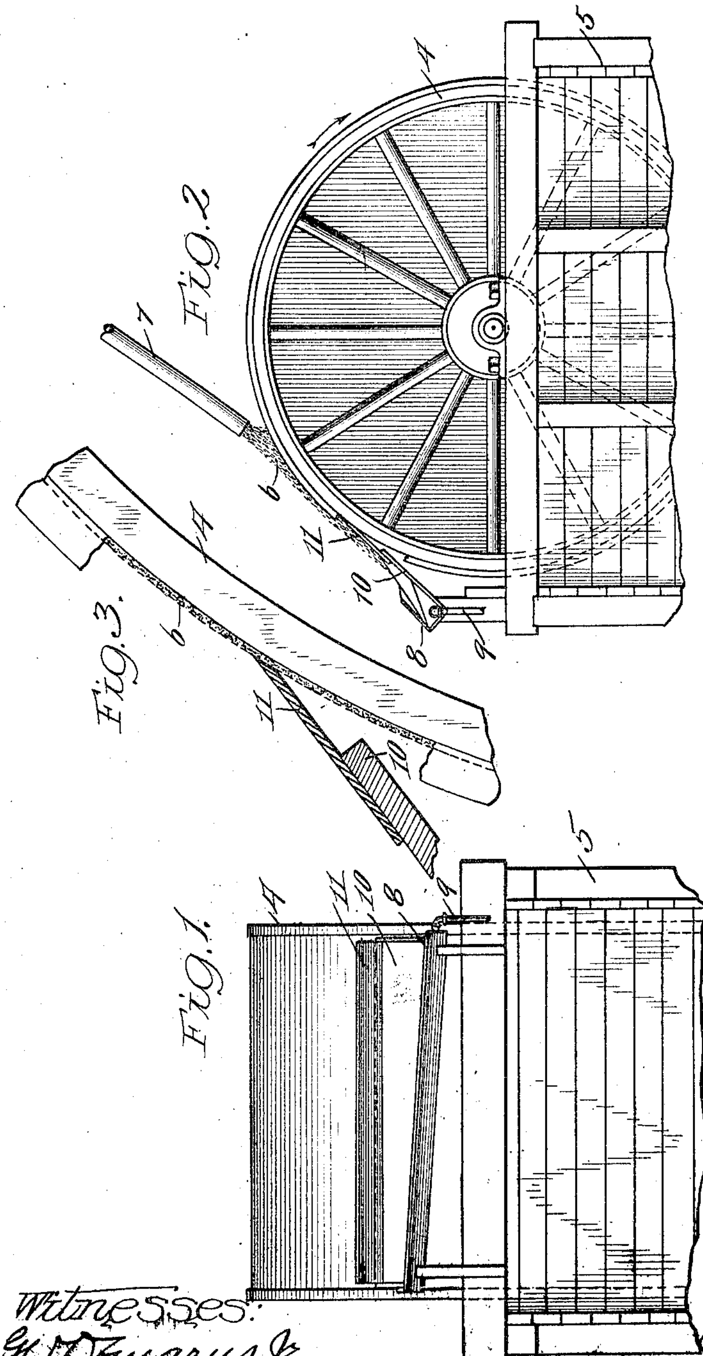
F. G. PECK.

WASH SOLUTION COLLECTOR.

APPLICATION FILED SEPT. 18, 1911.

1,030,918. Patented July 2, 1912.



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UNITED STATES PATENT OFFICE.

FRANK GARDNER PECK, OF COLORADO SPRINGS, COLORADO.

WASH-SOLUTION COLLECTOR.

1,030,918 Specification of Letters Patent. Patented July 2, 1912.

Application filed September 18, 1911. Serial No. 649,861.

To all whom it may concern:

Be it known that I, FRANK GARDNER PECK, a citizen of the United States of America, and resident of Colorado Springs, El Paso county, Colorado, have invented a certain new and useful Improvement in Wash-Solution Collectors, of which the following is a specification.

My invention relates to wash solution collectors and is for the purpose of gathering any surplus water or solution which it is desired to take away from any kind of pulp so that the pulp can be delivered as dry as possible in one place and the solution in another.

My invention is particularly adapted for use in connection with a revolving drum filter. Such filters are extensively used in the milling industry for the purpose of separating precious metal bearing solution from powdered ore. In order to thoroughly accomplish this separation it is necessary to apply to the surface of the revolving drum an excess of wash solution thereby insuring a complete covering of the cake of powdered ore adhering to the surface of the revolving drum. This wash solution may be water or a solution free from precious metals and by an excess of wash solution I mean more solution than is needed to thoroughly displace the precious metal bearing solution contained in the cake of powdered ore adhering to the surface of the revolving drum. This drum is partly submerged in a pulp tank which tank contains the powdered ore with the precious metal bearing solution. Heretofore the excess solution, not being used in the displacement of the precious metal bearing solution contained in the cake of powdered ore, ran off the revolving drum into the pulp tank thereby diluting the contents of this tank and thus lowering the efficiency of the same. In order to avoid this objectionable feature I prevent this excess wash solution from running down into the pulp tank by the application of my wash solution collector. Difficulty was experienced in collecting this excess without injuring the cake but I overcame this difficulty by the provision of a soft flexible lipped trough which is adapted to bear on the cake and prevents the excess wash solution from running down into the trough.

My invention will be more readily understood by having reference to the accompanying drawings in which—

Figure 1 is a side elevation of a revolving drum filter showing my wash solution collector attached thereto. Fig. 2 is a side elevation of the same. Fig. 3 is a detail view.

I have illustrated my invention in connection with a revolving drum filter which can be of any suitable construction. As shown it comprises a revolving drum 4 supported upon and revolving in the pulp tank 5. Means are provided for creating a suction on the surface of the drum in the well known manner. As filters of this type are well known it is not thought necessary to show or describe the same further in detail.

As the drum revolves in the direction indicated by the arrow through the ore bearing solution within the pulp tank, the powdered ore forms as a cake upon the surface of the drum 4 as shown at 6.

In order to more thoroughly separate the precious metal bearing solution from the powdered ore an excess of wash solution is applied to the surface of the cake in any suitable manner for instance by means of the supply pipe 7. Supported upon the tank 5 there is a trough 8 provided with a suitable drain pipe 9. This trough is provided with an upwardly extending portion 10 which lies adjacent to the upwardly moving surface of the drum 4. Mounted upon this extension is a soft flexible lip 11 which bears against the surface of the cake. This lip can be made of rubber or any other soft flexible material and possesses sufficient elasticity so that it bears against the surface of the cake 6 or the drum 5 with sufficient pressure to thoroughly drain all of the excess solution from the cake into the trough 8 and thus prevent this excess from passing into the tank and thereby diluting the solution therein. Furthermore this lip being soft and flexible the cake 6 is not injured in any way.

While I have illustrated and described my invention, with particular reference to the separation and collection of the excess solution from a revolving drum filter it is to be understood that I do not wish to limit myself to such use but that my invention may be employed whenever it is desired to gather any surplus water or solution which is de-

sired to be taken away from any kind of pulp.

What I claim as my invention is:

A revolving drum, means for forming a pulp cake on the surface of said drum, means for applying a solution to the surface of said cake, and a wash solution collector including a soft flexible lip bearing against the upwardly moving surface of the cake for removing any excess of said solution, without injuring the surface of the cake.

Signed by me at Colorado Springs, Colorado, this 9th day of September 1911.

FRANK GARDNER PECK.

Witnesses:
CHARLES V. TURNER,
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