No. 649,770. Patented May 15, 1900.

L. T. SNOW.

FOOD CHOPPER.

(Application filed May 4, 1899.)

(No Model.)

Fig. 1

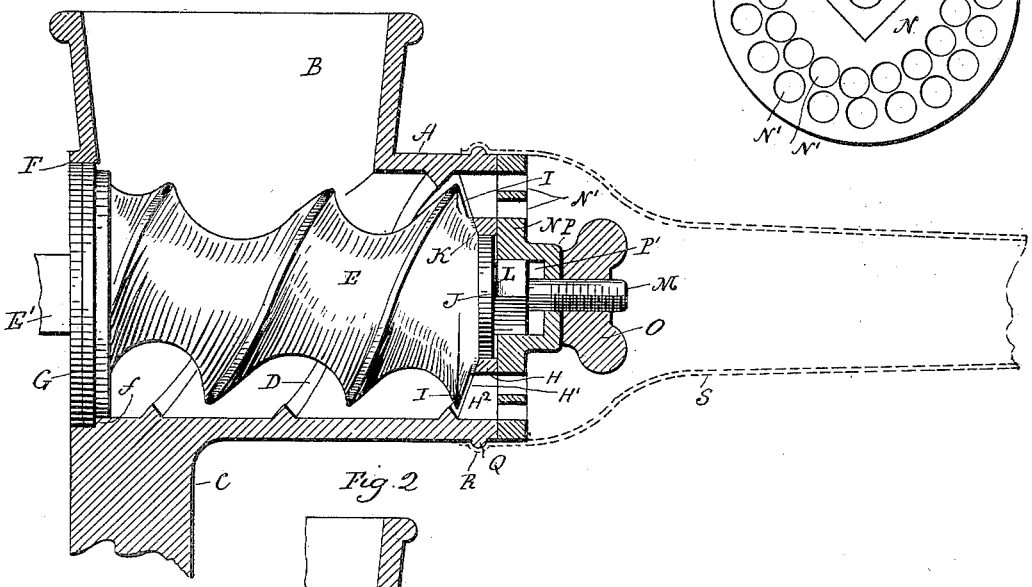


Fig. 5

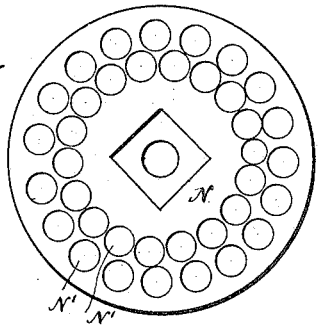


Fig. 2

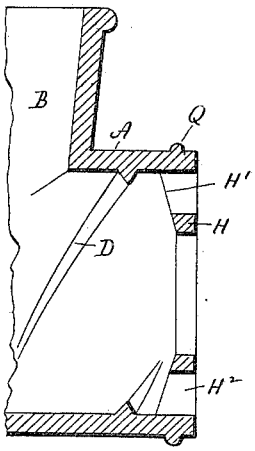


Fig. 4

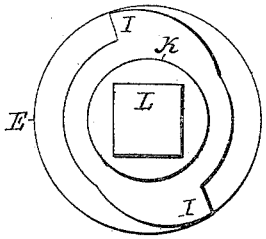


Fig. 3

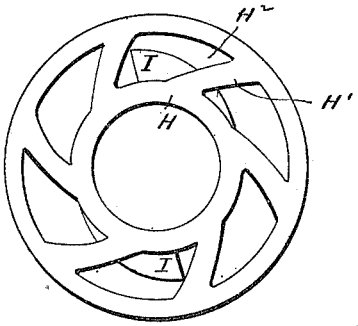


Fig. 8

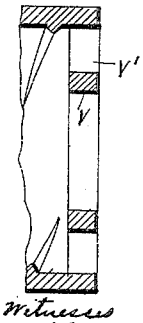


Fig. 6

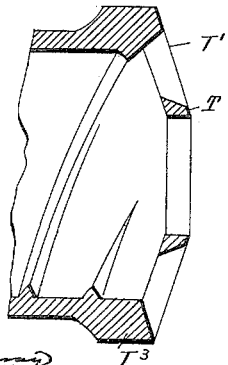


Fig. 9

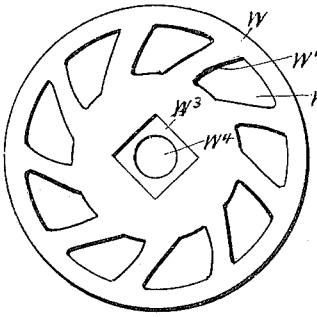
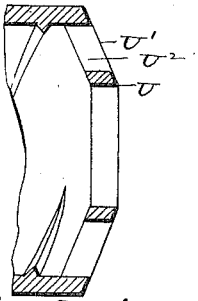


Fig. 7



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UNITED STATES PATENT OFFICE.

LEVI T. SNOW, OF NEW HAVEN, CONNECTICUT.

FOOD-CHOPPER.

SPECIFICATION forming part of Letters Patent No. 649,770, dated May 15, 1900.

Application filed May 4, 1899. Serial No. 715,546. (No model.)

To all whom it may concern:

Be it known that I, LEVI T. SNOW, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Food-Choppers; and I do hereby declare the following when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a broken view, in vertical section, of a food-chopper constructed in accordance with my invention; Fig. 2, a broken sectional view of the forward end of the case of the chopper; Fig. 3, a view in front elevation of the outer end of the case of the chopper, showing also the outer end of the screw-like forcer; Fig. 4, a detached view, in front elevation, of the forcer; Fig. 5, a detached view, in front elevation, of the cutter; Fig. 6, a broken view, in vertical section, of a modified form for the outer end of the case; Fig. 7, a similar view of still another modified form for the outer end of the case; Fig. 8, a detached view, in inside elevation, of one of the modified forms which the cutter may assume. Fig. 9, a detached view showing a modified form for the cutter.

My invention relates to an improvement in food-choppers, the object being to produce a simple, compact, and efficient device composed of few parts having a wide range of usefulness and not liable to derangement.

With these ends in view my invention consists in a food-chopper having certain details of construction and combinations of parts, as will be hereinafter described, and pointed out in the claim.

In carrying out my invention as herein shown I employ a horizontally-arranged cylindrical case A, having a hopper B, a stem or standard C, and internally-arranged spiral ribs D. I also employ a screw-like forcer E, adapted to be introduced into and removed from the case through a large circular assembling-opening F, formed in the rear end thereof, the outer end of the said opening being enlarged to form an annular bearing-shoulder *f*, forming a seat for a bearing-collar G, located at the outer end of the forcer E, which is furnished with a stem E′, to which any suitable handle is attached. Within the outer end of the case is located a concentric bearing-ring H, supported by tangentially-arranged cutting-arms H′, which merge into the edge of the case, the said ring, arms, and case being made integral. The spaces H^2 between the tangential arms H′ constitute discharge-openings. The outer faces of the said ring and arms coincide with the outer end of the case, and the inner faces of the arms and the inner face of the ring H are in the same plane; but this plane is inclined to the longitudinal axis of the case, as clearly shown in Fig. 2 of the drawings. The forward end of the forcer is formed with two diametrically-opposite cutting-teeth I I, Fig. 4, the highest points of which ride upon the inclined inner faces of the tangential arms H′ and coact therewith to cut the food, whatever the character of the same may be. Although the forcer, as shown, is formed with two teeth, I do not limit myself to that number, as it might be formed with only one tooth or with more than two teeth. It will be observed by reference to Figs. 3 and 4 that the diameter of the outer end of the forcer is so much smaller than the diameter of the outer end of the case that the teeth I I do not in their cutting action reach to the outer ends of the tangential arms H′, whereby a free space is left between the outer edges of the teeth and the outer walls of the discharge-openings of the case. This construction and arrangement provides against excessive pressure where the cutting is done, especially when an unusually large mass of tough meat or kindred substance is being cut, by allowing a portion thereof to temporarily escape into the said free space provided for beyond the range of the teeth. It will be readily understood that as soon as the teeth have relieved themselves to some extent by cutting and discharging a portion of the tough mass the balance will be caught and operated upon, thereby disposing of the entire mass piecemeal and without calling for any unusual exertion on the part of the manipulator of the machine or without imposing any undue strain thereupon. On the other hand, should the entire tough mass be operated upon all at once the machine might be blocked on account of the great strength then necessary to be exerted on the crank or handle of the machine to operate the same.

Near its forward end the forcer is formed with an annular bearing-shoulder J, adapted in size to fit closely within the bearing-ring H, this shoulder being encircled by an inclined bearing-face K, which bears against the beveled or inclined inner face of the said ring. Beyond the shoulder J the forcer is formed with a square hub L, from which a threaded stem M projects, the said hub providing for coupling to the forcer for rotation therewith the disk-like cutter N, which is formed with two rows of perforations N′ and has flat inner and outer faces and which corresponds in diameter to the diameter of the case. The said cutter is formed upon its outer face with a hollow boss P, entered by a squared opening P′, receiving the squared hub L before mentioned. The stem M projects outward through the said boss P for the application to it of a thumb-nut O, which is screwed down upon the outer face of the boss and so as to force the cutter inward against the outer end of the case A and the outer faces of the arms H′, with which it coacts in cutting the food as the same emerges from the case through the discharge-openings H^2 aforesaid.

In order that the apparatus may be used as a sausage-stuffer, I provide the outer end of its case with a left-hand spiral rib Q, adapted to be engaged with a corresponding spirally-arranged bead R, formed in the bell-shaped inner end of a funnel S, which is large enough in diameter at its inner end to fit over the outer end of the case, to which it is readily attached and from which it is as readily removed.

In the modified construction shown by Fig. 6 of the drawings the bearing-ring T and cutting-arms T′ are extended beyond the outer end of the case and the discharge-openings between the arms flared, so as to be larger at their outer than at their inner ends. In this construction also the outer end of the case is formed with an integral band T^3.

In the modified construction shown by Fig. 7 the bearing-ring U and cutting-arms U′ are extended beyond the end of the case; but in this construction the discharge-openings U^2 are uniform in size and the case is not provided with any band or shoulder.

In the construction shown by Fig. 8 the bearing-ring V and cutting-arms V′ have flat inner and outer faces, which are located in planes extending at a right angle to the longitudinal axis of the case.

In Fig. 9 I have shown a modified form of the cutter W, having tangential cutting-arms W′, separated by discharge-openings W^2. This cutter is formed in its inner face with a square recess W^3 for the reception of the hub L and with a perforation W^4 for the forward projection through the cutter of the stem M.

I would therefore have it understood that I do not limit myself to the exact details of construction herein shown and described, but hold myself at liberty to make such changes as fairly fall within the spirit and scope of my invention.

I do not in this application claim the construction and combination of parts whereby the end thrusts of the forcer are received at its opposite ends, having claimed that construction in an application filed March 9, 1899, and serially numbered 708,347.

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

In a food-chopper, the combination with a case having its outer end provided with a concentrically-arranged bearing-ring and cutting-arms merging at their inner ends into the said ring, and at their outer ends into the case, the spaces between the said arms constituting discharge-openings; of a screw-like forcer formed at its forward end with one or more teeth which coact with the inner ends of the inner faces of the said arms, and which are too short to reach the outer ends thereof, and therefore too short to extend across the outer portions of the said discharge-openings, whereby relief is provided against undue pressure within the chopper between the forward end of the case and the forward end of the forcer.

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

LEVI T. SNOW.

Witnesses:
FRED. C. EARLE,
LILLIAN D. KELSEY.