(No Model.)

# J. T. OAKES.

## MEAT TENDERER.

No. 509,323. Patented Nov. 21, 1893.

Fig. 1.

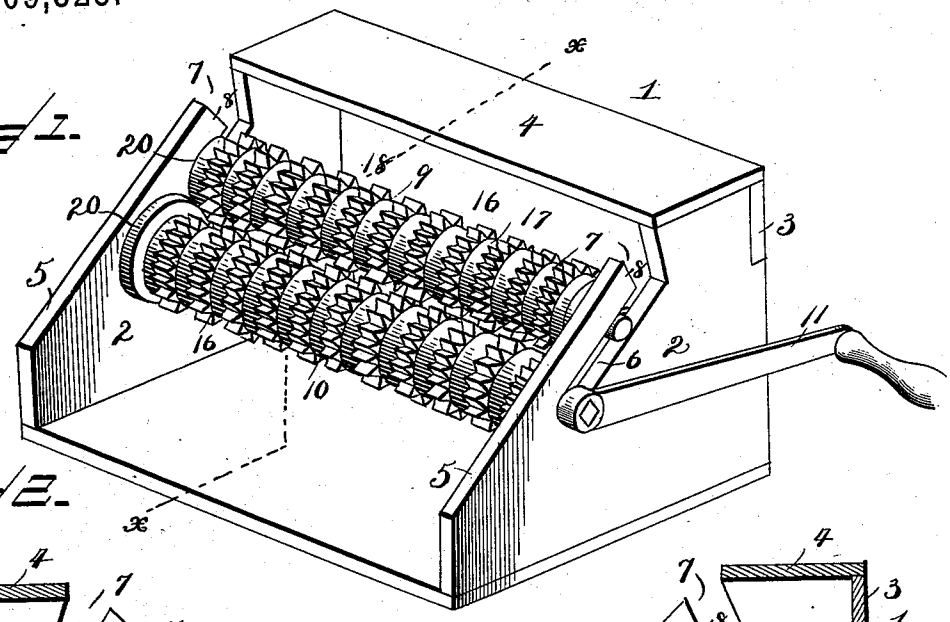



Fig. 2.

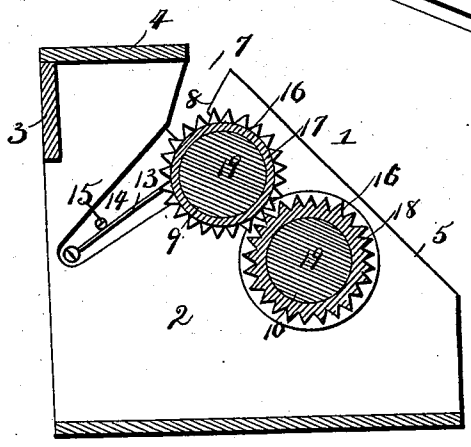



Fig. 4.

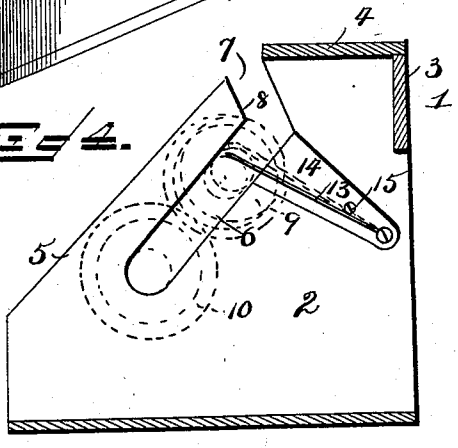
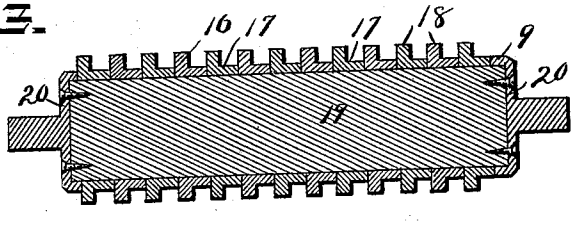



Fig. 3.




Witnesses
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# UNITED STATES PATENT OFFICE.

JOSEPH T. OAKES, OF WILLIAMSBURG, KENTUCKY.

## MEAT-TENDERER.

SPECIFICATION forming part of Letters Patent No. 509,323, dated November 21, 1893.

Application filed March 7, 1893. Serial No. 464,965. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH T. OAKES, a citizen of the United States, residing at Williamsburg, in the county of Whitley and State of Kentucky, have invented a new and useful Meat-Tenderer, of which the following is a specification.

This invention relates to meat tenderers, and has for its object to simplify and cheapen the construction of devices of this character, and to overcome many objectionable features of prior devices for the same purpose.

With these ends in view, the invention consists of the construction and arrangement of the parts thereof as will be more fully hereinafter described and claimed.

In the drawings: Figure 1 is a perspective view of a meat tenderer embodying my invention. Fig. 2 is a transverse vertical section on the line *x*—*x*, Fig. 1. Fig. 3 is a longitudinal vertical section taken through the center of one of the rollers. Fig. 4 is a sectional elevation view of one end of the machine, showing in full and dotted lines the tension spring resting upon the uppermost roller.

Similar numerals of reference indicate corresponding parts in the several figures of the drawings.

Referring to the drawings, the numeral 1 designates the frame, which comprises a closed bottom, open front and rear sides, and closed ends 2, that are braced at the back by a cross-strip 3, and provided at their upper ends with a covering plate or strip 4; and said frame may be constructed of wood and made in separate pieces and afterward joined, or be cast or molded at one operation from metal of a suitable nature. The front edges of the ends 2 are beveled rearwardly, as at 5, to permit ready access to the operating parts of the machine, and in rear of the said edges are formed slots 6 in planes parallel to the said beveled edges and having upper open ends 7, whose rear walls are slightly inclined forward, as at 8, so that in removing the mechanism held by said ends said operation can be conveniently performed from the front of the machine.

Within the slots 6 are rotatably mounted a pair of rollers 9 and 10, the lowermost roll, 9, being provided with an operating crank-handle 11, secured to a stub projecting from one end of the said lowermost roller outwardly through one of the said slots 6. The uppermost roller 10 is arranged obliquely with reference to the roller 9 by virtue of the nature of the slots 6, as heretofore set forth, and said rollers 9 and 10 have the ends thereof either geared frictionally as shown, or connected at said points by suitable toothed gearing. The obliquity of arrangement of the rollers places the same in convenient position for feeding the meat between the same without danger of injury to the fingers of the hand of the operator, as it will be seen that one roller, the uppermost one, stands slightly to the rear of the vertical plane of the lowermost roller, and the meat that is fed between the said rollers is directed at a downward incline from the rear thereof and away therefrom. Furthermore the lower roller being in advance of the upper roller forms a rest for the meat as it is fed to the rollers.

To each end 2, at the rear thereof and on the inner side of the same, is secured a straight spring-arm 13, movably fitted in a slot 14, that diverges toward the upper end thereof that is situated adjacent to the uppermost roller and the free end of said spring-arm loosely engages the stub of the uppermost roller that is fitted in the adjacent slot 6. These spring-arms are arranged at a downward inclination and secured at their rear ends, and the movement of the same is regulated by posts 15, above the same adjacent to their points of securement; and it will be seen that by the employment of the said posts, the resistance of the spring-arms will be increased without the necessity of employing a heavy and cumbersome device of the character set forth. The object of the said spring-arms is to produce a tension on the uppermost roller 10, and hold the latter normally in contact with the lowermost roller 9; but when meat of increased thickness is passing between the rollers, that resists the action of the same, or a bone is encountered, the said uppermost roller will rise or be pressed away from the lowermost roller against the action of the said spring-arms, and immediately such form of obstruction has passed between the rollers the said spring-arms will again come into play and force the uppermost roller downwardly against the lowermost roller. It will be ob-

viously apparent that this arrangement will avoid injury to the rollers and produce an automatic action for the uppermost roller that will greatly facilitate the process of tendering meat and enhance the value of the machine by making it durable and strong enough to resist parts of the meat that pass between the rollers without breaking the latter.

It will be observed that the formation of the slot 14, in which the spring-arms 13 are located, provides for a limitation of the movement of said spring-arms at the free ends of the latter, but said free ends of the slots are large enough to permit all the movement necessary for the said spring-arms to possess. It will also be understood that the rollers may be readily removed from the frame when so desired, to cleanse or otherwise manipulate the same, by simply removing the posts and loosening the spring-arms so that they may be also detached or raised upwardly out of the way. Furthermore, the arrangement of the springs within the slots or grooves 14 prevents the springs from projecting into and obstructing the space between the planes of the ends of the frame, which otherwise would interfere with the passage of the meat through the apparatus.

Each of the rollers 9 and 10, is formed of a series of sections 16, that comprises a flange 17, and a toothed rim 18, and these are mounted on a wooden core 19, to which the end-caps 20, carrying the stubs, are secured by screws to hold the several sections in proper position on the wooden core; and the toothed rims are so arranged on the two rollers that they will revolve in the plane of the untoothed portion of each section, so as to prevent entirely cutting the fiber of the meat, but at the same time tender the same and cause a feed thereof between the rollers by reason of the fact that the rollers revolve inwardly toward each other, or in reverse directions as will be readily understood. The use of the wooden core greatly lightens the structure of the rollers and the sections can be replaced at any time should they become broken or otherwise injured.

The frame is arranged to be attached to a table or shelf in convenient position within the culinary department, and it is obviously apparent that changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having described the invention, what is claimed as new is—

1. In a meat tenderer, the combination of a frame having oppositely-situated ends provided with obliquely-arranged slots, which incline forwardly toward their lower ends a pair of twin co-acting rollers removably fitted in said slots and geared together for simultaneous operation, the lower roller being thus held in advance of the upper roller to facilitate the feeding of the meat to the rollers by providing a rest for the meat preparatory to its engagement by the rollers and a pair of spring-arms having their free ends bearing against the opposite trunnions of the uppermost of said rollers, the direction of pressure of the spring-arms being parallel with the slots, substantially as specified.

2. In a meat tenderer, the combination of a frame having obliquely-arranged slots in the opposite ends thereof, said slots inclining forwardly toward their lower ends, a pair of rollers removably mounted in said slots whereby the axis of the uppermost roll is in rear of the vertical plane of the axis of the lowermost roll, a crank-handle in connection with one of said rollers, and a pair of spring-arms having their free ends engaging the opposite trunnions of the uppermost roll, the said spring-arms being arranged in slots or grooves 14, the sides of which diverge toward their uppermost ends or toward the trunnions of the rollers, whereby the springs do not project into nor obstruct the space between the planes of the ends of the frame, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOSEPH T. OAKES.

Witnesses:
R. T. HEMPHILL,
B. F. ROSE.