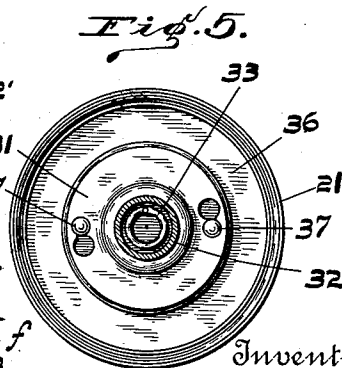
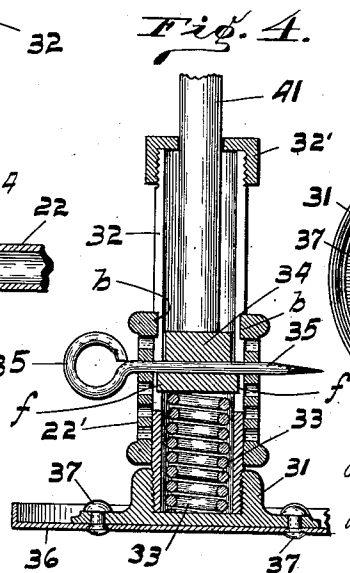
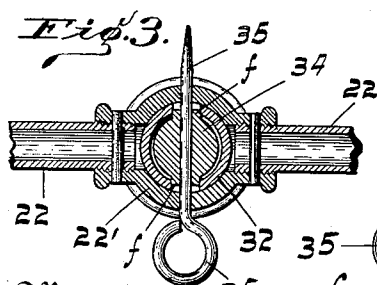
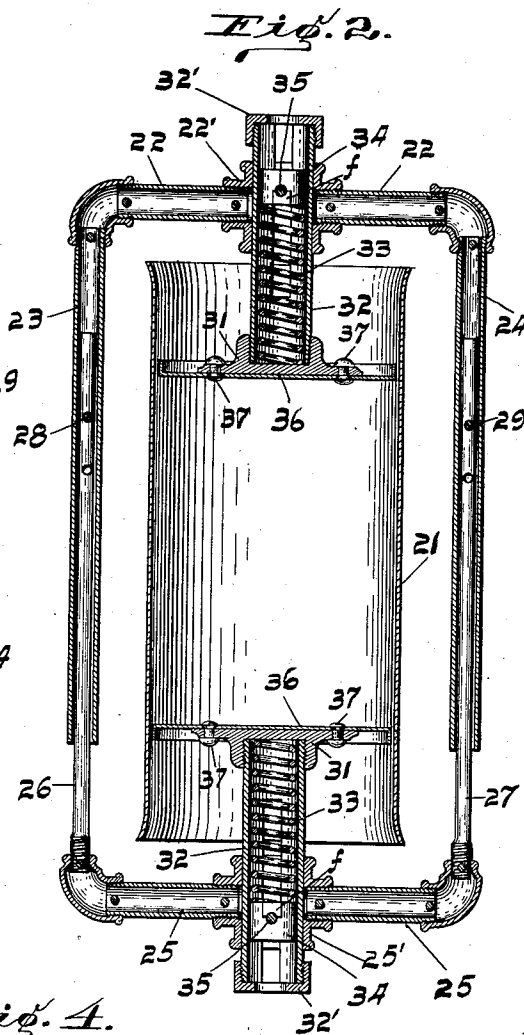
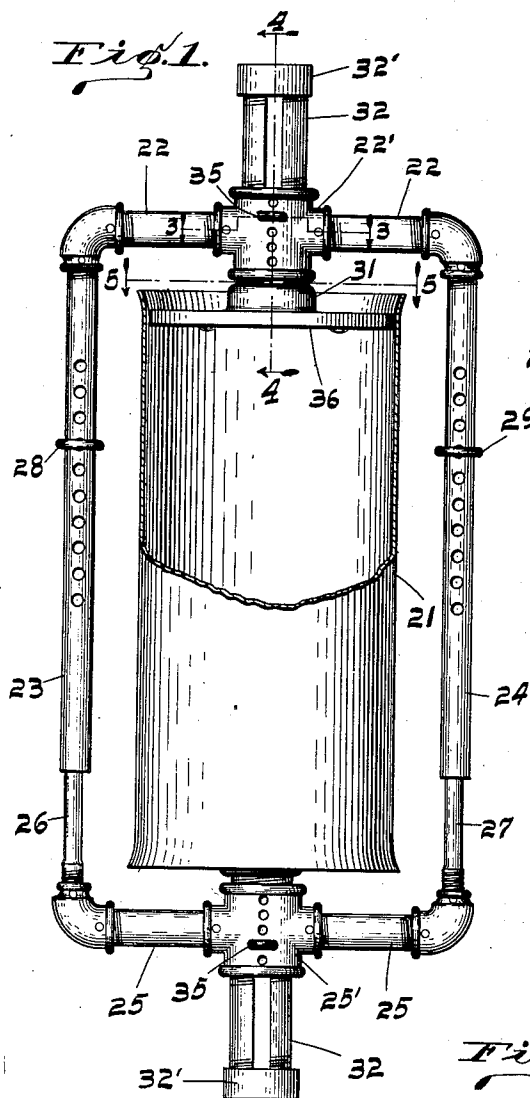


No. 855,618.

PATENTED JUNE 4, 1907.

J. CUNNING.
APPARATUS FOR TREATING MEATS.
APPLICATION FILED MAR. 26, 1906.



Witnesses 35
Frank A. Fable
Thomas H. McWrens

Inventor
James Cunningham,
By *Bradford & Hood,*
Attorneys.

UNITED STATES PATENT OFFICE.

JAMES CUNNING, OF INDIANAPOLIS, INDIANA.

APPARATUS FOR TREATING MEATS.

No. 855,618.

Specification of Letters Patent.

Patented June 4, 1907.

Application filed March 26, 1906. Serial No. 308,030.

To all whom it may concern:

Be it known that I, JAMES CUNNING, 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 Treating Meats, of which the following is a specification.

In preparing meats for the market, it is desirable that the same be put into an attractive and symmetrical form, both as a matter of economy and for the purpose of more convenient handling and transportation; and my invention has for its object the putting into such form boneless pieces of meat.

While the invention is applicable to pork, beef, mutton, and other meats, I have used it especially in preparing hams for the market, and will, therefore, especially describe said invention as used in treating hams.

The accompanying drawings illustrate a pressing and shaping apparatus such as I have used in carrying out my invention.

Figure 1 is a side elevation of such an apparatus; a portion of the cylinder being broken away to show the interior construction and arrangement as the same appears when the meat has been placed therein, the apparatus being in the position it occupies just before the cooking operation commences; Fig. 2 a sectional view with the parts in the relative position which they occupy after the cooking operation has been completed; Figs. 3 and 4 detail sectional views on a somewhat enlarged scale at the points indicated by the dotted lines 3 3 and 4 4, respectively, in Fig. 1, illustrating more clearly certain details of construction, and Fig. 5 a plan-sectional view looking downwardly from the dotted line 5 5 in Fig. 1.

The apparatus in question consists of an open-ended cylinder 21 within which the meat is to be placed for treatment. The ends of this cylinder are preferably flared outwardly somewhat, as shown, to facilitate the introduction and withdrawal of the meat. The cylinder is a plain cylindrical structure having no structural connection with any other part.

Surrounding the cylinder is a telescopic frame composed of two separable structures. One of said structures is composed of a transverse member 22 and two legs 23 and 24 extending out at right angles with said transverse member; and said legs, when the ap-

paratus is in use, are arranged substantially parallel to the cylinder. The other structure is of similar construction, being composed of a transverse member 25 and two legs 26 and 27, which legs are arranged to engage telescopically with the legs 23 and 24; and in the operation, as will be presently described, the transverse members are positioned nearer to or farther from each other, as the work may happen to require, and after the desired positions have been reached the telescopic legs are adapted to be secured together by means of suitable engaging devices, as pins 28 and 29.

Pistons or followers having suitable piston rods are mounted in appropriate bearings 22' and 25' in the transverse members 22 and 25 of the framework. Said pistons or followers are adapted to enter the open ends of the cylinder 21, and, when pressure is applied, to "follow" the contents of said cylinder, as the same shrinks or yields, and compress said contents into a solid mass. The piston rods 32 are tubular in form, and contain stout springs 33. Followers 34 are arranged above said springs, and are adapted, as will be presently described, to be forced down so as to compress said springs. Any suitable means (as a rod 41 which may be arranged to enter the chamber in the piston rod through a suitable perforation in the cap 32' of such rod, as is best shown in Fig. 4) may be employed in performing the compressing operation. After the springs are compressed they are adapted to be held in compressed condition by means of suitable gaging devices, as pins 35. Said pins however do not engage with the hollow piston rods themselves, which, in the construction shown are slotted as well as hollow, but pass freely through the slots in the piston rod and engage the followers directly with the surrounding bearings; so that, as the article against which the pistons bear yields, the springs will cause the pistons to follow said article, and thus exert a continuous pressure upon the contents of the cylinder while under treatment. These parts are prevented from revolving relatively to each other by means of projections on the bearings and on the followers which enter the slots in the hollow piston, as best shown in Fig. 4. These projections (b on the bearing and f on the follower) extend in a distance slightly less than one-half the thickness of

the wall of the hollow piston rod, so that those on the fo lower will not come into contact with those on the bearing, as the follower moves up and down. Said projections are
5 however entirely sufficient to effectually prevent the parts from revolving relatively to each other, while relative longitudinal movement within the predetermined limits is nevertheless freely permitted.

10 A number of cylinders of varying sizes should be provided, i order to accommodate the various sized hams or other masses of meat. The piston heads should be conveniently adjustable accordingly. The piston
15 heads are therefore composed of two parts—the part 31 which is intended to be permanently attached to the piston rod, and a removable plate 36. These are united in any suitable detachable manner, as by the headed
20 pins 37 secured to the plates by passing through "keyhole" openings in the parts 31, as is best shown in Fig. 5. By providing a multiplicity of these plates 36, of different diameters, the apparatus can be quickly
25 transformed from one size to another. As elsewhere indicated, the cylinders 21 are structurally free from the frame and pistons, and these light plates 36 can be quickly and easily attached and detached by the means
30 stated.

I will now proceed to describe the method or process of carrying out my present invention in the treatment of a ham: I first remove all bones from the ham and then wrap
35 the same up tightly in a suitable fabric, such as a light cotton cloth, forcing the same as nearly as possible into cylindrical form during the process of wrapping. I then put the package into the cylinder, fitting the same
40 into said cylinder as tightly as is convenient. I then put said cylinder into the frame above described, so that the pistons or followers carried by said frame will enter the ends of said cylinder and bear against the package of
45 meat therein. Pressure is then applied which forces the two frame parts toward each other until the meat is compressed (in its cold raw state) into substantially a cylindrical form, the irregular and unshapely ends being driven
50 in, and the cavities whence the bones were removed being closed and filled. When sufficient pressure has been applied, the pins 28 and 29 (or other engaging devices) are inserted in the legs of the frame so that they
55 are held together at the adjusted point. I then, by means of suitable pistons, apply an additional pressure to the followers bearing against the springs, until said springs are compressed to substantially the position
60 shown in Fig. 4, and then insert the keepers, such as the pins 35, which has the effect of bringing the meat under a spring pressure. The means of applying power to the followers is immaterial; and I have not illustrated
65 it, further than to show a fragment of a pis-

ton rod 41 in Fig. 4. It may be any pressing means desired having sufficient power and strength to compress the springs of my apparatus. After the springs are compressed, and the parts fastened, as described, the complete structure, containing the meat, is introduced into the cooking receptacle, and subjected to the cooking operation. During
70 the process of cooking the meat gradually shrinks, and, as it shrinks, the pistons, actuated by the springs, exert a continuous pressure thereon, following the meat and taking up all slack until the cooking is completed. The cylinder of meat is then allowed
75 to cool off, and, after cooling, the pressure is removed, and the meat taken out of the cylinder, and freed from the cloth wrapper—the result being a shapely, solid, cylindrical piece of meat with flattened ends. As the pistons
80 fit in the ends of the cylinder reasonably tight the natural juice and flavor of the meat are retained, and there is also considerable economy to the purchaser, who receives, instead of a chunk of meat having irregular ends
85 so that only small fragmentary slices can be taken from the butt and shank ends of the ham, a shapely mass, of uniform diameter, so that there will be little or no loss in cutting. Such meats, when cooked and cooled off,
90 besides being capable of being wrapped in suitable material and sold for immediate consumption, can, if desired, be put in cylindrically-shaped cans, and then processed and hermetically sealed, so as to be capable of
95 being shipped long distances and kept any reasonable length of time in a wholesome condition.

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

1. An apparatus for preparing meat consisting of a cylindrical receptacle, a surrounding telescopic frame, and pistons carried by said frame and entering the ends of said receptacle.

2. An apparatus for preparing meats consisting of a cylindrical open-ended receptacle, pistons entering the ends of said receptacle, a frame carrying said pistons, and compressible springs connected to said pistons and arranged to exert a continuous pressure upon the contents of the cylinder.

3. An apparatus for preparing meats consisting of a cylindrical open-ended receptacle, pistons entering the ends of said receptacle, a telescopic frame carrying said pistons, and springs arranged to exert a continuous pressure upon said pistons and through them upon the contents of the receptacle.

4. An apparatus for preparing meats consisting of an open-ended cylindrical receptacle, pistons entering the ends of said receptacle and having tubular piston rods, a telescopic frame in which said piston rods are mounted, means for engaging the telescopic

members of said frame at points to which it may be adjusted, springs within the tubular piston rods, followers for said springs, and means for engaging said followers to hold
5 said springs to compressed position.

5. In an apparatus for preparing meats the combination of a receptacle, a piston entering said receptacle, a frame surrounding said receptacle and carrying said piston, and
10 a spring connected to the piston rod and adapted to be compressed, the arrangement being such that said spring when compressed will exert continuous pressure upon the contents of the receptacle.

15 6. In an apparatus for preparing meats the combination of a receptacle, a piston entering said receptacle, a tubular piston rod to said piston having slots in its sides, a frame surrounding said receptacle and embodying a bearing for said piston rod, a compression spring arranged within said tubular
20 piston rod and bearing against the piston head, a follower also within said tubular piston rod and resting on said spring, and a device passing through the slots in the sides of
25 the piston rods and arranged to engage with said follower and the frame structure adjacent to the piston rod.

7. In an apparatus for preparing meats
30 the combination of a receptacle, a piston entering said receptacle, a tubular piston rod to said piston having slots in its sides, a frame surrounding said receptacle and embodying a bearing for said piston rod, a compression
35 spring arranged within said tubular piston rod and bearing against the piston head, a follower also within said tubular piston rod and resting on said spring, and a device passing through the slots in the sides of the piston
40 rods and arranged to engage with said follower and the frame structure adjacent to the piston rod, the piston rod bearing and the follower being provided with projections which engage with the slots in the piston rod
45 and prevent relative rotation of the parts.

8. An apparatus for preparing meats consisting of an open-ended receptacle adapted to surround the meat, pistons entering the openings in said receptacle and arranged to
50 bear upon the contents thereof, and automatically-acting means for exerting a con-

tinuous pressure upon said pistons during the preparing operation.

9. An apparatus for preparing meats consisting of a cylindrical open-ended receptacle, pistons fitting said cylindrical receptacle and arranged to enter the same from opposite ends, and automatically-acting means whereby continuous pressure is exerted upon
55 said pistons whereby they are continuously forced toward each other with a constant pressure upon the contents of the receptacle during the process of preparing, whereby a cylindrical well-compressed mass of cooked
60 meat with flattened ends is produced.

10. A meat container comprising a surrounding wall and contained members which are relatively movable toward and from each other and automatically-acting means for exerting a continuous pressure thereon whereby the contents of the container are constantly compressed during the cooking operation.
65

11. The combination in an apparatus for preparing meats of a stationary surrounding wall, relatively movable receptacle parts contained therein, and automatically-acting means for constantly urging said parts toward each other and diminishing the cubical contents of the receptacle, whereby a continuous pressure is maintained upon the contents of the receptacle during the preparing operation.
75

12. The combination, in an apparatus of the class described, of a shaping receptacle, followers which bear against the contents of said receptacle, automatically-acting means whereby continuous pressure on said followers shall be maintained, and means for adjustably regulating the pressure, thus keeping said followers constantly and firmly
85 against the contents until the preparing operation is completed.

In testimony whereof, I, have hereunto set my hand and seal at Indianapolis, Indiana, this 23rd day of March, A. D. one thousand nine hundred and six.
95

JAMES CUNNING. [L. s.]

Witnesses:

CHESTER BRADFORD,
THOMAS W. McMEANS.