

No. 848,033.

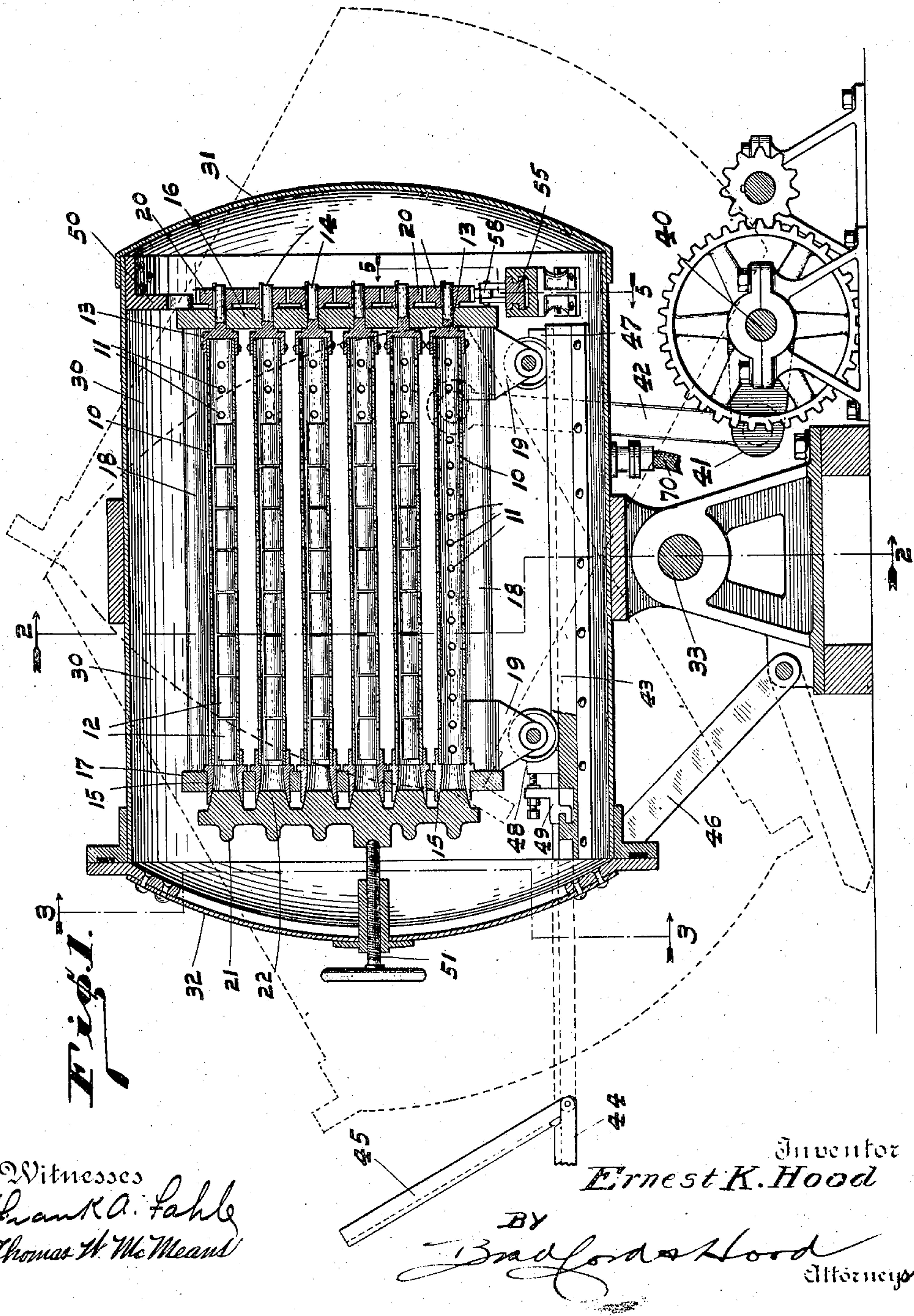
PATENTED MAR. 26, 1907.

E. K. HOOD.

APPARATUS FOR PROCESSING PACKAGED GOODS.

APPLICATION FILED DEC. 4, 1906.

3 SHEETS—SHEET 1.



No. 848,033.

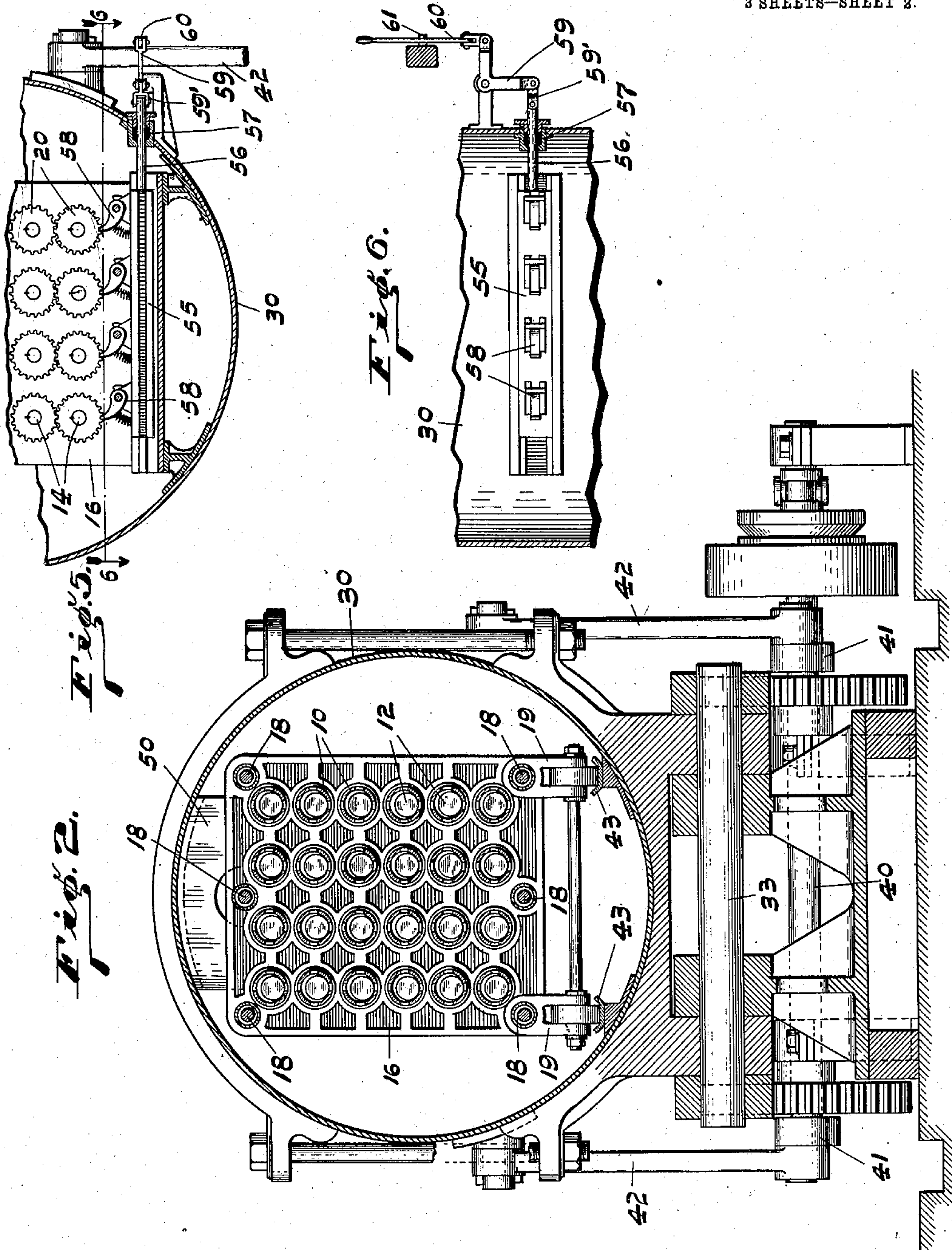
PATENTED MAR. 26, 1907.

E. K. HOOD.

APPARATUS FOR PROCESSING PACKAGED GOODS.

APPLICATION FILED DEC. 4, 1906.

3 SHEETS—SHEET 2.



Witnesses
Frank A. Fable
Thomas H. Means

Inventor
Ernest K. Hood
By
Bradford Hood.
Attorneys

No. 848,033.

PATENTED MAR. 26, 1907.

E. K. HOOD.

APPARATUS FOR PROCESSING PACKAGED GOODS.

APPLICATION FILED DEC. 4, 1906.

3 SHEETS—SHEET 3.

Fig. 3.

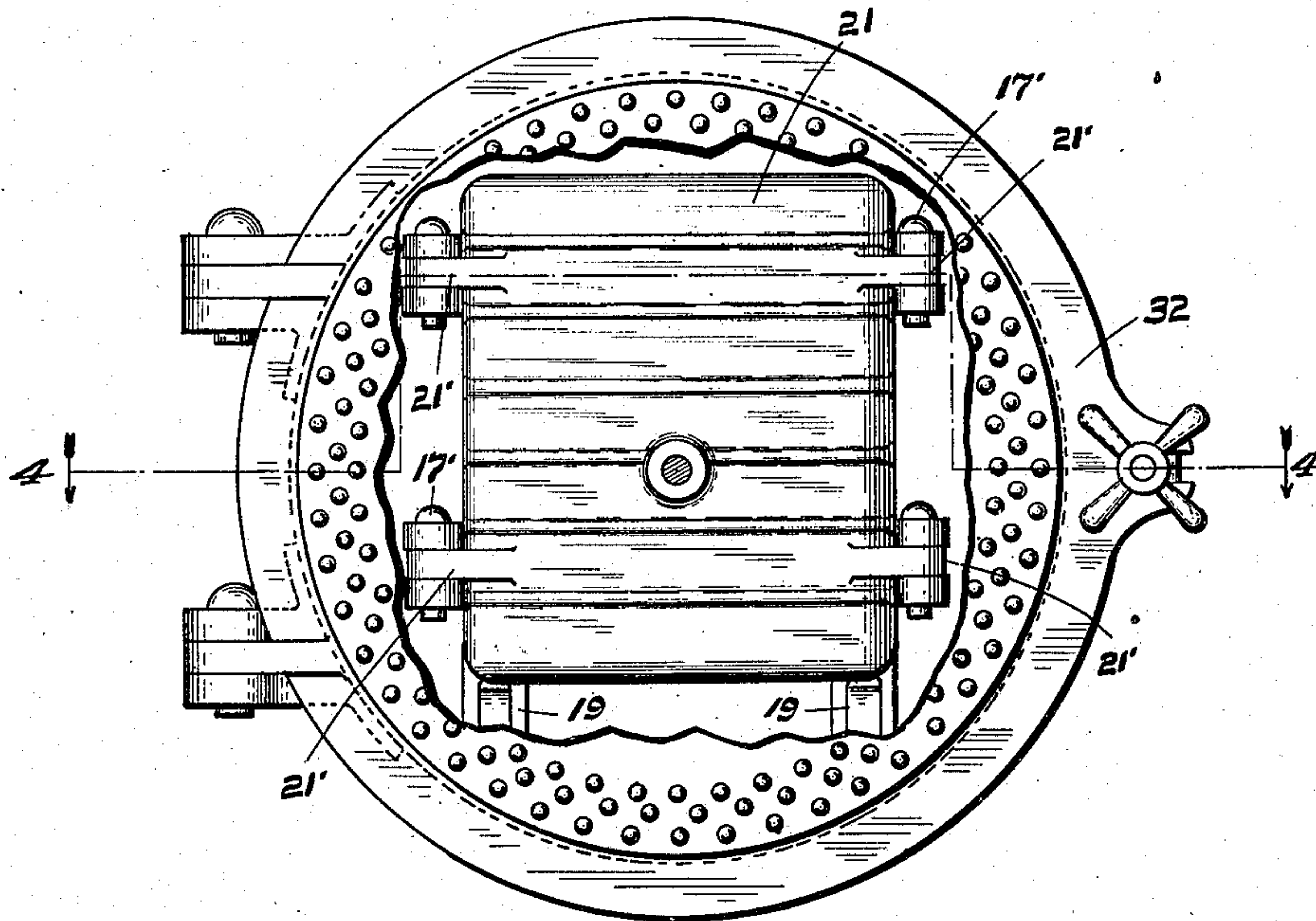
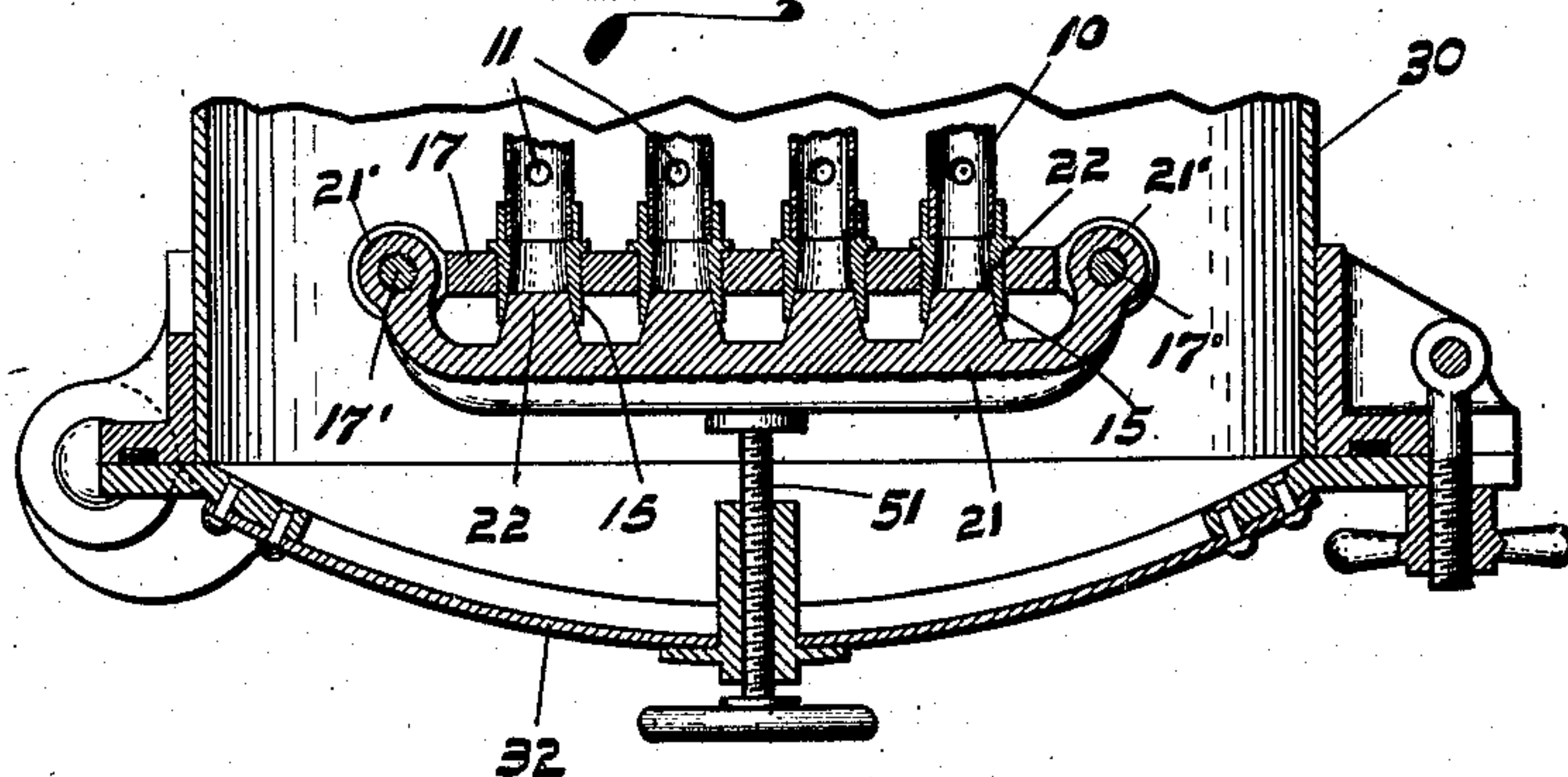


Fig. 4.



Witnesses
Frank A. Fahle
Thomas H. McMeane

Inventor
Ernest K. Hood

BY
Bradford Hood
Attorneys

UNITED STATES PATENT OFFICE.

ERNEST K. HOOD, OF INDIANAPOLIS, INDIANA, ASSIGNOR OF ONE-HALF TO
ARTHUR M. HOOD, OF INDIANAPOLIS, INDIANA.

APPARATUS FOR PROCESSING PACKAGED GOODS.

No. 848,033.

Specification of Letters Patent.

Patented March 26, 1907.

Application filed December 4, 1906. Serial No. 346,302.

To all whom it may concern:

Be it known that I, ERNEST K. HOOD, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Apparatus for Processing Packaged Goods, of which the following is a specification.

In the production of canned or otherwise packaged goods, especially food products, the material is placed within the packages in a raw or partially cooked or unsterilized condition and sealed therein, the volume of the contents generally being somewhat less than the volume of the package. The filled and sealed packages are then placed in a retort or cooking vessel, where they may be subjected to a desired temperature, which if the material within the packages is not agitated must be attained gradually in order to prevent scorching of that portion of the material within each package which lies nearest the outside. Mechanisms have been heretofore provided for agitating packages in such manner as to cause a mixing movement of the contents in each package, and the most successful of such apparatus is one in which the packages are given a rolling reciprocation through a comparatively short path of movement, which permits substantially a complete rotation of each can or package. With such an apparatus it has been found, however, that where ordinary tin cans are used as packages there is a tendency for the cans to become axially slightly displaced, so that the blows of the cans upon each other are at such points as to cause a breaking of the joints between the main body and the caps or covers, and thus unseal the cans, so that the content either leaks out or becomes spoiled in course of time, many of these breaks being so small as to be insufficient to permit leakage, yet sufficient to admit air, and thus cause ultimate molding of the content.

The object of my present invention is therefore to produce a mechanism in which packaged goods may be processed under such conditions that the packages may be moved axially and preferably suddenly stopped at each end of the travel, so as to subject the contents of the package to a propelling force axially of the package, which will cause intermixture of the contents, the arrangement

being such that a series of packages may be arranged end to end and the column thus formed given a travel lengthwise which will cause the cans of the series to strike one another endwise. In such an arrangement the blow of one can upon another is in such direction as to be completely resisted by the material of the package and such that no joints in the package will be opened or injured thereby.

The accompanying drawings illustrate my invention.

Figure 1 is a central vertical section of an apparatus embodying my invention. Fig. 2 is a section on line 2 2 of Fig. 1; Fig. 3, a detail on line 3 3 of Fig. 1; Fig. 4, a section on line 4 4 of Fig. 3; Fig. 5, a detail of the automatic rotating mechanism, and Fig. 6 a section on line 6 6 of Fig. 5.

In the drawings, 10 indicates a tubular carrier open, as at 11, to permit a circulation of a heating medium therethrough. Each of the carriers 10 is designed to receive a plurality or column of packages 12, arranged end to end, said column being shorter than the carrier in order that there may be an axial reciprocation of the column within the carrier, the column coming to a sudden stop at each end of its travel. I prefer that the internal bore of the carrier 10 be somewhat larger than the external diameter of the largest package to be handled, and in order to produce a mechanism easily handled and for large capacity I provide a multiplicity of carriers 10, and each of these carriers is provided at one end with a head 13, having an axial spud 14 serving as a journal therefor. The opposite end of carrier 10 is provided with a tubular spud 15, the exterior of which is adapted to form a journal for that end of the carrier 10, while the bore thereof is sufficient to admit any package which will enter the carrier. The several carriers 10 are journaled in a pair of plates 16 and 17, which are connected by suitable brace members 18 and provided with trucks 19 to form a car which may be readily handled.

In order that the carriers 10 may be rotated about their axes, each spud 14 is projected through the plate 16, in which it is journaled, and secured to the projected end is a gear 20, which gears mesh with each other in series. The heads 13 are adapted to receive the blows from the columns of packages 10 at one end

of their movement, and in order to provide a similar abutment at the opposite end I hinge upon plate 17 a door 21, which is provided with a plurality of bosses 22, adapted to enter the outer ends of the bores of the hollow spuds 15. For convenience I prefer to provide the door 21 with ears 21' at each side, adapted to receive pintles 17', carried by plate 17, so that by removing either vertical series of pintles 17' the door 21 may be swung in either direction. This is purely a matter of operative convenience, and of course any other means may be provided without departing from my invention.

The car may be placed in any suitable receptacle for treatment of the packages, and in the present case I have shown a retort 30, closed at one end by head 31 and at the other end by a swinging door 32. The retort 30 is supported upon a horizontal axis 33, so as to permit rocking in a vertical plane to such an extent that the packages 12 will slide from one end of their carriers to the other. Any suitable mechanism may be provided for rocking the retort—for instance, a shaft 40, provided with a crank 41, connected by a pitman 42 to the retort.

In order to get the car into and out of the retort readily, I provide the retort with a pair of tracks 43, adapted to receive the trucks 19 of the car, and arrange a stationary track 44, having a swinging bridge portion 45, which may be swung down, as indicated in dotted lines in Fig. 1, to form a connection with the tracks 43 in the retort when the retort is held in loading position by means of the strut 46, which during operation is dropped to the position indicated by dotted lines in Fig. 1.

In order to hold the car firmly within the retort while the retort is being rocked, any suitable means may be provided—for instance, the stationary chock-blocks 47 and the removable chock-blocks 48, which may be backed up by removable brackets 49. I also provide a stationary bracket 50 within the retort, against which the forward end of the car may abut, and in order to hold the car tightly in position a temper-screw 51 may be passed through the door 32, so as to engage the door 21 of the car in opposition to the bracket 50.

In order to automatically rotate the carriers 10 during the rocking of the retort, I have provided a sliding pawl-bar 55, provided at one end with a stem 56, passing through a gland 57 in the side of the retort. Bar 55 carries a plurality of pawls 58, each of which is adapted to engage the lower one of each series of gears 20, so that by reciprocation of the pawl-bar the gears may be given a step-by-step advancement. Pawl-bar 55 may be shifted to the left in Fig. 5 until the pawls lie between the series of gears in order that the car may be readily withdrawn from and introduced into the retort. Any suit-

able means may be used for reciprocating the pawl-bar, a convenient mechanism consisting of the bell-crank 59, one arm of which is connected by a link 59' to the projected end of the stem 56, while the other arm of said lever is connected by a link 60 with a pin 61, carried by the adjacent pitman 42.

The operation is as follows: The car having been withdrawn from the retort is loaded with a plurality of series of packages 12, the packages of each series being arranged end to end within a carrier 10 through the hollow spud 15. The car is then pushed into the retort and secured in the position shown in Fig. 1. Thereupon the cooking medium—as, for instance, steam—may be introduced into the retort through a suitable pipe 70, the connection of said pipe being such as to permit the rocking of the retort. The retort is then rocked back and forth through a sufficient angle to cause the packages 12 to slide endwise through the carriers 10, striking the head 13 or the boss 22 at the opposite ends of the movement. The blow thus delivered to the packages is transmitted through the entire series or column, and the material in each package is thoroughly mixed, the blow, however, being delivered to the packages in such manner as not to injure any of the joints thereof. At the same time, if desired, the carriers 10 are given a step-by-step rotative advancement, thus speeding the agitation or mixing of the contents of the packages. As a consequence of this construction the temperature within the retort may be made immediately very high without danger of scorching the contents of the packages.

I claim as my invention—

1. In an apparatus for processing packaged goods, means for repeatedly moving the package axially and intermittently stopping the same suddenly so as to subject the same to axial shocks.

2. In an apparatus for processing packaged goods, means for repeatedly moving the package alternately in opposite directions and axially and intermittently stopping the same suddenly so as to subject the said package to alternate axial shocks.

3. In an apparatus for processing packaged goods, means for alternately changing the axial inclination of the package and subjecting said package to axial shocks.

4. In an apparatus for processing packaged goods, means for intermittently changing the axial inclination of the package and subjecting said package to axial shocks alternately and in opposite directions.

5. In an apparatus for processing packaged goods, means for subjecting the package to a shock axially thereof, and means for rotating the package about its axis.

6. In an apparatus for processing packaged goods, means for subjecting the package to shocks axially thereof and alternating

in direction, and means for rotating the package about its axis.

7. In an apparatus for processing packaged goods, means for intermittently changing the axial inclination of the package and subjecting said package to axial shocks, and means for rotating the package about its axis.

8. In an apparatus for processing packaged goods, means for intermittently changing the axial inclination of the package and subjecting said package to axial shocks alternately and in opposite directions, and means for rotating the package about its axis.

9. In an apparatus for processing packaged goods, the combination with a holder for receiving a package, of means for causing said package to slide axially in said holder and stop suddenly.

10. In an apparatus for processing packaged goods, the combination with a holder for receiving a package, of means for causing said package to slide axially in said holder and stop suddenly, and means for rotating the package about its axis.

11. In an apparatus for processing packaged goods, the combination with a holder for receiving the package and permitting same to slide axially, of abutments at the ends of said holder, means for varying the inclination of said holder whereby the package may slide axially in said holder and strike said abutments endwise.

12. In an apparatus for processing packaged goods, the combination with a holder for receiving the package and permitting same to slide axially, of abutments at the ends of said holder, means for varying the inclination of said holder whereby the package may slide axially in said holder and strike said abutments endwise, and means for rotating the package about its axis.

13. In an apparatus for processing packaged goods, the combination of a retort, means for rocking said retort vertically, a

packaged holder in said retort and adapted to receive a package and permit the same to slide axially therein a material distance, and abutments arranged at the ends of said holder and adapted to suddenly arrest the sliding action of the package.

14. In an apparatus for processing packaged goods, the combination of a retort, means for rocking said retort vertically, a package-holder in said retort and adapted to receive a package and permit the same to slide axially therein a material distance, abutments arranged at the ends of said holder and adapted to suddenly arrest the sliding action of the package, and means for rotating said holder to cause a rotation of the package about its axis.

15. In an apparatus for processing packaged goods, the combination of a retort, a car adapted to be received in said retort, a plurality of package-holders carried by said car and adapted each to receive a series of packages end to end, abutments arranged at the ends of said carriers and adapted to suddenly arrest the axial sliding of the packages within the holders, and means for vertically rocking the retort.

16. In an apparatus for processing packaged goods, the combination of a retort, a car adapted to be received in said retort, a plurality of rotatable package-holders carried by said car and adapted each to receive a series of packages end to end, abutments arranged at the ends of said carriers and adapted to suddenly arrest the axial sliding of the packages within the holders, means for rotating said holders, and means for vertically rocking the retort.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 27th day of November, A. D. 1906.

ERNEST K. HOOD. [L. s.]

Witnesses:

ARTHUR M. HOOD,
THOMAS W. McMEANS.