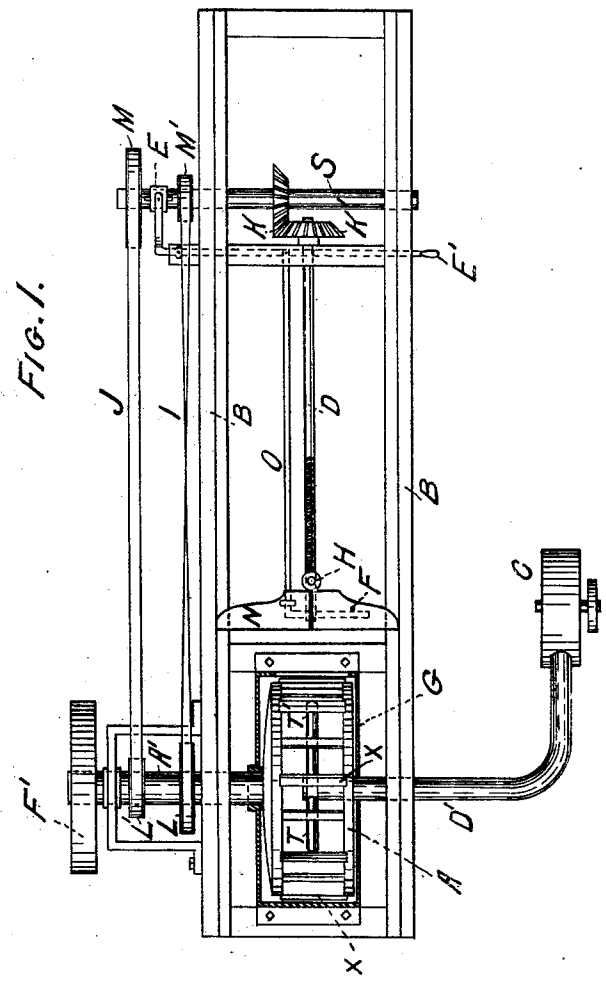
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W. LYON & E. TAYLOR, Jr.

Machine for Pulverizing Grape Sugar.

No. 242,207. **Patented May 31, 1881.**

FIG. 1.



WITNESSES.

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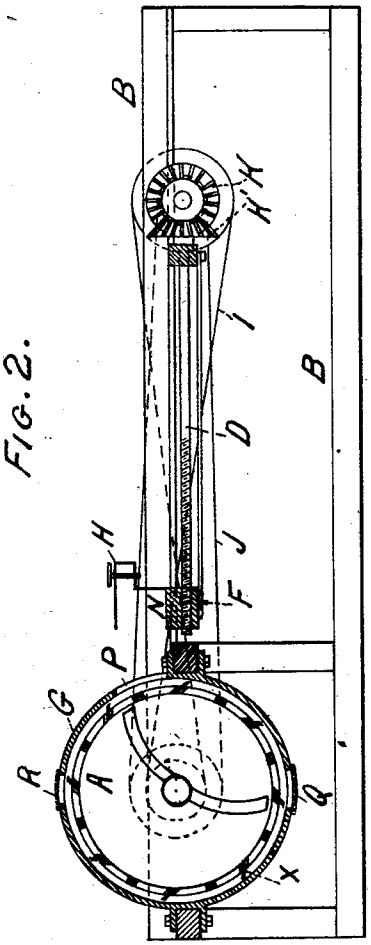
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FIG. 2.



WITNESSES.

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UNITED STATES PATENT OFFICE.

WESLEY LYON AND EDMUND TAYLOR, JR., OF NEW YORK, N. Y.; SAID TAYLOR, JR., ASSIGNOR OF SIX-TWENTIETHS TO JOHN A. LIVINGSTON AND HENRY GOLDTHWAITE, BOTH OF SAME PLACE.

MACHINE FOR PULVERIZING GRAPE-SUGAR.

SPECIFICATION forming part of Letters Patent No. 242,207, dated May 31, 1881.

Application filed September 3, 1880. (No model.)

To all whom it may concern:

Be it known that we, WESLEY LYON and EDMUND TAYLOR, Jr., citizens of the United States, residing at the city of New York, in the county and State of New York, have jointly invented certain new and useful Improvements in Machines for Pulverizing Grape-Sugar, of which the following is a specification.

Our invention relates to machines for pulverizing grape-sugar by means of cutters revolving against the block to be pulverized, and cutting fine shavings therefrom; and it consists of a revolving frame or drum having cutters fixed to its periphery, and a pipe from a blower carrying a blast to it to keep the cutters cool and keep it from clogging. This revolving skeleton drum or frame, with the end of the blast-pipe, is inclosed by a stationary casing having an opening through which to receive the end of the block to be pulverized, and an opening through which to discharge the pulverized article, also an opening through which to examine the interior workings of the machine when required. The main or driving shaft is attached to one end of the revolving frame, and extends far enough to receive a driving-pulley and two pulleys for operating the feed. A sliding platform carrying a clamp is provided to clamp a block of sugar and carry it forward to the cutters. This sliding clamp is moved forward and back by means of a screw, the end of which enters a portion of the sliding platform or a lug thereon passing through it, so that as the screw turns the platform moves, the screw-shaft being held by means of a groove around it resting in a bearing, so that it cannot move longitudinally. A beveled gear is fast to its outer end, which meshes with a beveled gear on a feed-shaft. This shaft is provided with two pulleys, corresponding to the two feed-pulleys on the main shaft. A twist belt from one of the pulleys on the main shaft passes over one of the pulleys on the feed-shaft to give the forward motion to the feed, and a straight belt from the other pulley on the main shaft passes over the remaining pulley on the feed-shaft for the backward motion. A two-sided clutch works on a spline on the feed-shaft while the pulleys run loose, so that when this clutch is meshed with one it moves the feed forward, and when it is meshed with the other it withdraws it by reversing the motion of the shaft. A handle is attached to the clutch so that it can be readily unmeshed or meshed with either pulley. Also, a rod attached to the handle runs forward under the sliding platform, and the end thereof is bent so that a pin placed in the platform will come in contact with it and reverse the machine at the proper time. This pin may be so placed that it will completely reverse the motion or only throw the clutch out far enough to unmesh it from the pulley, leaving the rest to be done by the handle operated by the hand of a person.

The object of our invention is to produce a machine for rapidly cutting and pulverizing grape-sugar, and for other purposes to which it may be adapted. We attain these objects by the mechanism illustrated by the accompanying drawings, in which—

Figure 1 is a plan view of our improved machine for pulverizing grape-sugar, a part of the casing being removed to show the frame carrying the cutters and the position of the blast-pipes within. Fig. 2 is a longitudinal side section of the same.

The machinery is all mounted on a suitable frame, B. A is the revolving frame carrying the cutters. A′ is the main shaft. C is the blower. D is the feed-screw. E is the clutch for reversing or stopping the feed-motion. E′ is the handle to operate the clutch. F is a pin in the sliding platform N, which, brought in contact with the rod O, reverses the feed automatically; or said pin may be so placed as only to unmesh and stop the feed, leaving it to be started again by working the hand-lever E′. G is the outside stationary casing. H is the clamp to hold the block in position on the sliding platform as it is fed forward to the cutters. I is a twist belt running on the pulleys L and M′ to give the forward motion to the feed. J is a straight belt running on the pulleys L′ and M to give the backward motion to the feed. The clutch E slides on a spline on the feed-shaft S, between the pulleys M and M′, said pulleys being loose on the shaft,

so that when the clutch is meshed with the pulley M′ the motion necessary to move the feed forward is given to the shaft S, and when said clutch is meshed with the pulley M the reverse motion is given to the shaft.

K is the beveled gear on the feed-shaft. K′ is the beveled gear on the end of the feed-screw shank. These gears meshing together give the motion to the feed-screw D.

The main shaft A′ carries a driving-pulley, F, and feed-pulleys L and L′.

T T′ are the ends of the branch blast-pipes. T′ conveys the air toward the opening P to keep the cutters cool. T points toward the opening Q, to assist the exit of the pulverized material, as well as to help to keep the machine cool.

The operation of our machine is as follows: A block of sugar to be pulverized is placed upon the sliding platform N, and the clamp H tightened to hold it in position. A belt from the counter-shaft being placed on the blower-pulley and one upon the driving-pulley F′ of the main shaft, the clutch E is meshed with the pulley M′, the block to be pulverized moves forward through the opening P in the casing G, and the revolving frame brings the cutters X against the end of the block, taking off fine shavings, which drop into the interior of the machine, where the agitation caused by the revolving frame immediately pulverizes it, and the blast forces it through the opening Q. When the block has been all or nearly all pulverized the pin F comes in contact with the arm or rod O, and automatically changes the position of the clutch and reverses the feed-motion, moving the platform N back to receive another block to be carried forward and pulverized in the same manner as before.

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

1. In combination with the revolving frame A, carrying the cutters X, the pipes T T′, to conduct the air-blast from the blower and direct it to the proper points in the machine, substantially as and for the purpose set forth.

2. The combination of the blower C, the pipes T T′, the revolving frame A, the cutters X, the casing G, and the shaft A′, carrying the driving-pulley F′ and the feed-pulleys L and L′, substantially as and for the purpose set forth.

3. The combination, with the revolving frame A, carrying cutters X, of the blower C, the screw D, and sliding platform N, substantially as and for the purpose set forth.

4. The combination and operation of the revolving frame A, carrying cutters X, the blower C, pipes T T′, the shaft A′, pulleys F′ L L′, the sliding platform N, clamp H, feed-screw D, gears K K′, feed-shaft S, pulleys M M′, belts I J, clutch E, handle E′, rod O, and pin F, all constructed substantially as and for the purpose set forth.

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EDMUND TAYLOR, JR.

Witnesses:
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