(No Model.) 2 Sheets—Sheet 1.

F. W. CARTER.

MEAT TENDERER.

No. 315,723. Patented Apr. 14, 1885.

Fig. 1.

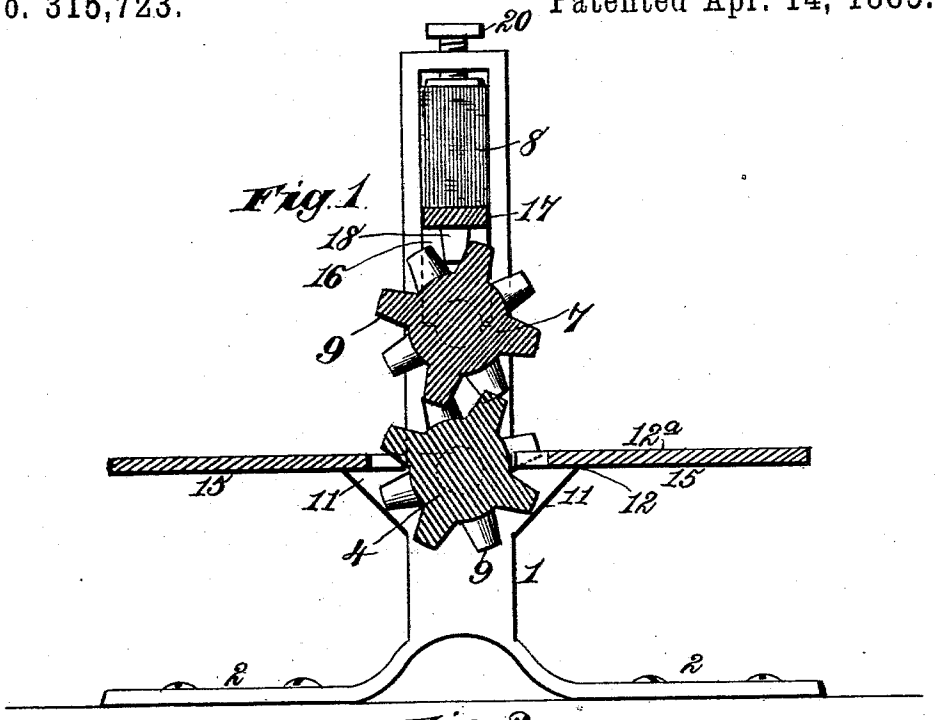
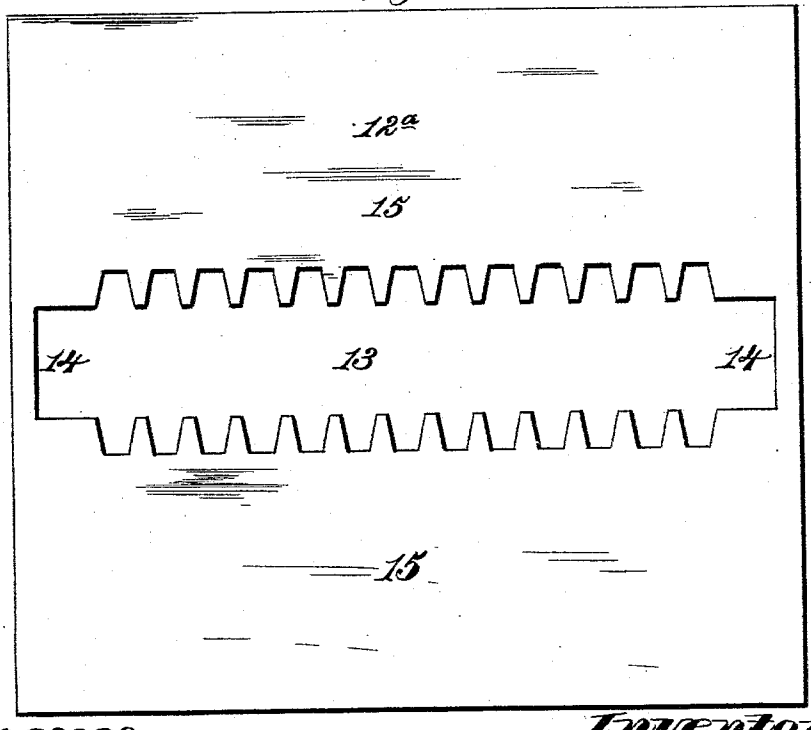


Fig. 2.



Witnesses.
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Jo. L. Coombs

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

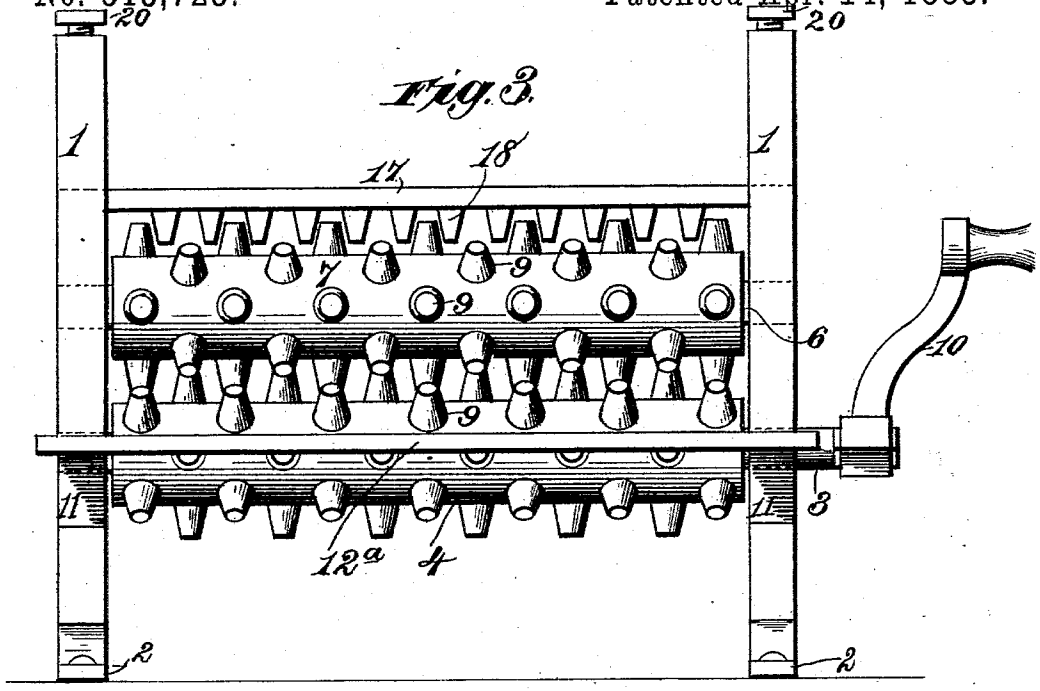


Fig. 4.

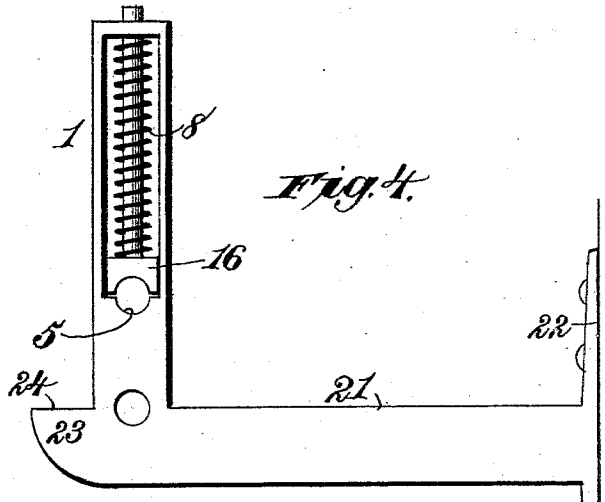
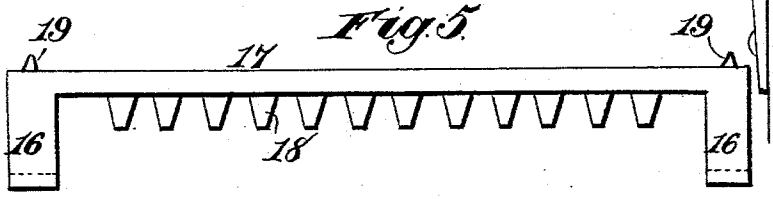


Fig. 5.



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UNITED STATES PATENT OFFICE.

FRANCIS W. CARTER, OF MORGAN, TEXAS.

MEAT-TENDERER.

SPECIFICATION forming part of Letters Patent No. 315,723, dated April 14, 1885.

Application filed August 23, 1884. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS W. CARTER, a citizen of the United States, residing at Morgan, Bosque county, Texas, have invented new and useful Improvements in Meat-Tenderers, of which the following is a specification.

My invention relates to machines for crushing and tendering beefsteak; and the object thereof is to provide an apparatus which shall be simple in construction, efficient in operation, and comparatively inexpensive, and one which will act upon the meat without cutting and separating the tissue, and in which the crushing-teeth are cleansed of adhering matter at each revolution.

My invention consists in the several novel features of construction and combinations of parts hereinafter fully set forth, and definitely pointed out in the claims.

Referring to the accompanying drawings, Figure 1 is a vertical cross-section. Fig. 2 is a plan view of the apron and cleaner detached. Fig. 3 is a side elevation of the machine. Fig. 4 is an end elevation showing a modified construction. Fig. 5 is a side elevation of the wiper detached.

In the said drawings the reference-numeral 1 denotes the standards or uprights of the machine, upon which the operative parts are supported. Upon the lower end of each standard are formed base-plates 2, having apertures to receive screws, by which the apparatus may be conveniently attached to a table or other horizontal support.

At a suitable distance above the lower end of each standard is cast or drilled a bearing to receive the journal 3 of the lower crushing-roll, 2, and above said bearing, and in the same vertical plane, I form in each standard a half-bearing, 5, which receives the journal 6 of the upper roll, 7, the standards being slotted above each half-bearing to receive springs 8, which bear upon the journals of the upper roll and serve to retain it in operative engagement with the lower crushing-roll, 4.

Upon the periphery of each of the crushing-rolls are formed teeth 9, each having the form of a truncated cone, and so arranged as to alternate with each other and with the teeth upon the opposite roll. One of the journals of the lower roll is prolonged to extend outward, and squared to receive a crank, 10, by which the device is operated.

Upon each standard are cast or otherwise formed laterally-extending shoulders 11, having horizontal supporting-surfaces 12, which lie in a plane passing between the rolls 4 and 7. These shoulders support an apron, 12^a, (shown detached in Fig. 2,) said apron consisting of a plate having a central longitudinal slot, 13, extending nearly to the ends thereof, and of such width that it may pass down over the standards 1, which lie in the extremities 14 of said slot. The edges of the latter, which lie opposite the toothed surface of the lower roll, are serrated, the intervals between the teeth being such that the alternating teeth of the lower roll may pass between without obstruction, and at the same time be cleansed from matter adhering thereto from contact with the meat. The sides 15 of the apron afford a convenient support for the meat as it passes through between the rolls, and the construction of the apron and the manner of engaging it with the standards affords a strong and rigid support for the latter.

Upon the journals 6 of the upper roll, 7, are mounted half-boxes 16, which support a wiper, 17, provided with depending teeth 18, between which the teeth of the upper roll pass, and by which they are freed from adhering particles of meat or grease. Upon the upper face of the wiper-plate, and near each end thereof, are formed nipples or points 19, which engage with the lower ends of the springs 8, by which the roll is held down and in engagement with the lower roll. A set-screw, 20, is tapped through the top of each standard, and rests upon the upper end of each spring, whereby the tension of the latter may be adjusted.

Instead of forming the standards in the manner shown in Fig. 1, I may use the form shown in Fig. 4, in which they are cast with horizontal arms 21 upon the lower ends, said arms having base-plates 22, by which they are attached to a wall or other vertical support. In this form of construction the outer ends of the arms project somewhat beyond the standards, forming shoulders 23, having horizontal surfaces 24, which lie in the same horizontal plane with the upper edges of the arms. The lower roll being journaled in bearings formed in the cen-

tral plane of the horizontal arms, the apron 12ª is supported upon the shoulders 23 and the arms 21, in which position it lies between the rolls, as already described. In other respects the construction of the machine is similar to that already described.

The frame of the apparatus may be made of metal or other suitable material, and the springs set in the standards may be made of solid rubber, as shown in Fig. 1, or of metal, and the construction of the several parts may be varied in other respects within the limits of my invention.

I provide a simple, strong, and efficient device for tendering meat which is comparatively inexpensive in construction, in which the meat is tendered without cutting and mangling the tissues, and the teeth of the rolls cleansed at each revolution.

Having thus described my invention, what I claim is—

1. In a meat-tenderer, the combination of end standards, crushing-rollers journaled in the standards and having alternating teeth, and an apron composed of a horizontally-arranged plate constructed within its body with a longitudinal slot through the ends of which the standards pass, said slot having its edge serrated to clean the lower crushing-roll, substantially as described.

2. In a meat-tenderer, the combination of end standards, crushing-rolls journaled in the standards and having alternating teeth, and an apron composed of a horizontally-arranged plate constructed within its body portion with a longitudinal slot, the opposite edges of which are serrated or toothed, said standards passing through the ends of the slot, substantially as described.

3. In a meat-tenderer, the combination of end standards having slotted upper ends, crushing-rolls journaled in the standards and having alternating teeth, an apron supported upon the standards in a plane passing between the rolls, and having teeth for cleaning the lower roll, half-boxes resting upon the journals of the upper roll, and a wiper resting at its ends on the half-boxes and provided with pendent teeth, substantially as described.

4. The combination, in a meat-tenderer, of slotted end standards, upper and lower toothed crushing-rollers journaled therein, half-boxes resting on the journals of the upper roll, a wiper having its ends supported by the half-boxes and provided with pendent teeth to clear the upper roll, and springs acting on the ends of the wiper, substantially as described.

5. In a meat-tenderer, the combination of slotted end standards and having alternating teeth, half-boxes resting on the journals of the upper roll, a wiper having its ends supported by the half-boxes and provided with pendent teeth, and springs acting on the ends of the wiper, substantially as described.

6. A meat-tenderer consisting of slotted end standards, crushing-rolls journaled in the standards and having alternating teeth, an apron composed of a horizontally-arranged plate having a longitudinal slot the opposite edges of which are serrated or toothed, and through the ends of which the standards pass, half-boxes resting on the journals of the upper roll, a wiper having its ends supported by the half-boxes and provided with pendent teeth, and springs acting on the sides of the wiper, substantially as described.

7. In a meat-tenderer, the combination, with the standards in which the rolls are journaled, of lateral shoulders projecting from each edge of said standards, and an apron supported upon said shoulders and surrounding the standards, said apron lying in a plane passing between the rolls, and having teeth upon the edges of a central slot, between which the teeth of the lower roll pass at each revolution, substantially as described.

8. In a meat-tenderer, the combination of end standards, crushing-rolls having alternating teeth, an apron arranged in a plane passing between the rolls, and a wiper having its ends supported in the end standards directly above the upper crushing-roller, and provided with depending teeth, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

FRANCIS W. CARTER.

Witnesses:

A. C. McKAY,

R. J. GRANT.