

(No Model.)

W. H. HULL & D. L. SMOKE.

CIDER MILL.

No. 276,413.

Patented Apr. 24, 1883.

Fig. 1.

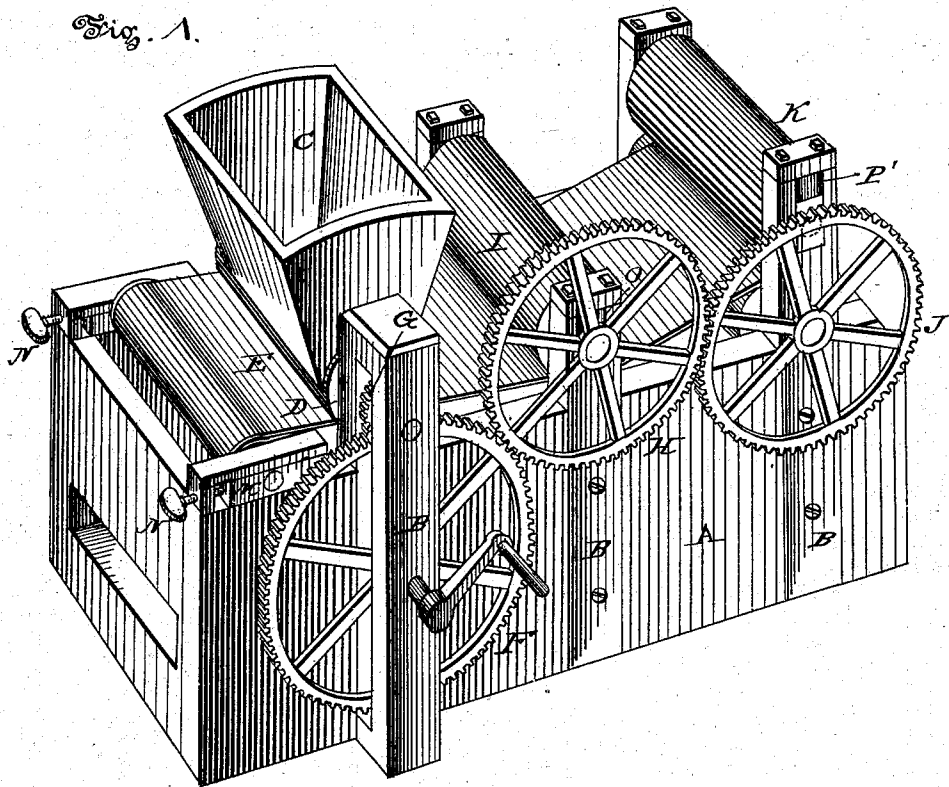
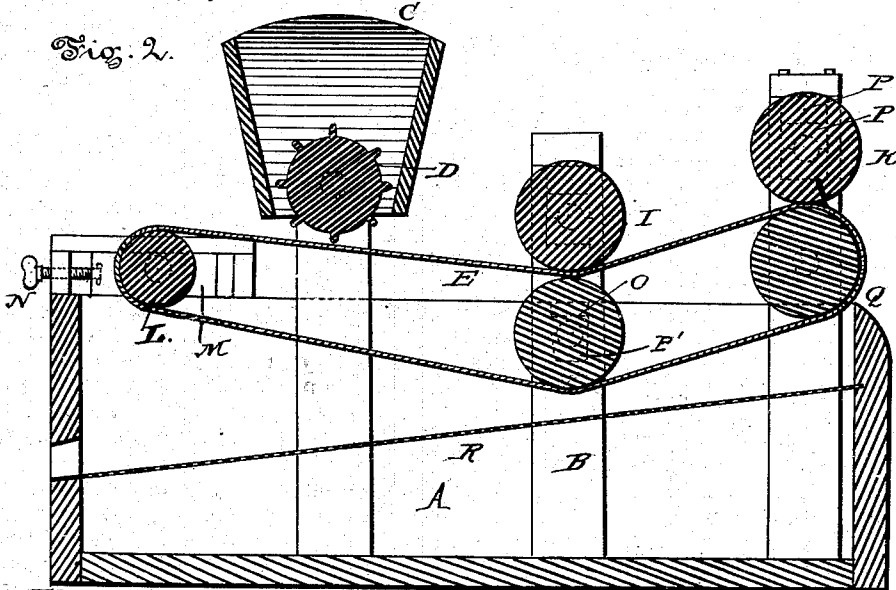


Fig. 2.



WITNESSES:

*Fred. G. Dieterich*  
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INVENTOR,

*Welcome H. Hull*  
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# UNITED STATES PATENT OFFICE.

WELCOME H. HULL AND DAVID L. SMOKE, OF WHITE HALL, VIRGINIA.

## CIDER-MILL.

SPECIFICATION forming part of Letters Patent No. 276,413, dated April 24, 1883.

Application filed March 3, 1883. (No model.)

*To all whom it may concern:*

Be it known that we, WELCOME H. HULL and DAVID L. SMOKE, of White Hall, in the county of Frederick and State of Virginia, have invented certain new and useful Improvements in Cider-Mills; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of our improved fruit grinder and press, and Fig. 2 is a longitudinal sectional view of the same.

Similar letters of reference indicate corresponding parts in both the figures.

Our invention has relation to fruit grinders and presses; and it consists in the improved construction and combination of parts of the same, as hereinafter more fully described and claimed.

In the accompanying drawings, the letter A indicates a rectangular trough, to the sides of which are fastened six (or more or less) uprights, B, forming bearings for the grinding and pressing rollers. A hopper, C, is fastened to one pair of the uprights B, and the sides of the same are inclined toward the middle of the trough, while the grinding roller or rollers D are journaled in the same. The inclined sides of this hopper allow the pomace or vegetable pulp to fall, after it is ground, upon an endless apron, E, which is carried over rollers journaled in the uprights B and in bearings upon the edges of the trough. The grinding-rollers receive their motion from a large cog-wheel, F, journaled upon the side of the trough and connected with the motive power, which intermeshes with a pinion, G, upon the shaft of the grinding-roller, and which, furthermore, intermeshes with and communicates motion to a cog-wheel, H, upon the shaft of one of the presser-rollers I, and through that to another cog-wheel, J, which is fastened upon the shaft of one of the presser-rollers K. The endless apron E is carried over a roller, L, journaled in bearings M upon the edges of the trough, near the end, and passes under the hopper, re-

ceiving the ground pomace, from whence it passes between the presser-rollers I, and from these rollers between the presser-rollers K, and around and under the lower one of the latter, back to the roller L. The bearings of roller L slide in ways upon the edges of the trough, and may be adjusted, so as to take up slack in the endless apron, by means of screws N, passing through the bearings and turning in the ends of the ways, and the bearings for the lower one of the rollers I and the upper one of the rollers K slide in ways O and P in the uprights B, and are pressed against the other rollers by means of strong rubber or steel springs P', so that the pomace, when it passes between the rollers upon the endless apron, will be subjected to a sufficiently heavy pressure to press all the juice contained in it out. The end of the trough near the rollers K forms a beveled and slightly inward bent edge, Q, which bears against the endless apron as it passes around the lower roller K, and serves to scrape off the pomace after it is pressed, allowing it to drop outside the trough.

By the construction of the hopper, the sides being inclined toward the middle of the apron, the pomace will be deposited upon the middle of the same, preventing it from falling off the apron down into the juice; but for further preventing any pomace from falling into the juice we provide an inclined perforated sieve or strainer, R, spanning the full width and length of the trough, and inclined toward the end nearest to the hopper, where it opens, allowing what pomace may fall off the apron to slide into a receptacle, which may be emptied into the hopper, allowing it to fall upon the apron a second time.

By the foregoing description, taken in connection with the accompanying drawings, the operation of our machine will be readily understood without further description.

Having thus described our invention, we claim and desire to secure by Letters Patent of the United States—

As an improvement in fruit grinders and presses, the combination and arrangement of the trough A, having beveled scraping-edge

Q, hopper C, having centrally-inclined sides, grinding-rollers D, presser-rollers I and K, having springs P', cog-wheels F, H, and J, roller L, endless apron E, and inclined sieve or strainer R, all constructed to operate substantially as and for the purpose shown and set forth.

In testimony that we claim the foregoing as

our own we have hereunto affixed our signatures in presence of two witnesses.

WELCOME H. HULL.  
DAVID L. SMOKE.

Witnesses:

R. M. EGGLESTON,  
C. S. JEFFERSON.