N. Chapin,

Cider Press.

No. 5936. Patented Nov. 21, 1848.

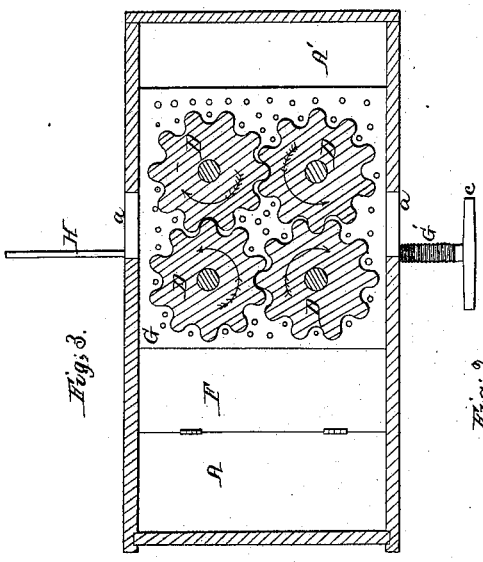

Fig. 3.

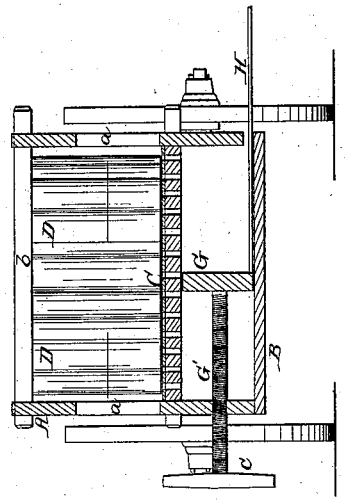

Fig. 2.

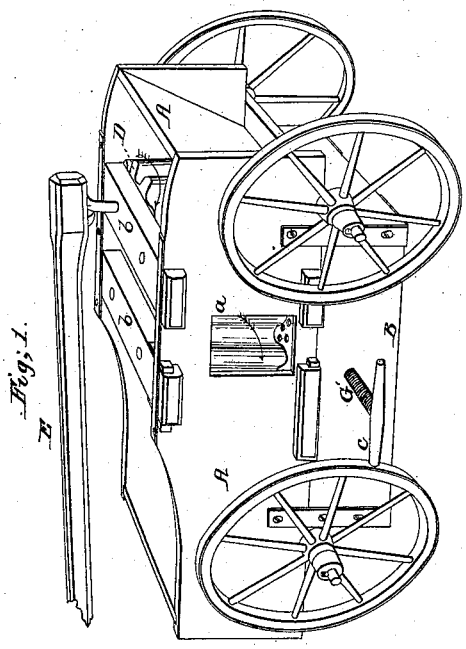

Fig. 1.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON.

UNITED STATES PATENT OFFICE.

NATHAN CHAPIN, OF CORTLANDTVILLE, NEW YORK.

CIDER-MILL.

Specification of Letters Patent No. 5,936, dated November 21, 1848.

To all whom it may concern:

Be it known that I, NATHAN CHAPIN, of Cortlandtville, in the county of Cortlandt and State of New York, have invented a new and useful improvement, being a Portable Apple-Crusher and Cider-Press, which is described as follows, reference being had to the annexed drawings of the same making part of this specification.

Figure 1, is a perspective view of the machine. Fig. 2, is a vertical cross section of the same. Fig. 3, is a horizontal section of ditto.

Similar letters in the figures refer to corresponding parts.

The nature of this invention consists in causing the pomace to be subjected to the action of an additional set of crushing cylinders, arranged in an oblong box, having a perforated plate on its bottom through which the cider descends, for thoroughly extracting the cider from the same, and thus dispensing with the use of the ordinary press employed for that purpose; and combining with the box containing the crushing cylinders, a strainer or filter, for separating the cider from the pomace and other impurities.

A, is a horizontal oblong box, open at top, and having oblong openings *a* in its sides, and perforated with small openings in its bottom, made after the form of a common wagon body, and supported on wheels and axles, at either end, for conveying it from place to place.

B is another oblong box or receiver, about two thirds the length of the first mentioned one, and secured to the lower part of the same by metallic bars and bolts.

C is an oblong metallic plate, secured in the bottom of the box, and perforated with small openings, immediately over the openings in the bottom board, so as to form communications between the boxes.

D, D, D, D, are four upright cylinders, turning in steps, in the bottom of the box, above the perforated metallic plate, and supported at their upper ends by boxes, secured in cross timbers *b*, extending across the top of the box, in which their journals turn. These rollers are ribbed and channeled on their peripheries, and are arranged in such relation to each other, as to cause the ribs and channels, to mesh with each other, and their centers to form the four corners of a square, as represented in Fig. 3.

E is a horizontal beam or pole secured to the shaft of one of the hind cylinders, at one end, and extending from the same sufficiently far to allow the horse, or other power, applied to its outer end, to clear the front part of the machine, in the passage around the same.

F is a door hinged to the bottom of the box, and covering an opening formed in the same, communicating with the lower box.

G is a horizontal oblong board or piston, laid longitudinally and edgewise in the lower box, so as to exactly fit the interior of the same at top, bottom, and ends.

G′ is a horizontal transverse screw, having a handle *c* on its outer end, and passing through a female screw in the side of the lower box, and attached to the center of the oblong board or piston, at its inner end by a button formed on said inner end, moving in a corresponding cavity or socket in the board.

H is a horizontal rod, secured to the lower edge of the oblong board, and passing through an opening in the side of the box, for guiding the piston in its transverse movement.

The operation is as follows: The oblong board or piston in the lower box, being drawn to the left side of the same, and the box filled in with straw, and motion communicated to the ribbed cylinders, in the direction indicated by the arrows, by horse or other power attached to the outer end of the beam or pole the apples are placed in the space between the cylinders and the inclined end A′ of the upper box, and are drawn, and crushed between the two hind rollers or cylinders, and deprived of a great portion of their juice or cider, (which descends through the openings in the bottom of the box and metallic plate), and forced into the space between the four cylinders, in the form of pomace, and after being agitated in said space by the ribs on the cylinders so as to cause the parts of the pomace pressed together in their passage between said cylinders, to separate and change their positions, are drawn between the front and hind cylinders, and deprived of the remaining juice or cider retained in them, and discharged through the openings in the sides of the box, while the cider extracted from them in both pressures will descend through the perforations in the bottom of the box, and metallic plates, into the lower box, and through the

straw in the lower box, (which filters and separates it from any pomace that may pass through the perforations, and other impurities) and out of the opening in the lower part of the same, into a cask. After all the apples are crushed in the manner above described, the straw is crushed between the oblong piston and the right side of the box by turning the screw, with sufficient force to extract the cider absorbed by it in its passage through the same, and cause it to flow through the opening in the side of the box into the cask placed below for its reception. The piston is then drawn back to the left side of the box, and the straw, and small pieces of pomace in the lower box removed through the door, and the machine drawn to another orchard, or other place where its use is required.

I do not claim to be the original inventor of a portable cider mill, nor do I claim the invention of crushing apples between cogged cylinders meshing into each other, and discharging the pomace into the box in which the cylinders are placed; but

What I do claim as my invention and desire to secure by Letters Patent is

Subjecting the pomace to the crushing operation of an additional set of crushing cylinders geared to, and meshing with those that first receive and crush the apples, said additional cogged cylinders, acting as dischargers, for discharging the pomace after the cider has been extracted through openings in the sides of the box containing the crushing cylinders, while the cider is caused to descend through a perforated plate and the bottom of the box into a receiver placed below the same, the aforesaid arrangement and use of said crushing cylinders and perforated plate enabling the farmer to dispense with the ordinary press, the crushing, pressing and separating operations being performed simultaneously in this machine.

The above claim is made whether the machine be constructed precisely in the manner described in the foregoing specification and represented in the annexed drawings, or other mode, which is substantially the same. The screw might be applied vertically as well as horizontally for extracting the cider from the pomace, and any adequate power, either manual or animal, might be applied to turn it, which modification would be substantially the same as the arrangement above described. Other modifications of the machine might be made without changing its general principle.

In testimony whereof I have hereunto signed my name before two subscribing witnesses this 5th day of February, 1848.

NATHAN CHAPIN.

Witnesses:
WM. P. ELLIOT,
A. E. H. JOHNSON.