

(No Model.)

F. W. HOLBROOK.

COFFEE SEPARATOR.

No. 361,415.

Patented Apr. 19, 1887.

Fig. 1.

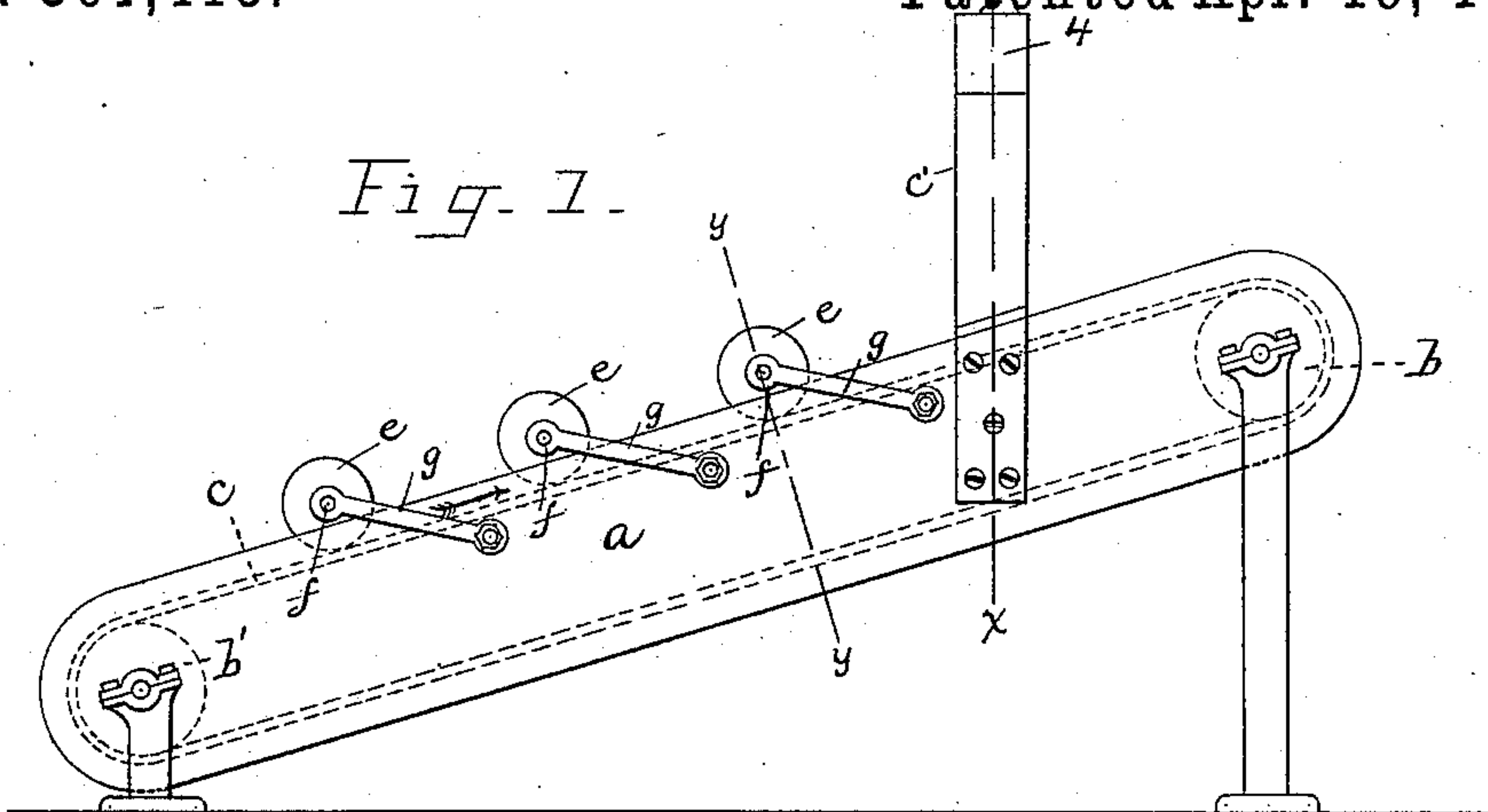


Fig. 2.

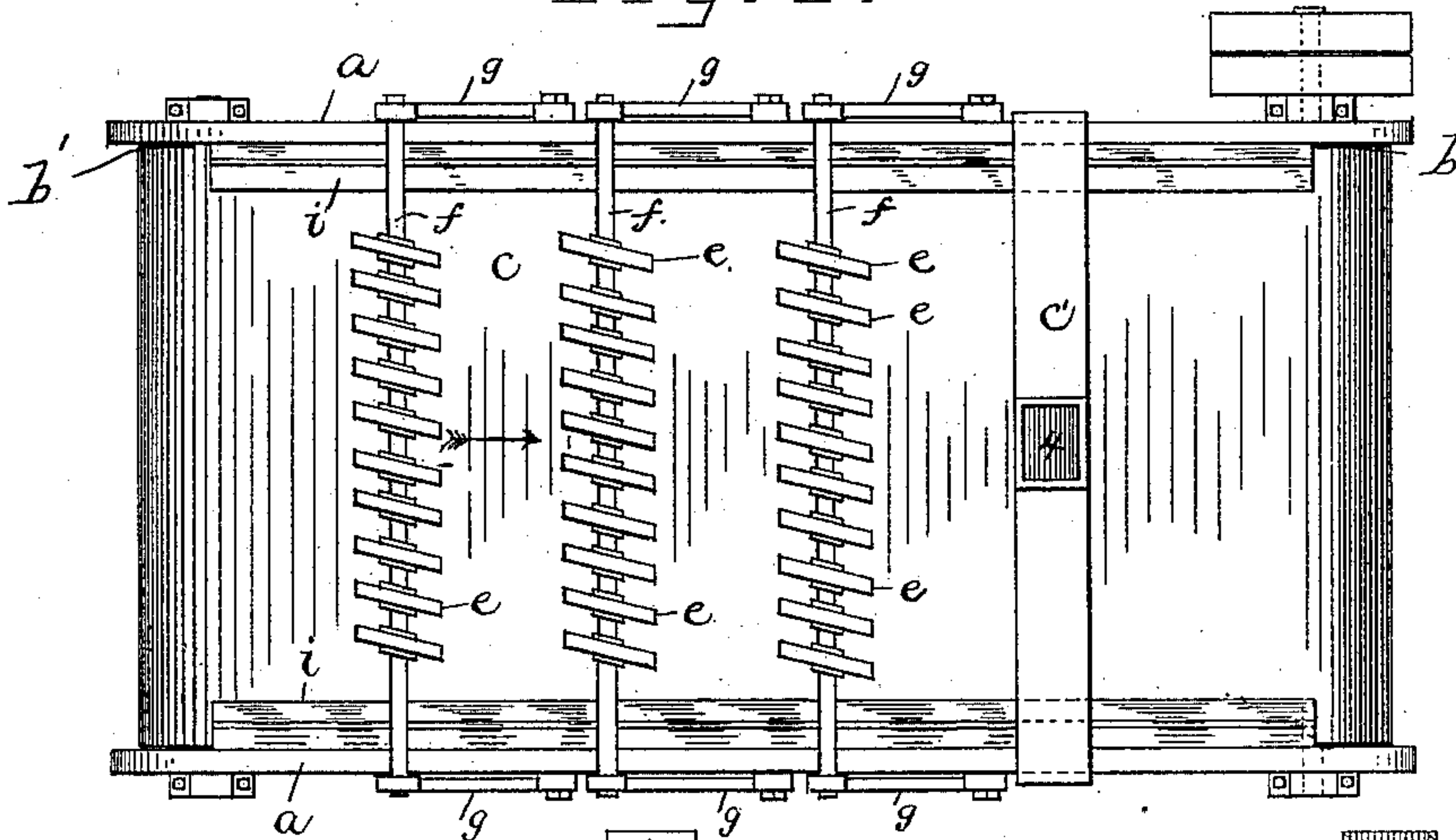


Fig. 3.

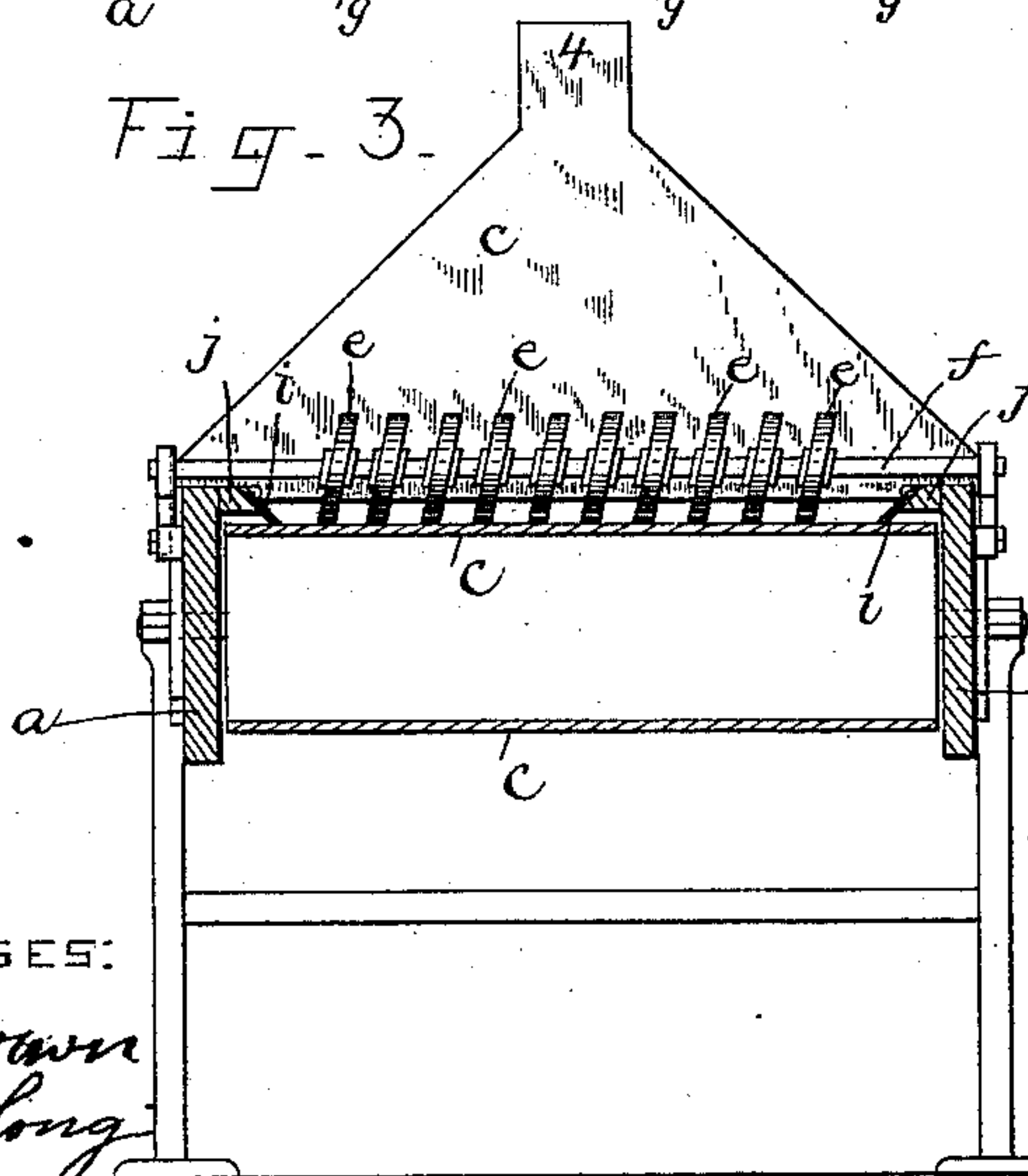
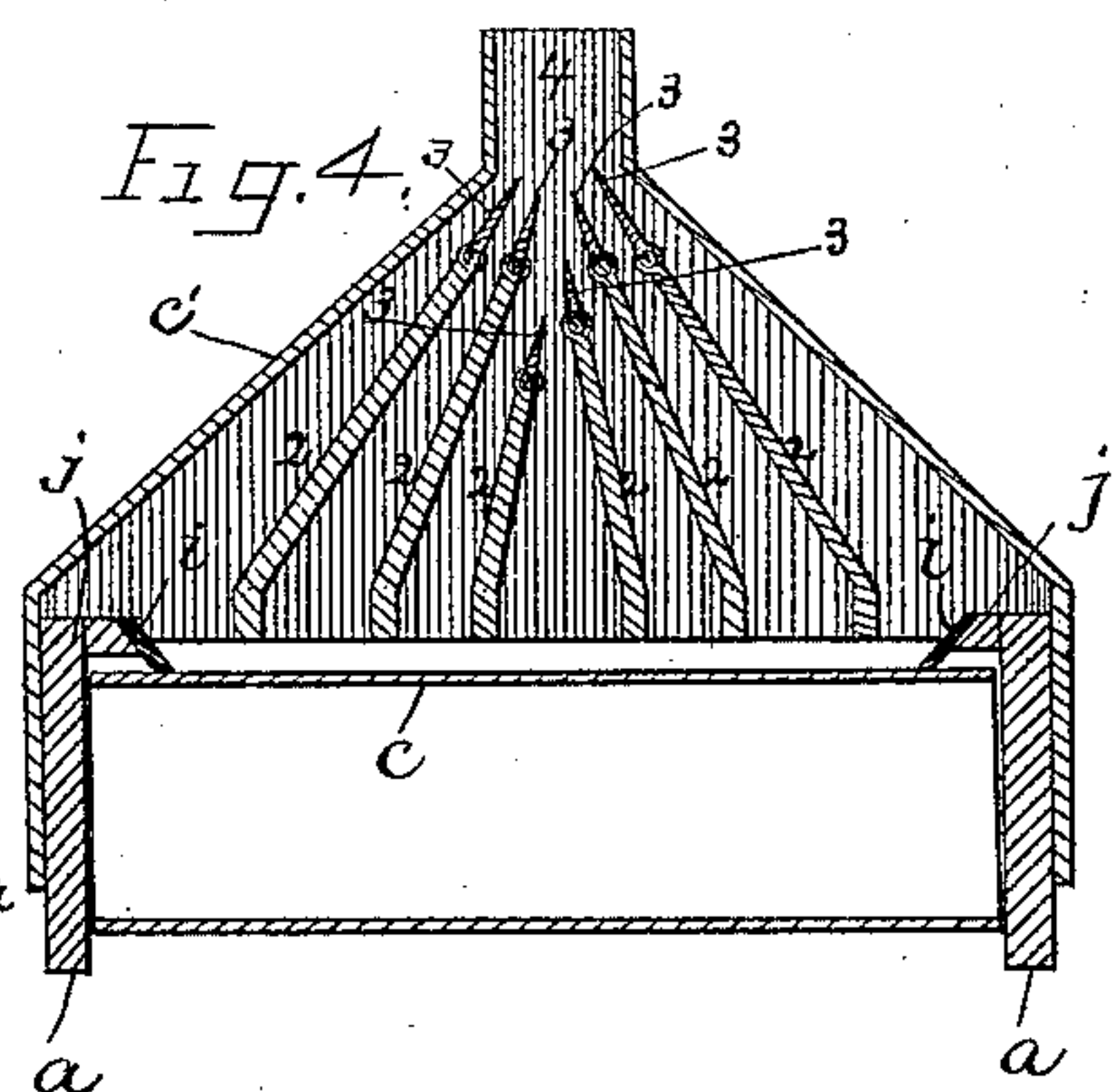


Fig. 4.



WITNESSES:

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UNITED STATES PATENT OFFICE.

FRANK W. HOLBROOK, OF BROOKLYN, NEW YORK.

COFFEE-SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 361,415, dated April 19, 1887.

Application filed August 2, 1886. Serial No. 209,779. (No model.)

To all whom it may concern:

Be it known that I, FRANK W. HOLBROOK, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Coffee-Separators, of which the following is a specification.

This invention relates to mechanism for separating round coffee-berries from those that are flat upon one side, by the action of an inclined endless belt, the motion of which is from its lower to its higher end, the berries being dropped upon the higher end of the belt, so that the round berries will roll down its inclined surface and off from its lower end, while the flat berries will lie upon the belt without rolling, so that they will be carried upwardly by the motion of the belt until they fall over its higher end. In this class of machines it is usual to provide devices to retard the rolling movement of the berries and prevent them from rolling too rapidly, so that the flat berries will not be carried off from the lower end of the belt by the impetus of the rolling round berries.

My invention has for its object, first, to provide certain improvements in the retarding devices; secondly, to provide improved means for preventing the berries from rolling outwardly to and over the edges of the belt; and, thirdly, to provide improved means for distributing the berries evenly across the belt at the point where they are dropped thereon.

To these ends my invention consists in the several improvements, which I will now proceed to describe and claim.

In the accompanying drawings, forming a part of this specification, Figure 1 represents a side elevation of a separating-machine having my improvements. Fig. 2 represents a top view of the same. Fig. 3 represents a transverse section on the line *yy*. Fig. 4 represents a transverse section on the line *xx*.

The same letters of reference indicate the same parts in all of the figures.

In the drawings, *a* represents inclined side pieces forming parts of the frame which supports the devices hereinafter described.

b b' represent rollers, journaled respectively in the upper and lower ends of said side pieces and extending across the space between them.

c represents the endless separating-belt, which is composed of canvas or other suitable

material, and is mounted on the rollers *b b'*, the belt being of sufficient width to extend nearly across the space between said side pieces.

c' represents the distributor, which is composed of a casing attached to the side pieces, *a a*, near their upper ends and extending across the belt *c*, and a series of diverging partitions, 2 2, within said casing, whereby the casing is divided into a number of passages, said partitions having pivoted valves or dampers 3 3 at their upper ends, each of which is adapted to be set at any desired inclination, so as to enable the quantity of coffee-berries received into each passage to be regulated as may be desired. A trunk or tube, 4, communicates with the upper part of the distributor-casing, and receives the berries from a suitable elevator or receptacle and conducts them into the casing, the berries following the passages formed by the diverging partitions and being distributed by said partitions across the belt.

One of the rolls on which the belt is mounted is rotated by any suitable means in such direction as to move the belt in the direction indicated by the arrow in Figs. 1 and 2, the motion of the portion of the belt onto which the berries fall being from its lower to its higher end.

The devices for retarding the rolling motion of the berries are a series of trucks or small rollers, *e*, mounted obliquely on rods or shafts *f*, extending across the belt and journaled in the swinging ends of arms *g g*, which are pivoted to the side pieces, *a a*, the trucks or rollers resting on the belt, so that they are rotated by the motion of the latter. The oblique arrangement of the rollers on their shafts causes their points of contact with the belt to shift laterally, said points of contact moving first in one direction and then in the other crosswise of the belt.

The berries, rolling down the inclined belt, strike the trucks or rollers and are retarded thereby, so that such of the flat berries as commence to roll on the belt are arrested and caused to lie on their flat sides. The shifting of the points of contact of the rollers with the belt causes them to release such of the round berries as may lodge against them, as will be readily seen.

I prefer to employ two or more series of trucks or rollers, so that in case any rolling

flat berries are not arrested by the first series they will be by the second or third. It will be seen that the transversing or back-and-forth motion of the portions of the rollers in contact with the bed does not force the berries to either side of the belt, but keeps them equally distributed. The pivot-arms *g*, in which the rods *f* are journaled, enable the rollers *e* to rise and fall, and thus accommodate themselves to any unevenness in the surface of the belt, and also to pass over any flat berries carried upwardly by the belt after having passed below the rollers *e*.

To prevent the berries from passing laterally to and over the edges of the belt, I provide strips *i i* of elastic rubber, which are attached to flanges *j j* on the side pieces, *a a*, and bear upon the upper surface of the belt near its edges, as shown in Figs. 3 and 4.

I claim—

1. The combination, with the inclined endless belt, of one or more series of loose rollers placed obliquely on a rod or arbor and in contact with the belt, as set forth.

2. The combination, with the inclined endless belt, of one or more series of loose rollers, a rod or arbor on which said rollers are obliquely placed, and pivoted arms, with the swinging ends of which said rods or arbors are engaged, as set forth.

3. The combination of the supporting-frame, the inclined endless belt, the loose rollers placed obliquely on a rod or arbor and in contact with the belt, and the flexible strips *i*, secured to the frame and bearing on the upper surface of the belt near its edges, whereby the berries displaced by the action of said rollers are prevented from rolling off from the edges of the belt, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 21st day of July, 1886.

FRANK W. HOLBROOK.

Witnesses:

WILLIAM L. ROGERS,
JOSEPH A. GEORGE.