

No. 773,544.

PATENTED NOV. 1, 1904.

K. CHAMPNEY.
COFFEE HULLING MACHINE.
APPLICATION FILED NOV. 30, 1901.

NO MODEL.

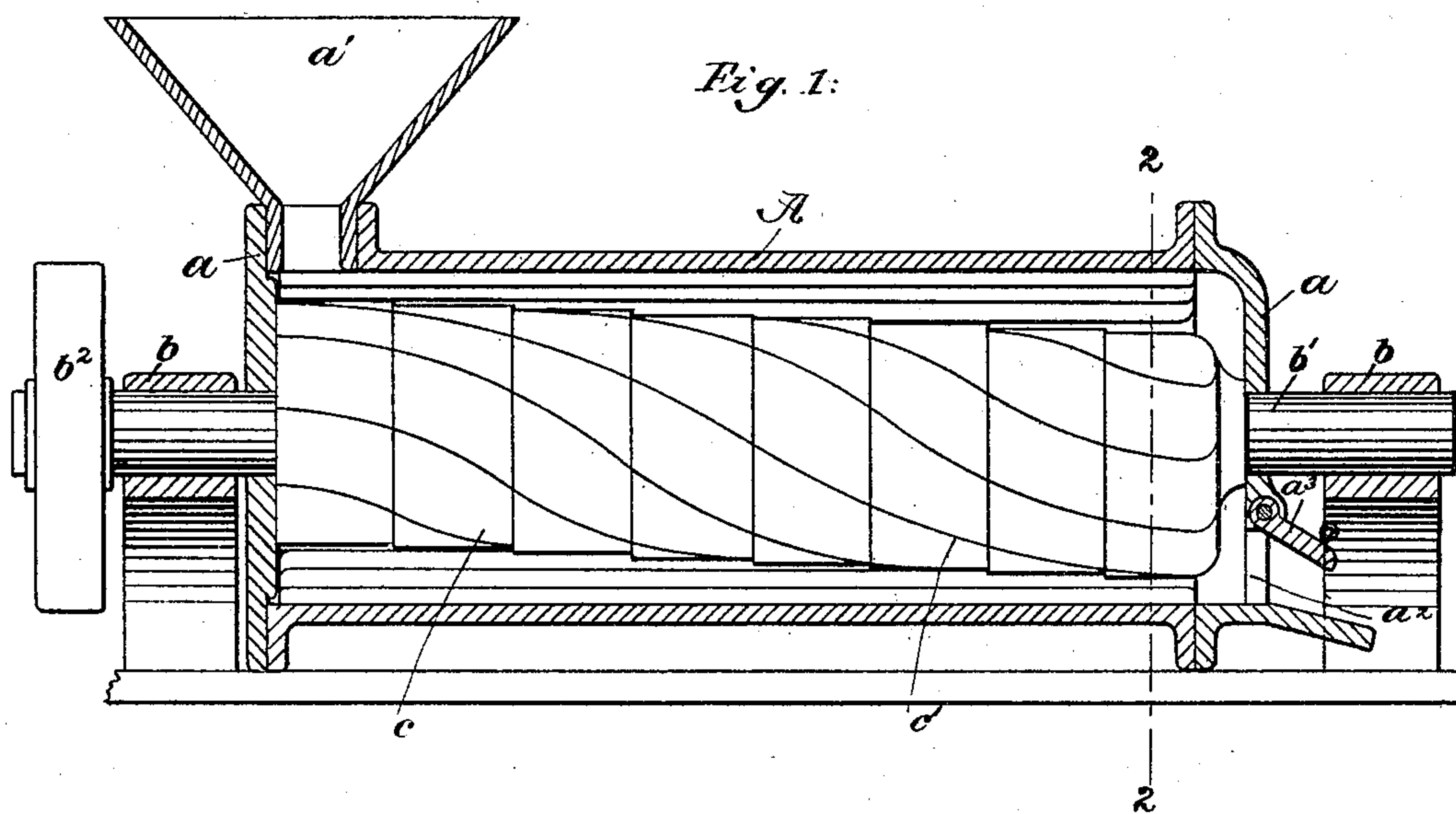
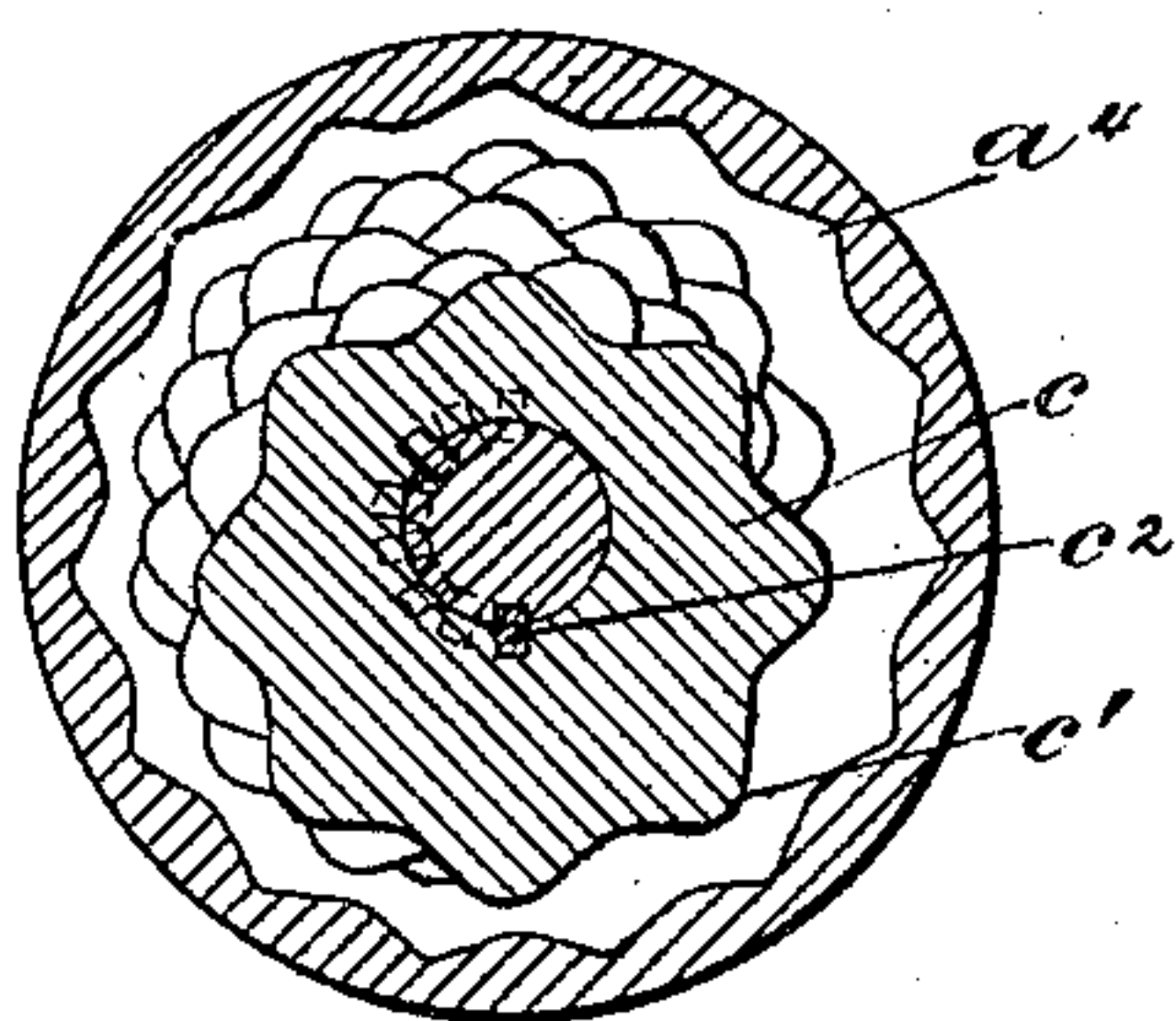


Fig. 2:



Witnesses
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UNITED STATES PATENT OFFICE.

KENSETT CHAMPNEY, OF SENAHU, GUATEMALA.

COFFEE-HULLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 773,544, dated November 1, 1904.

Application filed November 30, 1901. Serial No. 84,164. (No model.)

To all whom it may concern:

Be it known that I, KENSETT CHAMPNEY, a citizen of the United States, residing in Senahu, Guatemala, have invented an Improvement in Coffee-Hulling Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to provide an improved machine for removing the hulls from coffee-beans. Prior to my invention machines for this purpose have been devised consisting generally of a cylindrical barrel or shell the inner wall of which is corrugated longitudinally, and within this internally-corrugated barrel or shell has been arranged a rotating core or cylinder, also corrugated, but with its corrugations extended spirally around the same instead of parallel with the axis thereof. In machines of this type rotation of the corrugated core or cylinder would act, in conjunction with the corrugated wall of the shell, to turn or move the coffee-beans introduced between the two in such manner as to peel off the hulls therefrom, the spiral arrangement of corrugations upon the core acting also to feed the beans gradually forward, they being introduced at one end of the shell or casing and discharged at the opposite end thereof. In the course of my experiments to improve machines of this type I have discovered that by giving to the corrugated core-surface and to the internal corrugated shell-surface a relative eccentric motion that shall cause the two corrugated surfaces to have a relative movement toward and away from each other during relative rotation thereof an improved result is obtained. I have also discovered that by having this eccentricity at one end of the core offset from the eccentricity at the opposite end thereof even better results are produced. To enable this to be more clearly understood, I will first describe a machine illustrating the same made in accordance with my invention.

In the drawings, Figure 1, in vertical longitudinal section, shows a machine illustrating my invention, the core being shown in elevation; Fig. 2, a vertical cross-section taken

on the dotted line 2 2, Fig. 1, looking to the left.

Referring to the drawings, A is a suitably-constructed generally cylindrical casing or shell provided with suitable ends *aa*, adjacent to which are provided the bearings *bb* for the core-shaft *b'*, the latter provided with suitable driving means—as, for instance, a driving-pulley *b''*.

At one end of the machine the casing A is provided with an inlet-hopper *a'*, and at its opposite end the said casing or shell is provided with an outlet *a''*, controlled by suitable gate—as, for instance, the swing-gate *a'''*.

The internal wall of the shell A is shown as corrugated longitudinally, the corrugations being indicated at *a⁴*, Fig. 2.

The core is here shown as sectional—that is, composed of a plurality of like sections *cc*. These sections are circular in exterior outline, though provided with corrugated peripheries, the corrugations being indicated at *c'* and being preferably spiral, so that when applied to the common shaft *b'* the spiral corrugations of adjacent sections will form substantially continuous spiral corrugations from one to the other end of the sectional core.

The shaft *b'* is provided with a longitudinal key *c''*, and the sections *c* are provided each with a keyway to receive the said key *c''*, and thereby lock the several sections upon the said shaft. The holes in the said sections, however, are eccentric to the center of the external peripheries of the sections, and the keyways therein are cut in different positions in the different sections, so that in placing the said sections upon the shaft with the key entering the keyways therein the eccentricity of one section will be offset from or to one side of the eccentricity of the next adjacent section, thus causing the eccentricity to wind spirally around the shaft, the eccentricity at one end of the shaft, as appearing from Fig. 2, being diametrically opposite the eccentricity at the opposite end of the shaft. While the core is thus built up in sections as a matter of convenience, because all the sections are alike and may be cast from one pattern, requiring merely the location of each keyway at a different point from the others, yet the

effect is of an integral core, in which form it may be made, if desired. Rotation of this core will cause the beans introduced through the hopper *a'* to be acted upon not only by the corrugations of the core, but by the eccentricity thereof, and the hulls removed therefrom, and as the coffee-beans are carried forward by the spiral grooves of the core the eccentricity likewise travels forward, although the spiral eccentricity may travel in an opposite direction from the spiral corrugations, if desired. In any event the effect is to bring to bear upon the coffee-bean an action tending to open and remove the hull and then sufficiently free the bean to peel off the hull and free it, this action being repeated a number of times during the travel of the bean through the machine, thus insuring frequent and sufficient opening or removing action, with ample time for the bean to free itself from the hulls.

My invention is not limited to the particular embodiment thereof here shown and described, as the same may be varied without departing from the spirit and scope of the invention.

I claim—

1. A coffee-hulling machine comprising a

shell having a circular corrugated bore and a core rotatably mounted in said shell, said core having a circular corrugated exterior eccentric throughout to the axis of rotation.

2. A coffee-hulling machine comprising a shell having a circular corrugated bore and a core rotatably mounted in said shell, said core having a continuous helical corrugated exterior eccentric throughout to the axis of rotation.

3. A coffee-hulling machine comprising an internally-corrugated shell and a core rotatably mounted in said shell, said core presenting a continuous spiral surface eccentric throughout to the axis of rotation.

4. A coffee-hulling machine comprising an internally-corrugated shell and a core consisting of a shaft, and a plurality of sections eccentrically mounted thereon and presenting a continuous corrugated spiral surface.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

KENSETT CHAMPNEY.

Witnesses:

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