E. CURTISS.

Cider-Mill.

No. 160,397. Patented March 2, 1875.

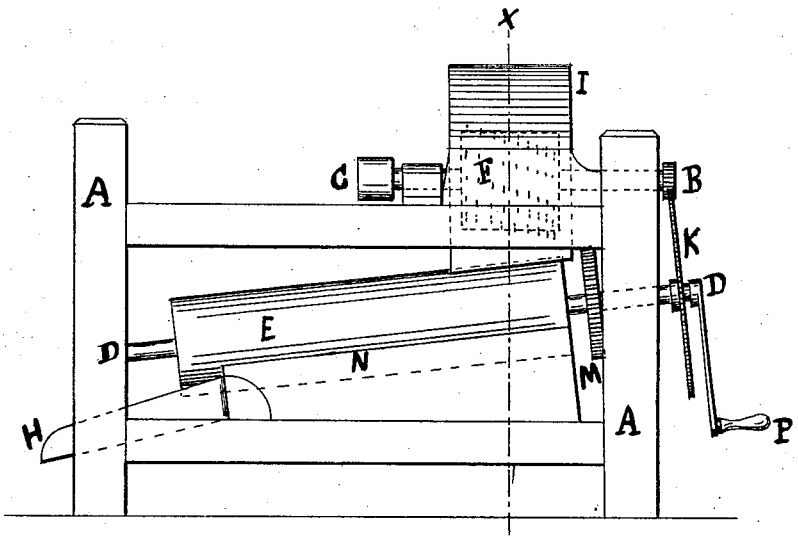

Fig. 1.

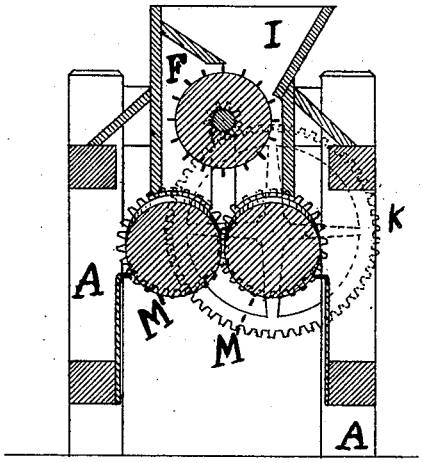

Fig. 2.

Witnesses.
Wm. C. Shaffer
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UNITED STATES PATENT OFFICE.

ENOS CURTISS, OF TRAVERSE CITY, MICHIGAN.

IMPROVEMENT IN CIDER-MILLS.

Specification forming part of Letters Patent No. **160,397**, dated March 2, 1875; application filed January 18, 1875.

To all whom it may concern:

Be it known that I, ENOS CURTISS, of Traverse City, in the county of Grand Traverse and State of Michigan, have invented certain new and useful Improvements in Cider-Mills, of which the following is a specification:

My invention aims to obviate the difficulties which have hitherto prevented the complete expressing of the juice of the apple from the pomace; to furnish a cider mill and press combined at once cheap and portable, and convenient for the purpose for which it is designed. It is true that a considerable quantity of the juice of the apple is extracted from the pomace only by the application of very great pressure. I grate the apple instead of adopting the usual method of grinding it by pressure between two cylinders, either plain or provided with cogs. The grated apple parts with its juice easily and quickly. It will be seen that, in my cider mill and press, the grinding of the apples and the expressing of the cider is performed at one and the same operation. I dispense with the usual endless belt, which serves to clog the mill. The rollers are made of wood, and should any cider pass through the rollers, it follows the rollers to the spout and receiving-vessel. By my invention a cheaper and a better machine is given to the world than was before known. The work is performed quicker and more effectually, and a saving of much labor is gained.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, reference being had to the accompanying drawings and to the letters of reference thereon. The same letters are used to indicate the corresponding parts.

Figure 1 shows a side elevation of my invention, and Fig. 2 is a sectional view taken through the line *x x*.

A A is the frame-work, within which are seen the smooth wooden cylinders E, revolving on their axis D D at an inclination of, perhaps, ten degrees, or sufficiently to cause the cider to find its way to the spout H. The cog-wheel K engages with the pinion at B in the axis B C. Within the hopper I the drum F, provided with teeth or projecting pins, properly arranged at irregular intervals, revolves on its axis B C. The cylinders E E are arranged parallel to each other, and the cog-wheel M′ engages with the wheel M. Both cylinders revolve inwardly and toward each other. The two cylinders are so inclined that they serve as a trough, and the cider rapidly runs to the spout H. N shows a thin sheet of zinc or other metal, turned near its upper edge, and fitted to touch lightly the cylinders E E, so as to act as a scraper to remove any of the grated apple which may have adhered to the cylinders in their upward revolution.

The apples having been placed in the hopper I, by turning the handle P the wheel K engages with the pinion B and causes the drum F to revolve. The wheel M engaging with the wheel M′ causes both cylinders E E to revolve inwardly. The grated apples fall from the hopper I onto cylinders E E, which have but a very slight space between them. The grated apples are pressed between the cylinders, and the juice, thoroughly expressed, runs along in the trough formed by the two cylinders into the spout H, where it escapes into the receiver. The scraper N keeps the cylinders clean. No cider escapes and falls to the ground, but all finds its way along the cylinders into the spout H.

Having now fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a cider mill and press, the wooden inclined rollers E, in combination with the shaft D, cog-wheel M, handle P, and spout H, as heretofore specified and shown.

2. The combination of the wooden inclined rollers E and their shafts D with the frame A, toothed drum F, hopper I, shaft B, driving-wheel K, handle P, cog-wheels M M′, scraper N, and spout H, all arranged as specified and shown.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 21st day of December, 1874.

ENOS CURTISS. [L. S.]

Witnesses:

J. M. CRANE,

J. H. WILSON.