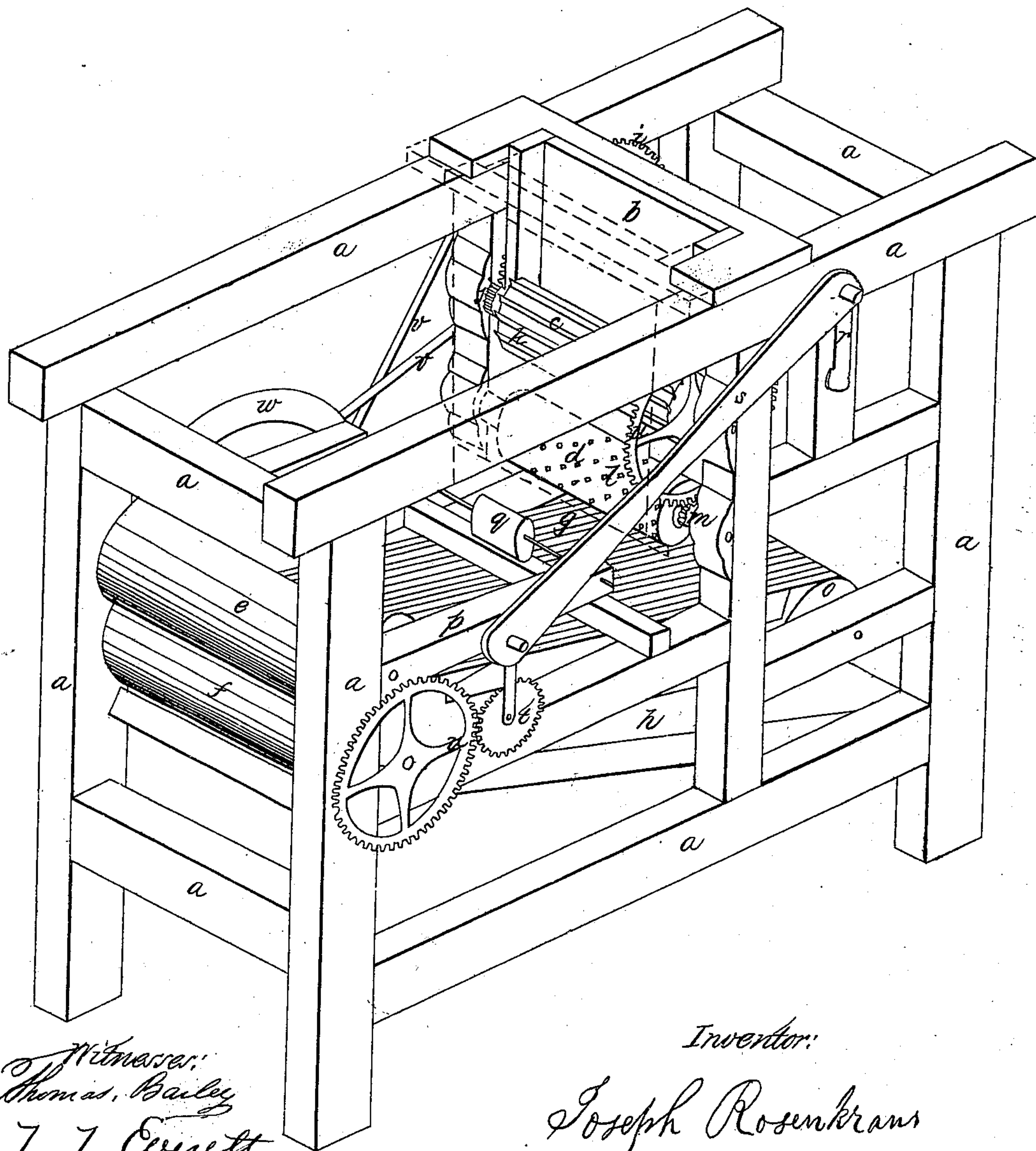


J. ROSENKRANS.  
CIDER MILL.

No. 23,862.

Patented May 3, 1859.



Witnesses:  
Thomas Bailey  
T. T. Everett

Inventor:  
Joseph Rosenkrans



# UNITED STATES PATENT OFFICE.

JOSEPH ROSENKRANS, OF AVOCA, NEW YORK.

## CIDER-MILL.

Specification of Letters Patent No. 23,862, dated May 3, 1859.

*To all whom it may concern:*

Be it known that I, JOSEPH ROSENKRANS, of Avoca, in the county of Steuben and State of New York, have invented certain new and useful Improvements in Cider-Mills; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings and to the letters and marks thereon.

10 In pressing the juice from apples for the purpose of making cider it is very important that the pulp be reduced to small pieces or fragments, as it then becomes more readily acted upon by pressure and yields a greater  
15 quantity of juice. It is, also, important that the two processes of grinding and pressing should be performed by the one machine, as the work is not only then performed more rapidly but more economically.

20 My invention has for its object the carrying out, practically of both of the above named intentions, and it consists first, in a certain arrangement of means for reducing the apples into small pieces; and second, in  
25 an arrangement of the pressing means in relation to the grinding means.

The machine is made up of a frame (*a*), (*a*), (*a*), which gives bearings and support to the operative parts of the mill; of  
30 a hopper or receiver (*b*); of a cutting and a tearing cylinder (*c*), (*d*), of pressing cylinders (*e*), (*f*); of a conveyer of the pulp (*g*) from the one set of cylinders to the other set of cylinders; and of a delivery chute (*h*)  
35 for collecting and passing onward the juice to whatever receptacle may be used, and of the necessary means to actuate the various and several parts of the mill.

Upon the apples being thrown into the  
40 hopper and motion being given to the wheel (*i*) of the crank or power shaft, which is geared to pinion (*j*) on the shaft of cylinder (*c*), that cylinder will have free rotation, and its knives (*k*), which extend across its  
45 entire length, will rapidly cut the apples into pieces—the apples being caught between the knives and the vertical faces of the hopper, when thus cut into pieces they pass down between the teeth (*l*) of cylinder (*d*)  
50 and the lower part of the sides of the hopper, which are curved, and the pieces are then torn into small fragments. A pinion (*m*) on the shaft of cylinder (*d*) gears into a wheel (*n*) on the shaft of cylinder (*e*). It

will be noticed that wheel (*n*) is of much 55 greater diameter than pinion (*m*) and that, therefore, cylinder (*d*) will have as many more revolutions than cylinder (*e*) as will be due from the difference of the diameter of the two. As represented by the drawing 60 cylinder (*d*) will have five revolutions to one of cylinder (*e*).

The fragments will be dropped upon the endless apron, which though represented as inclined upward from the grinding cyl- 65 inders, may be horizontal or even inclined downward toward the pressing cylinders, as may be preferred, and will be carried to the pressing rollers or cylinders, the juice running into the chute (*h*) and by it conveyed 70 to the receptacle or reservoir.

The endless apron or conveyer (*g*) passes around roller (*f*) and also around another roller (*o*) at the other end of the frame. Cylinder (*f*), as will be perceived, is sus- 75 pended upon arms (*p*) which have at their inner ends a balancing weight (*q*), so that this cylinder has adjusting provisions. The pressing cylinders derive their motion from the crank (*r*) through the connecting rod 80 (*s*), pinion (*t*) and wheel (*u*). They are also connected to the crank-shaft by a band or belt (*v*) which passes around a pulley on the crank shaft and another pulley on the shaft of the balance wheel (*w*). This 85 double connection of the pressing rollers to the power shaft gives steadiness of motion and regularity of pressure and greatly facilitates the pressing process.

What I claim as my invention and desire 90 to secure by Letters Patent is—

1. The arrangement of the cutting cylinder and the tearing, within the hopper, the one acting upon a plane and the other upon a curved surface and the tearing cylinder 95 so geared as to have rapid rotation as regards the rotation of the cutting cylinder.

2. I claim the arrangement of the grinding cylinders and pressing cylinders with the endless apron, chute and hopper, when 100 they are geared as herein set forth.

This specification signed this 11 day of March 1859.

JOSEPH ROSENKRANS.

Witnesses:

T. T. EVERETT,  
THOMAS BAILEY.