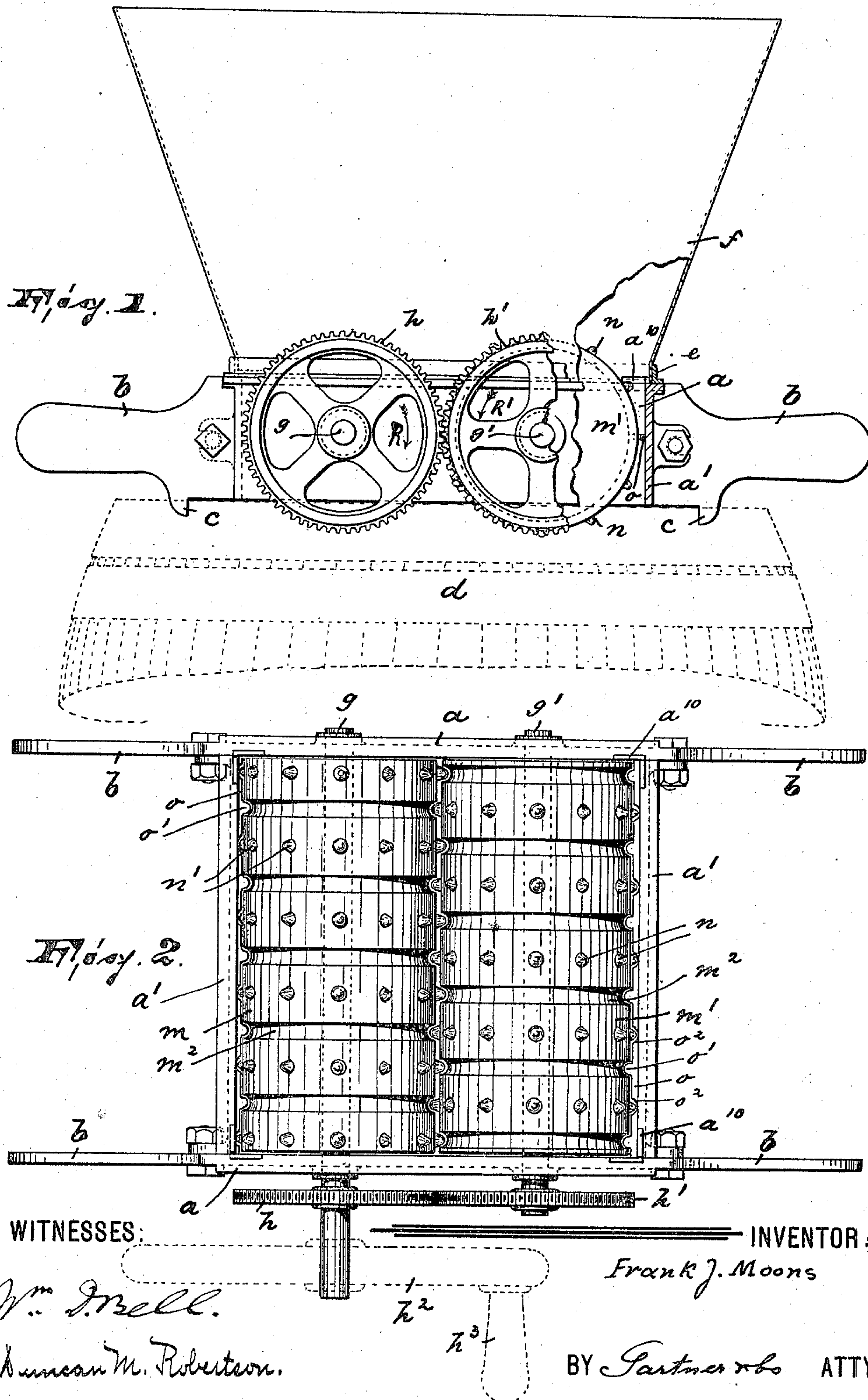


(No Model.)

F. J. MOONS.  
FRUIT OR GRAPE CRUSHER.

No. 581,994.

Patented May 4, 1897.





# UNITED STATES PATENT OFFICE.

FRANK J. MOONS, OF PATERSON, NEW JERSEY.

## FRUIT OR GRAPE CRUSHER.

SPECIFICATION forming part of Letters Patent No. 581,994, dated May 4, 1897.

Application filed October 30, 1896. Serial No. 610,544. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK J. MOONS, a citizen of the United States, residing at Paterson, county of Passaic, and State of New Jersey, have invented certain new and useful Improvements in Fruit or Grape Crushers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of my invention is to provide a crusher for fruit, principally grapes, by means of which the fruit may be crushed into a pulpy mass before entering the wine-press, strong and durable in construction, and efficient and reliable in operation.

The invention consists in the improved fruit-crusher and in the combination and arrangement of the various parts thereof, substantially as will be hereinafter more fully described, and finally embodied in the clauses of the claim.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in each of the views, Figure 1 is a side elevation of my improved fruit-crusher, certain portions thereof being broken away, while others are shown in section; and Fig. 2 is a top plan view of Fig. 1 with the hopper removed and embodying, moreover, a suitable form of driving mechanism, as clearly shown in dotted lines.

In said drawings,  $a a'$  represent the sides of the rectangular frame (preferably metallic) of my device. Projecting longitudinally from the sides  $a$  and integral therewith are the handles  $b$ , of any suitable form and construction. On the lower edges of the sides  $a$  are arranged the downwardly-projecting lugs  $c$ , adapted to engage the outside upper edge or end of a barrel, cask, or other receptacle  $d$  (shown in dotted lines in Fig. 1) and hold the crusher securely in position over the same.

A rectangular frame  $e$ , corresponding in shape to and slightly larger than the opening formed by the sides  $a$  and  $a'$  of the frame proper, carries a hopper  $f$  of suitable construction for the safe delivery of the fruit to

the crusher, as will be hereinafter more fully described. Said frame  $e$  (with its hopper  $f$ ) rests upon the upper edges of the sides  $a a'$  and is securely held in position by the projection  $a^{10}$  of the same, as clearly shown.

Arranged in suitable bearings in the sides  $a$  are the shafts  $g g'$ , carrying gear-wheels  $h h'$ , meshing together and receiving their motion from any suitable means. In the drawings I have shown in dotted lines a hand-wheel  $h^2$  and handle  $h^3$  for that purpose, but it is obvious that any other well-known means may be used without departing from the spirit of my invention. On the shafts  $g g'$  and within the frame are secured the rollers  $m m'$ , each provided with a series of annular grooves  $m^2$  and knobs or projections  $n' n$  of a similar shape to said grooves and adapted to enter or engage the same in the operation of the machine. Secured to the sides  $a' a'$  are a series of lugs  $o$ , provided with projections  $o'$  and recesses  $o^2$ , adapted to enter or engage the grooves  $m^2$  and allow the passage of the projections  $n'$  and  $n$ , respectively.

It will be observed that the annular grooves  $m^2$  in one roller are alternately arranged with the grooves in the other roller and that the knobs or projections  $n'$  and  $n$  are in similar relation, as clearly shown in the drawings.

In operation the crusher is placed over an open barrel or other convenient receptacle and is there held in position by the depending lugs  $c$ . The grapes or other fruit is then thrown into the hopper  $f$  and allowed to fall upon the grooved rollers  $m$ , which are then caused to revolve in the direction of arrows  $R R'$  in Fig. 1 by means of the hand-wheel  $h^2$  and gear-wheels  $h h'$ , as will be manifest. The knobs or projections  $n' n$  bruise and drag the grapes or fruit toward the converging line of the rollers  $m m'$ , which bruise and crush the grapes still more, reducing them to a pulpy mass and finally allowing the same when thin enough to pass between said rollers into the receptacle beneath.

The lugs  $o$ , shaped in conformity to the surface of each roller, prevent the fruit from passing uncrushed between the sides  $a'$  and the rollers. Since the rollers fit closely between the sides  $a$ , no means for preventing the fruit from passing through at this point is necessary.



It will be noticed that the rounded knobs are sparsely arranged. This arrangement will be found to be very desirable for the purpose of effectually crushing the fruit without  
 5 at the same time crushing the seeds thereof also, especially if the rollers are accurately adjusted relative to each other.

Having thus described my invention, what I claim as new, and desire to secure by Letters  
 10 Patent, is—

1. In a fruit-crusher, the combination of a frame, a pair of horizontal crushing-rollers each formed with alternate concave annular grooves, and annular rows of convex knobs  
 15 corresponding in shape to the grooves, the knobs of the one roller projecting into the grooves of the other roller, and a hopper mounted upon the frame and inclosing the upper or receiving surfaces of said rollers.

20 2. In a fruit-crusher, the frame comprising side pieces *a* and end pieces *a'* separably connecting the side pieces and each provided with lugs *o* integrally formed therewith on its inner face, a removable hopper carried by  
 25 said frame, coacting crushing-rollers journaled in the side pieces of the frame and provided with convex knobs and concave annular grooves which are alternately arranged on each roller so that the knobs thereof are  
 30 in opposite and coöperative relation to the grooves of the adjoining roller or rollers, said lugs *o* being shaped to conform to the configuration of the bearing-surfaces of the rollers and being adapted to clear said rollers of the

adhering portions of fruit, and means for op- 35  
 erating said rollers, substantially as described.

3. In a fruit-crusher, the frame comprising side pieces *a* provided with handles *b* at their ends and with projections *a*<sup>10</sup> upon their upper edges which are integrally formed there- 40  
 with, and end pieces *a'* having integrally formed therewith on their inner faces, lugs *o*, on their outer faces and at their ends, projecting ears, and on their upper edges, pro- 45  
 jections *a*<sup>10</sup>, clamping-bolts extending through the ears and the side pieces and adapted to secure together the side and end pieces, a re-  
 movable hopper mounted on the frame and adapted to be held in position by the projec- 50  
 tions on the side and end pieces, coacting crushing-rollers provided with suitable oper-  
 ating means and having annular grooves and series of knobs on their bearing-surfaces ar-  
 ranged in alternate relation on each roller and in opposite relation with respect to the knobs 55  
 and grooves respectively of the adjoining roller or rollers, said lugs being shaped to conform to the configuration of the bearing-  
 surfaces of the rollers and being adapted to clear said rollers of the adhering portions of 60  
 the fruit, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 24th day of October, 1896.

FRANK J. MOONS.

Witnesses:

ALFRED GARTNER,  
 ALFRED VAN ACKER.