

No. 881,204.

PATENTED MAR. 10, 1908.

G. E. SMITH.  
MEAT TENDERER.

APPLICATION FILED MAY 24, 1907.

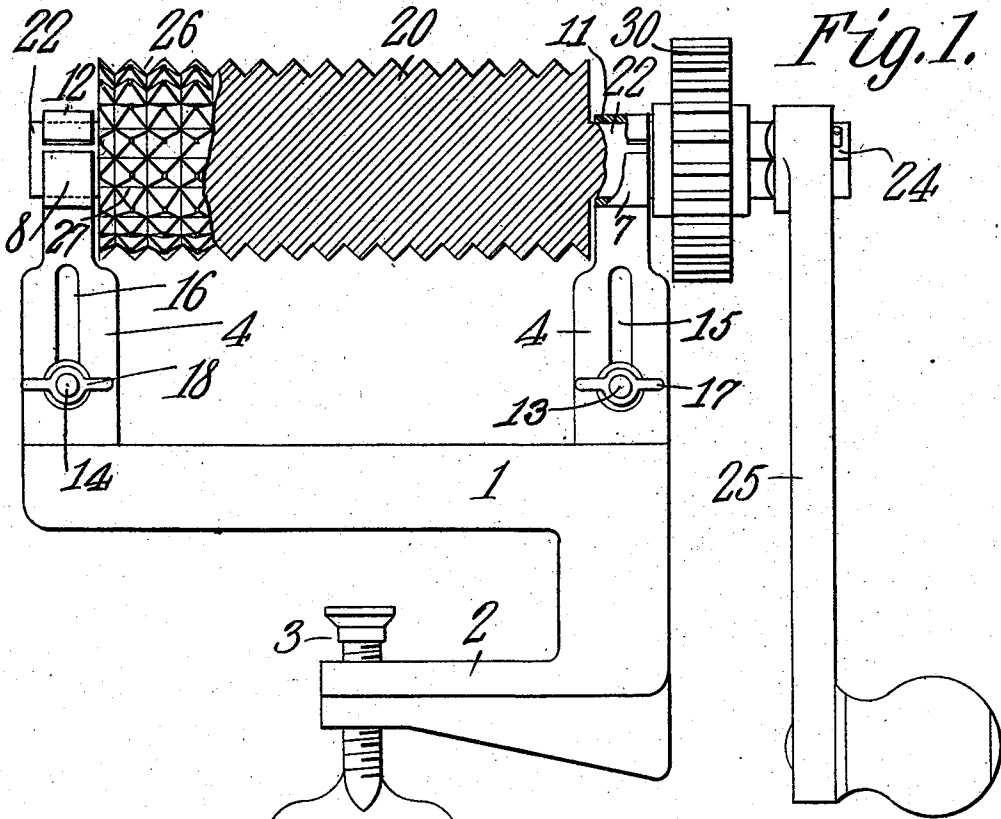


Fig. 1.

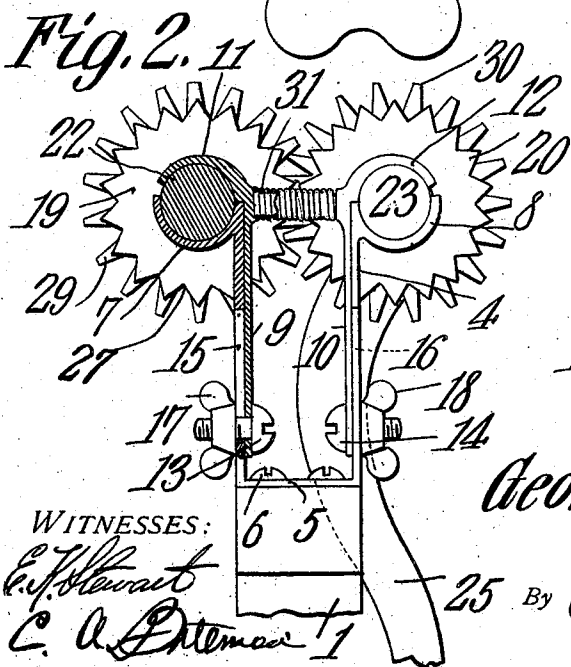


Fig. 2.

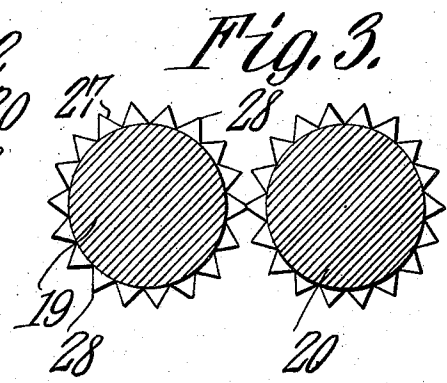


Fig. 3.

WITNESSES:

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# UNITED STATES PATENT OFFICE.

GEORGE EDWARD SMITH, OF WINNFIELD, LOUISIANA.

## MEAT-TENDERER.

No. 881,204.

Specification of Letters Patent.

Patented March 10, 1908.

Application filed May 24, 1907. Serial No. 375,514.

*To all whom it may concern:*

Be it known that I, GEORGE EDWARD SMITH, a citizen of the United States, residing at Winnfield, in the parish of Winn and State of Louisiana, have invented a new and useful Meat-Tenderer, of which the following is a specification.

This invention relates to improvements in devices for treating tough steaks and other meats whereby they are rendered more palatable without lacking the juices thereof, and it has for its purpose to provide an improved machine of this character that is capable of receiving steaks and other meats of varying thicknesses with and without the bones, the novel construction of the rolls serving to break up the sinews and other relatively tough portions of the meats and accommodating themselves automatically to the thickness of the meat being treated, the rolls being so mounted that they may be readily removed and cleansed.

To these and other ends, the invention comprises the various novel features of construction and combination and arrangement of parts, which will be hereinafter more fully described, and pointed out particularly in the appended claims.

In the accompanying drawings:—Figure 1 is a side elevation of a meat tenderer constructed in accordance with the present invention. Fig. 2 shows the device as viewed from the left in Fig. 1, portions being shown in section. Fig. 3 represents a cross section through the cooperating rolls.

Corresponding parts in the several figures are indicated throughout by similar characters of reference.

The device shown in the present embodiment of my invention comprises a frame 1 adapted to support the device and to provide a suitable means whereby it may be fixed in position, the frame shown in the present instance embodying a plate or relatively flat portion adapted to rest upon the top of a table or other relatively fixed support and having an arm 2 provided with a clamping screw 3, the latter being adjustable relatively to the plate and serving to clamp said plate on its support. On the upper side of the frame are secured a pair of bearing standards 4 which may be formed integrally with the frame, or they may be composed of strips of flat metal, as shown, the intermediate portion of each strip, 5, being fastened by screws or other means 6 to

the top of the frame, and the ends of the strip being extended upwardly in substantially parallel relation and provided with semi-cylindrical bearing sections 7 and 8, which are preferably arranged at the outer sides of the arms that are thus formed on the standards. The standards are preferably composed of resilient material in order that the arms thereof carrying the bearing sections may be capable of a relative proximating and separating movement, the purpose of which will be hereinafter described.

Between the arms of each standard are mounted a pair of slides 9 and 10 which are adapted to move vertically relatively to the frame and are provided at their upper ends with semi-cylindrical bearing sections 11 and 12, which are turned outwardly and arranged to cooperate with the bearing sections 7 and 8 on the standard when the slides are in their lowermost position, an upward movement of the slides serving to move the bearing sections thereon out of cooperative relation with those on the standard.

Any suitable means may be employed for retaining the slide in given relation to the standard, the devices shown in the present instance for accomplishing this purpose comprising screws or bolts 13 and 14 carried by the slides and projecting outwardly through the slots 15 and 16 in the cooperating standard arms, whereby the bolts are permitted to operate longitudinally of the slots when the slides are adjusted relatively to the standard, thumb nuts 17 and 18 cooperating with the outer ends of the screws or bolts and serving to clamp the slides against the inner sides of the respective arms of the standard. Each standard is preferably constructed in the manner just described.

The tendering rolls between which the meat to be treated is to pass comprise the approximately cylindrical portions 19 and 20 arranged on parallel axes and extending between the standards, each roll being provided with a pair of journals 22 and 23 adapted to cooperate with the bearing sections on the slides and standards, one of the rolls having its journal portion prolonged to form an operating end 24 which is angular in shape and adapted to receive an operating crank 25, the device shown in the present instance being adapted for manual operation.

The body portions of the rolls are preferably formed as duplicates, and they are provided with angular grooves 26 and 27 ex-

tending circumferentially and longitudinally of each roll, the inclined sides of the grooves forming a series of symmetrically arranged projections 28 of substantially pyramidal form, the projections preferably covering the entire surface of each roll and are spaced substantially equi-distantly longitudinally and circumferentially.

In some cases it may be unnecessary to operatively connect the rolls so that the turning effort is applied to both of them, but it is generally preferable to operatively connect them, the devices shown in the present instance for accomplishing this purpose comprising a pair of spur gears 29 and 30 fixed to the respective rolls and serving to insure simultaneous rotation at a uniform speed. In some cases, it may be desirable to mount the rolls in fixed relation, the rolls in such a case being capable of producing a considerable pressure upon the meat from which the bones have been previously removed, but it is generally preferable to so construct the device that the rolls are capable of accommodating themselves to meats of various thicknesses as well as those from which the bones have not been removed, and to this end the slides carrying the upper bearing sections are yieldingly connected by the helical tension springs 31 the teeth of the spur gears in the present instance being relatively long in order that the gears may remain in cooperative relation during the lateral displacements of the rolls.

A meat tenderer constructed in accordance with the present invention is composed of a few parts that are simple in construction, enabling the device to be manufactured cheaply, and the novel form of the rolls insures a thorough breaking of the sinews and other relatively tough portions of the meat as the latter passes between them, and as the device is capable of receiving the meats with the bones and without the necessity of adjustment, the meat tendering operation will be materially facilitated. Moreover, the rolls are so mounted that they may be readily removed for cleansing and other purposes.

What is claimed is:—

1. In a device of the character described, the combination with a frame, and bearing standards mounted thereon and provided with pairs of bearing sections, of a pair of cooperatively arranged rolls journaled in the

bearing sections of the said standards, slides adjustable relatively to the standards and provided with bearing sections arranged to cooperate with those on the respective standards, and devices for retaining the slides in fixed relation to the standards.

2. In a device of the character described, the combination with a frame, and a pair of standards mounted thereon each standard embodying a pair of relatively adjustable arms and each arm having a bearing section thereon, of a pair of cooperatively arranged rolls having their ends journaled in the bearing sections on the arms of the standards, and coiled springs connecting the arms of the standards for yieldingly proximating the rolls.

3. In a device of the character described, the combination with a frame, and a pair of bearing standards mounted thereon each composed of a strip of resilient material having its intermediate portion fixed to the frame and having its ends extending upwardly therefrom in parallelism to form a pair of relatively movable bearing arms, and bearings mounted upon the free ends of the said arms, of a pair of cooperatively arranged rollers journaled in the said bearings, and springs interposed between the arms of each standard and normally acting to proximate the rolls.

4. In a device of the character described, the combination with a frame, and a pair of bearing standards mounted thereon each embodying a pair of substantially parallel bearing arms provided with bearing sections on their free ends, of a pair of cooperatively arranged rolls having their ends journaled in the bearing sections on the said arms, a pair of slides arranged to cooperate with the inner sides of the arm of each standard and having bearing sections arranged to cooperate with those on the standards, and devices cooperating with the said slides and the respective arms of the standard for retaining them in fixed relation.

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

GEORGE EDWARD SMITH.

Witnesses:

FRANK CRAIG,  
P. K. ABEL.