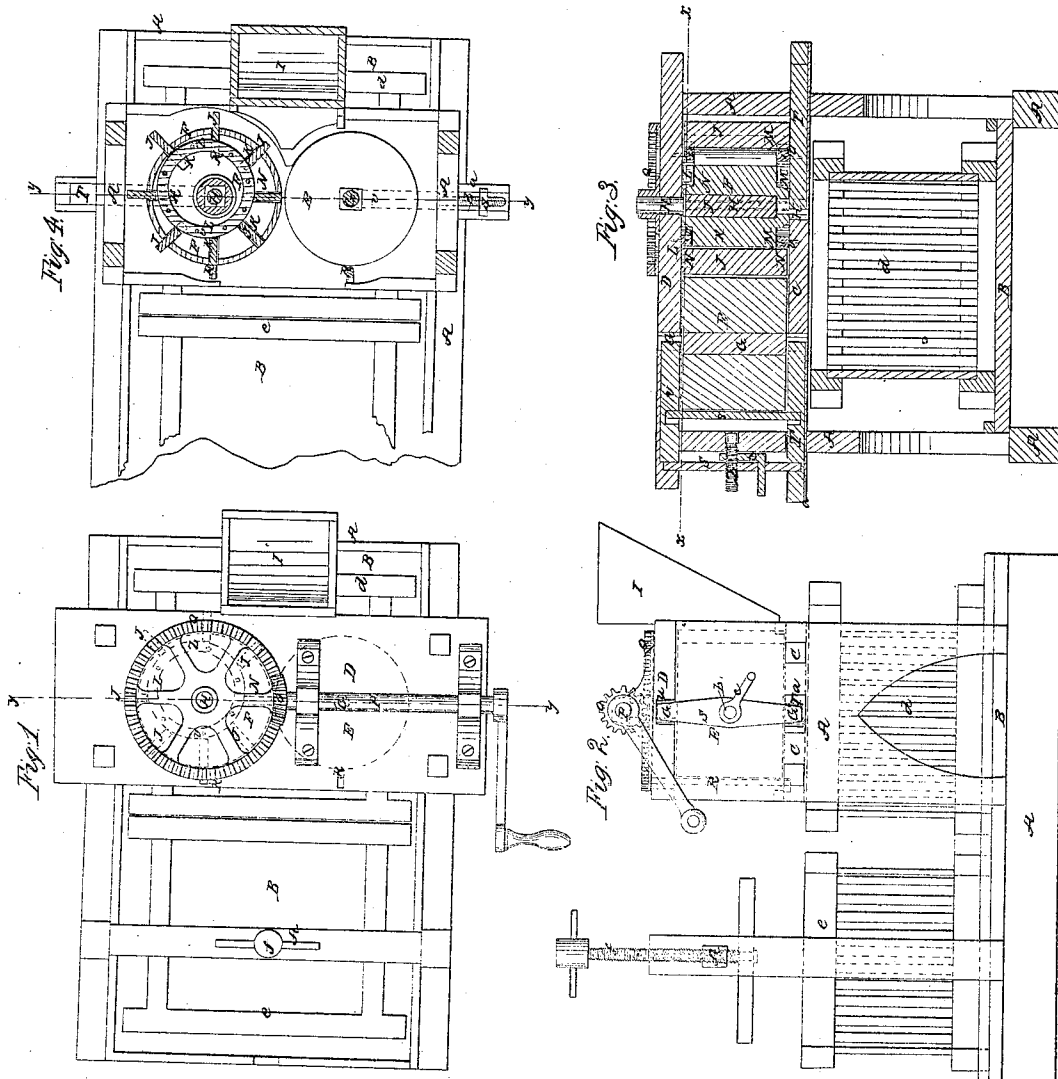


J. Case, Cider Mill.

N^o 9,178.

Patented Aug. 10, 1852.



UNITED STATES PATENT OFFICE.

JARVIS CASE, OF SELMA, OHIO.

CIDER-MILL.

Specification of Letters Patent No. 9,178, dated August 10, 1852.

To all whom it may concern:

Be it known that I, JARVIS CASE, of Selma, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Cider-Mills; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan or bird's eye view of a cider mill and press combined. Fig. 2 is a side elevation of the same. Fig. 3 is a transverse section of the same, taken in the red line *y, y*, in Figs. 1, 4. Fig. 4 is a horizontal section of the same, taken in the line *x, x*, in Fig. 3.

Similar letters of reference in each of the several figures indicate corresponding parts.

The nature of my invention consists in the employment of two vertical crushing rollers or cylinders, (one of which being constructed in a novel manner) placed on a horizontal platform above the box which receives the pomace after the apples are crushed. One of these rollers or cylinders has a number of vertical grooves cut in its periphery, into which similar shaped feeding slats or radial cogs fit and work freely, both inward and outward as they are operated upon by two stationary eccentric rings or plates, and one of the cylinders or rollers. These feeding slats or cogs serve to convey the apples (after they have been fed in through a hopper), to the crushing cylinders. These cylinders are so arranged in relation to vertical scrapers that their peripheries will always be kept clean and free from the pomace which generally adheres to them before they come in contact with said scrapers. By thus arranging the scrapers around the rollers their peripheries will always be kept clean from pomace and consequently they will operate more effectually when they commence to crush a fresh supply of apples.

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation.

A, A, represent the frame of the machine, and B, C, D, three platforms, that B, sustaining the pressing boxes; C, crushing rollers, and D, the mechanism for operating the machine.

E, and F, represent the crushing rollers, secured fast on revolving shafts G, H, and

which are placed in such relation to each other that they will be made to crush and mash the apples very effectually as fast as they are fed in through a hopper I, from which they are conveyed and forced between the rollers by the working radial cogs or slats J, J. These slats work freely in the grooves K, cut in the periphery of the crushing roller F, either in or out.

L, M, represent the eccentric rings or plates for operating the slats J, J, or for causing them to move outward at the time desired, or as the cylinder revolves. These rings or plates, as will be seen referring to Figs. 1, 3 and 4 are placed eccentric to the shaft H; that L, being secured fast to the platform D, and that M, fast to the middle platform C; and consequently as the cylinders revolve, the slats or cogs J, which may be situated nearest the portions, lettered Z, Z', (of the rings L, M), which are farthest from the center of the shaft H, will be caused to move out radially; (as shown in Figs. 1 and 4) and the cogs or slats J, which are nearest the portions *v v*, of the eccentric rings, which are nearest the center of the shaft H, are caused to move inward, toward the center of the said shaft, by the roller E pressing against them after they have supplied the rollers with feed. It will be seen clearly in Figs. 1, 3, and 4, that the ends of the slats all fit snugly around the outer periphery of these eccentric rings and also stand even with their top and bottom surfaces. The rings as before stated are secured fast to the platforms C, D, (and do not turn) and fit snugly in circular recesses N, N, cut in the heads of the solid cylinder or roller E. The slats are forced outward for the purpose of feeding the apples between the cylinders and also keeping the cylinders constantly supplied while they revolve; and are forced inward so as not to present any obstruction to the scrapers as the cylinder revolves. This method of feeding and cleaning the cylinders I consider to be a very important improvement over the old method of supplying the feed to the cylinders. The shaft H, carrying the crushing roller E, is set in motion by means of the bevel wheel O, secured on the crank shaft P, and gearing into the cogged wheel Q, secured on the shaft H. The friction of the roller F when in operation causes the roller E, also to revolve.

R, R, are the scrapers for clearing off the pomace which generally adheres to the periphery of the rollers. These scrapers are shown clearly in Figs. 1, 3 and 4, and in dotted lines in Fig. 2; the scraper *s*, represented in Fig. 3, is merely shown to illustrate more fully the position the scrapers occupy in relation to the rollers.

S, is the adjusting spring for operating the sliding bars T, U, when it is desired to change the position of the rollers. This spring and sliding bar allows of the rollers receding from each other when any hard or extraneous substance gets between them; and as soon as the same has passed entirely through them, the spring expands and thereby the rollers are again made to occupy their proper position; the ends of the spring move in slots cut in a stationary box *a*, and in the top *c* of the frame, and press or bear on the sliding bars T, U, which fit around the shaft G, in the manner shown in Figs. 3 and 4. This shaft G, can be moved farther from or nearer to the shaft H, and be retained firmly in that position by the sliding bar and spring.

b, is a screw on the end of which a crank nut *c*, fits, and by which the force or power of the spring on the sliding bar and roller F, or shaft G, is regulated.

It will be seen that this machine is so arranged and combined that the whole operation of grinding and pressing can be carried on at one time and in the same machine, for it is only necessary to remove the pomace box *d*, when full, to the position occupied by the pomace box *e*, directly under the screw *f*; and while the operation of grinding is being carried on that of expressing the juice can also be proceeded with and thus the two operations can be constantly kept up in the same machine without any inconvenience and at a very slight cost.

Having thus fully described the nature and operation of my invention I will now state what I claim as new and desire to secure by Letters Patent:

The employment of the revolving crushing cylinder or roller F, with grooves cut in its periphery, the movable feeding slats or radial cogs J; the eccentric rings or plates L, M, and the scrapers R, R, the whole being constructed, arranged and operating in the manner substantially as, and for the purpose herein set forth.

JARVIS CASE.

Witnesses:

ISAIAH HOLLOWAY, Sr.,
HOSEA HARRISON.