

*T. W. Johnson.*

*N<sup>o</sup> 83,389. Making Extracts. Patented Oct. 27, 1868.*

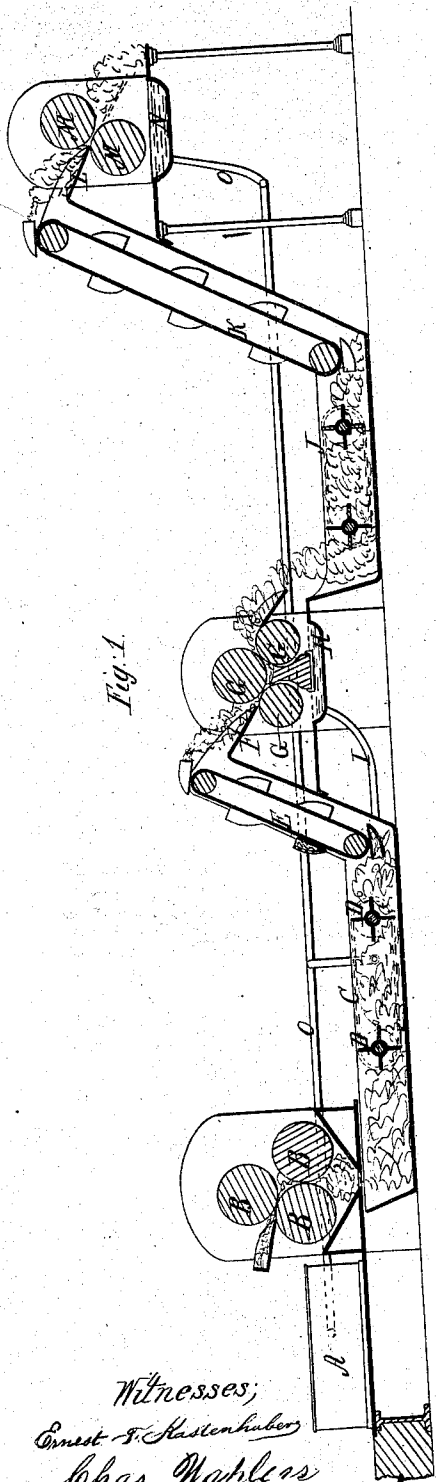


*Fig. 1.*

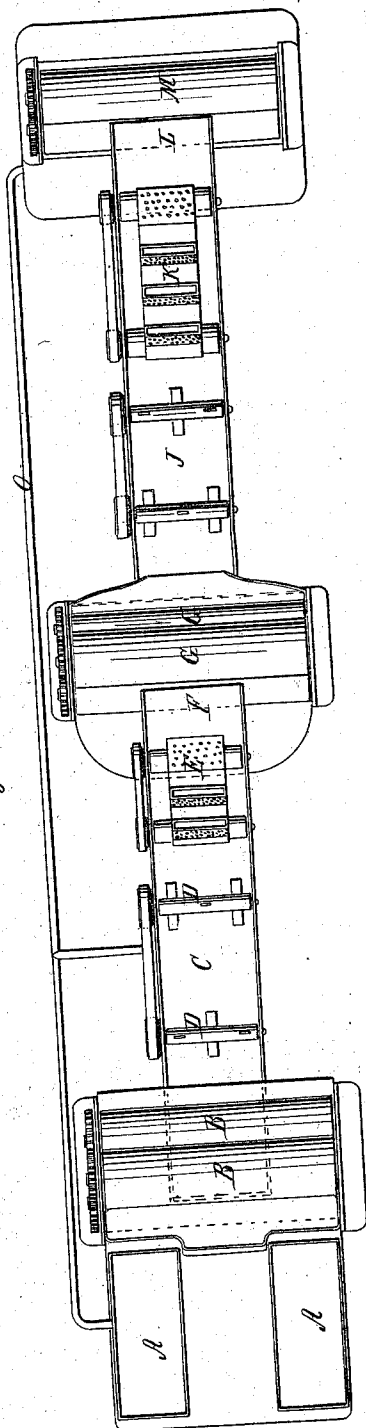


*Fig. 2.*

*Witnesses;  
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# UNITED STATES PATENT OFFICE.

THOMAS W. JOHNSON, OF NEW YORK, N. Y.

## IMPROVEMENT IN APPARATUS FOR MAKING EXTRACTS FROM TAN-BARK

Specification forming part of Letters Patent No. 83,389, dated October 27, 1868.

*To all whom it may concern:*

Be it known that I, THOMAS W. JOHNSON, of the city, county, and State of New York, have invented a new and Improved Apparatus for Making Extracts of Tan-Bark; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which drawings—

Figure 1 represents a longitudinal vertical section of this invention. Fig. 2 is a plan or top view thereof.

Similar letters indicate corresponding parts.

This invention relates to certain improvements on an apparatus for making extracts which I have described in Letters Patent granted to me September 15, 1868.

These improvements consist in the arrangement of an additional or secondary saturating-tank and two sets of squeezing-rollers, in combination with the crushing-rollers, saturating-tank, and elevator, described in my aforesaid patent, in such a manner that the pulp of bark, after having been elevated out of the main saturating-tank, is exposed to the action of a set of squeezing-rollers, and after having passed through said rollers the pulp (which in this process is not yet quite exhausted of its astringent properties) is dumped into the secondary saturating-tank, wherein it is exposed to the action of beaters, so that all the astringent properties still retained by the same are disengaged, and then the pulp is separated from the liquor by means of wire buckets and an elevator, and finally it (the pulp) is passed through the last set of squeezing-rollers, whereby it is squeezed dry and left in a fit condition for fuel.

A A represent the soaking-tanks, which serve to soak the bark in the chip. The chips of bark, after having been well soaked, are passed through between the crushing rollers B, and the crushed or disintegrated bark is dumped into the saturating-tank C. In this tank the bark is exposed to the action of beaters D, whereby the largest portion of the astringent properties contained therein is disengaged and the bark is converted into a pulpy mass. This pulp is automatically carried off from the saturating-tank either by an elevator, E, provided with wire buckets, or simply by an endless apron, and it is dumped on an apron, F, from which it passes through between the first set of squeezing-rollers, G.

By the action of these rollers the liquid adhering to the pulp is squeezed out and caused to trickle down into the receiver H, from which it passes off through the pipe I, which leads back to the saturating-tank. The solid portion of the pulp, after having passed through the squeezing-rollers G, is dumped into the secondary saturating-tank J, wherein it is again exposed to the action of beaters, so that all the astringent properties still retained by the same are finally disengaged. From this secondary saturating-tank the pulp is removed automatically by the action of an elevator, K, with wire buckets, which allow the largest portion of the liquid adhering to the pulp to run back into the saturating-tank. By the action of the elevator the pulp is dumped on an apron, L, which carries the same to the second set of squeezing-rollers, M, which may be made of iron, or of wood covered with hard india-rubber. By the action of these rollers the pulp is squeezed dry, the liquid disengaged therefrom being collected in a receiver, N, from which it discharges through a pipe, O, either into the soaking-tanks A or into the main saturating-tank, while the spent pulp is carried off and used for fuel.

The operation of extracting the astringent properties can be facilitated by heating the liquid in the saturating-tanks by means of steam-coils or otherwise.

By means of this apparatus I have succeeded in disengaging from tan-bark all the astringent properties, or nearly so, and the entire operation is effected with the least possible hand-labor and without the expense and delay of leaching.

I disclaim everything shown and described in the patent of Benjamin Irving, dated April 30, 1867, and numbered 64,322, and also everything shown and described in Letters Patent granted to me September 15, 1868; but,

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

The arrangement of a secondary saturating-tank, J, and two sets of squeezing-rollers, G M, in combination with the crushing-rollers A, saturating-tank C, and elevators E K, all substantially in the manner herein shown and described.

THOS. W. JOHNSON.

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