

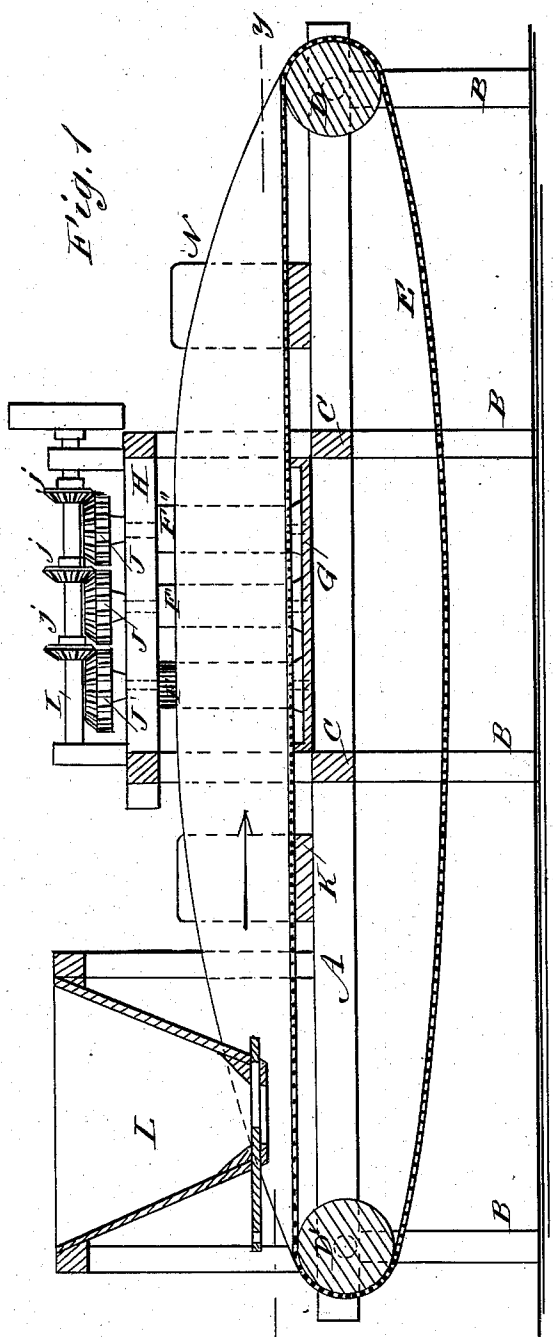
(No Model.)

W. W. BARD.

CIDER MILL.

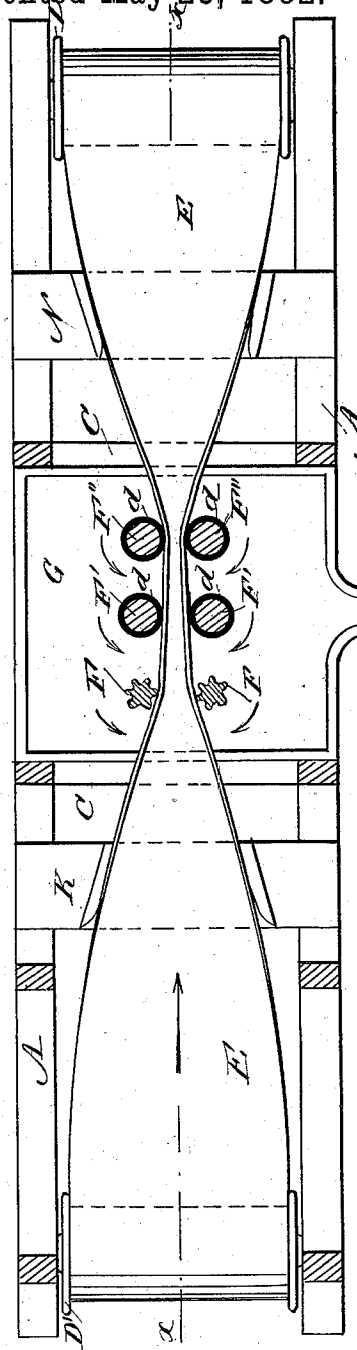
No. 258,349.

Patented May 23, 1882.



WITNESSES :

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INVENTOR:

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UNITED STATES PATENT OFFICE.

WILLIAM W. BARD, OF ELIZABETHTOWN, KENTUCKY.

CIDER-MILL.

SPECIFICATION forming part of Letters Patent No. 258,349, dated May 23, 1882.

Application filed January 31, 1882. (No model.)

To all whom it may concern :

Be it known that I, WILLIAM W. BARD, of Elizabethtown, in the county of Hardin and State of Kentucky, have invented a new and useful Improvement in Cider Mills and Presses, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a sectional elevation of my improved cider mill and press, taken on the line *x x* of Fig. 2; and Fig. 2 is a sectional plan view of the same, taken on the line *y y*, Fig. 1.

This invention consists principally of a series of vertical rollers arranged in pairs and of an endless apron passing between them, and of means of turning up or elevating the edges of the apron, so that it will pass between the rollers in a fold, forming a trough for the apples and pomace or other substance to be crushed and pressed, as hereinafter fully described.

The main frame of the press is composed of the main side bars, *A A*, which are supported upon the legs or standards *B B* and tied together by the cross-pieces *C C*. At the ends of the main frame are journaled the rollers *D D'*, over which the endless apron *E* passes. This apron is made of hair-cloth or other strong and suitable material, and passes from the roller *D'* between the series of vertically-placed compressing-rollers *F*, *F'*, and *F''*, which are arranged in pairs and in such manner that each succeeding pair will be nearer together than the preceding pair. The rollers *F* will be made of solid iron or wood and corrugated, while the other rollers, *F'* and *F''*, may be covered with the covering of rubber *d*, as illustrated clearly in Fig. 2. These rollers are all journaled at their lower ends in suitable bearings formed in or secured upon the tray *G*, and are journaled at their upper ends in the cross-pieces *H* of the frame, and are all revolved with equal speed from the shafts *I I*, which may be provided with the beveled pinions *j j*, which mesh with the bevel-gears *J*, secured upon the upper ends of the shafts or

gudgeons of the rollers or by spur-gear wheels for the same purpose.

In front of the compressing-rollers is placed the trough-shaped guide or saddle *K*, which serves to turn up or elevate the edges of the endless apron, so that the apron will pass between the rollers in a fold, as shown clearly in Fig. 2, so that the apples or other substance to be crushed and pressed fed upon the apron from the hopper *L* will be held in a sort of trough formed by the upturned edge of the apron, and in that manner carried between the crushing and compressing rollers.

In rear of the compressing-rollers is placed the guide or saddle *N*, similar in form and construction to the guide or saddle *K*, which serves to hold the edges of the apron upturned for retaining the pomace after it has passed between the rollers until it reaches near the end of the frame, so that none of the pomace will drop from the apron until it passes the roller *D*, at the end of the frame, where it will all be discharged.

The advantages of this construction of the mill and press lie mainly in the rapidity and thoroughness of its work, due principally to the fact that it is continuous in its action and acts upon a small quantity at a time.

The liquid expressed from the pulp or pomace passes through the endless apron and falls upon the trough or tray *G*, and from thence passes to a proper receptacle.

Though I have shown only three pairs of rollers, it is obvious that a much greater number may be used or a less number, if desired, and not depart from the principle of my invention; and I wish it further understood that I do not confine myself to any special construction of the rollers or means for revolving the same, nor to placing them exactly vertical, as they might be inclined more or less and produce good results.

Instead of using the gearing shown for driving the crushing and compressing rollers, I may use a large spur-wheel on a vertical shaft, geared to work in a pinion on the top of the first pair of rollers, the rollers being all geared together by intermediate gear-wheels; or any other suitable means found most ex-

pedient may be used and not depart from the spirit of my invention.

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

1. In a cider-mill, the combination, with a series of rollers, of an endless apron and means, substantially as herein shown and described, for turning up the edges of the apron to cause
10 it to pass between the said rollers in a fold, as set forth.

2. The series of vertically-arranged rollers placed successively nearer to each other, in

combination with the folded apron E, flanged board K, and the means, substantially as de- 15 scribed, for revolving the rollers as and for the purposes set forth.

3. The combination, with the crushing and compressing rollers and the folded apron E, of the saddle N, substantially as and for the pur- 20 poses set forth.

WILLIAM W. BARD.

Witnesses:

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