No. 611,789. Patented Oct. 4, 1898.

J. S. MILNE & A. L. MOTT.

MEAT TENDERER.

(Application filed June 24, 1897.)

(No Model.)

Fig. 1.

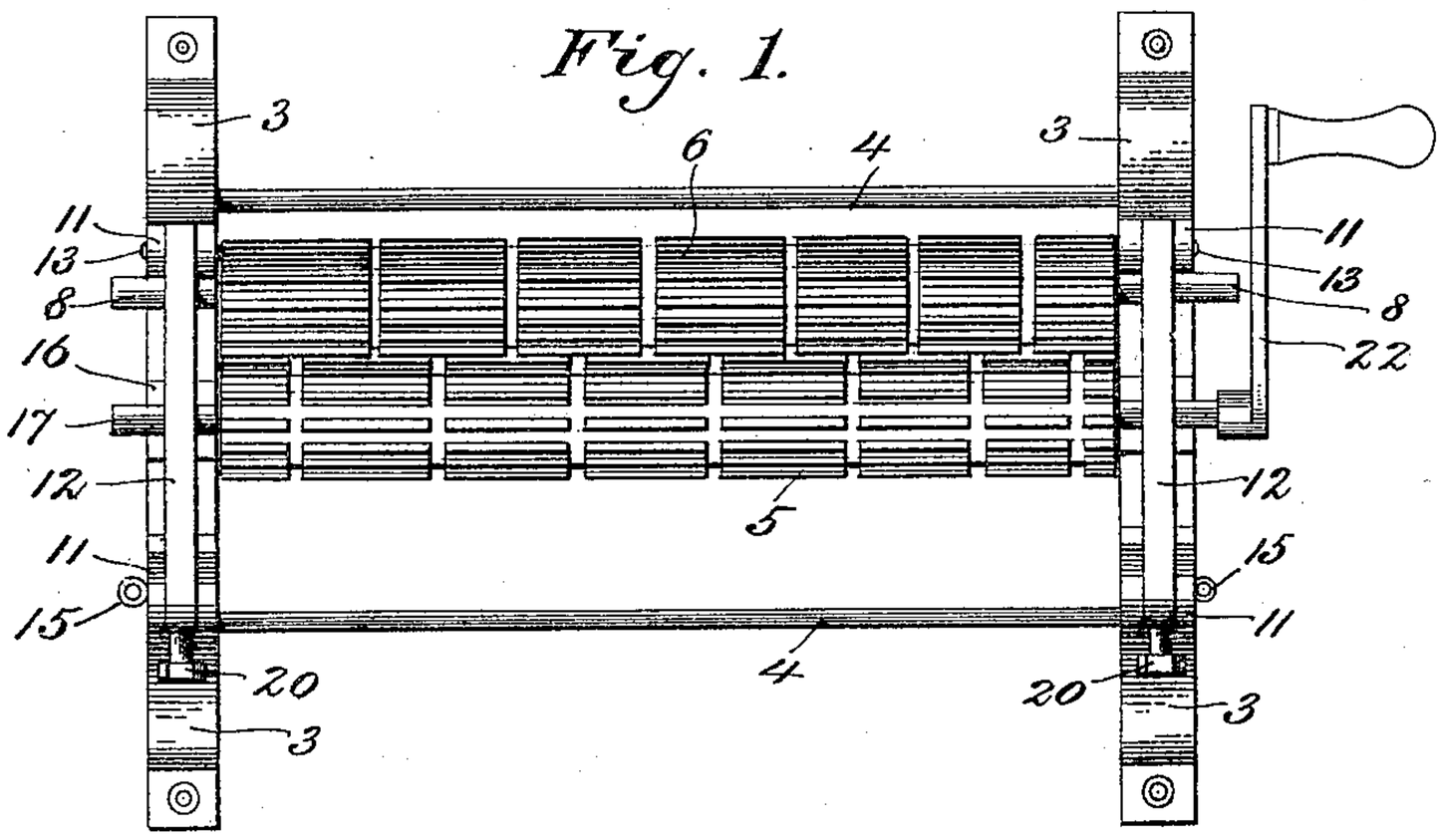


Fig. 2.

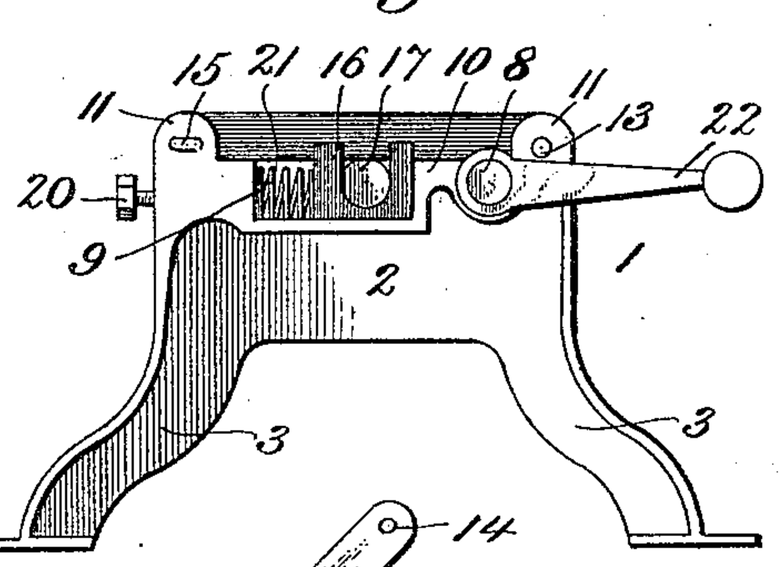


Fig. 3.

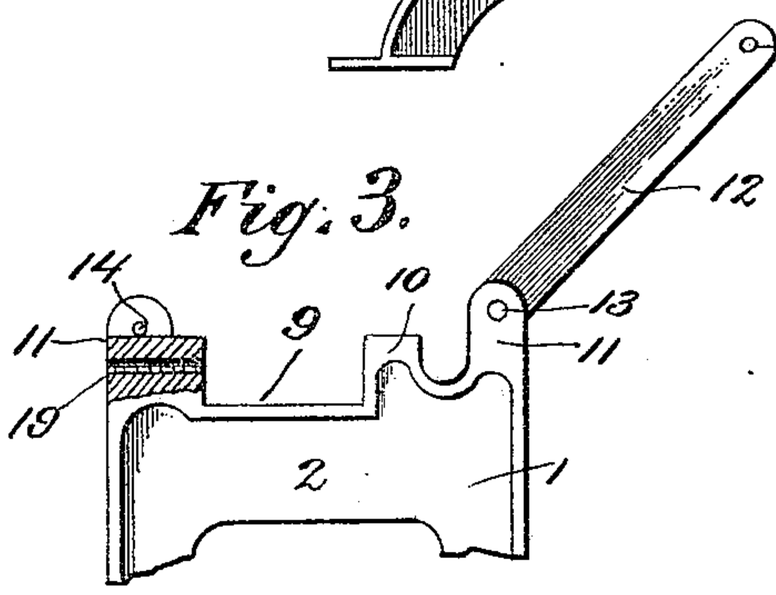
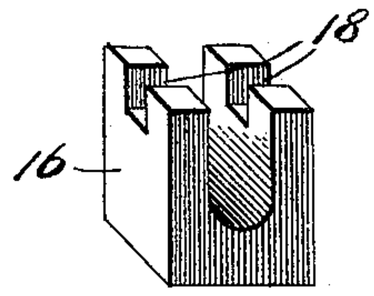


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES SCOTT MILNE AND ABRAM L. MOTT, OF DUBOIS, PENNSYLVANIA.

MEAT-TENDERER.

SPECIFICATION forming part of Letters Patent No. 611,789, dated October 4, 1898.

Application filed June 24, 1897. Serial No. 642,110. (No model.)

To all whom it may concern:

Be it known that we, JAMES SCOTT MILNE and ABRAM L. MOTT, citizens of the United States, residing at Dubois, in the county of Clearfield and State of Pennsylvania, have invented certain new and useful Improvements in Meat-Tenderers; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to improvements in meat-tenderers of that class employing toothed or otherwise marred adjacently-mounted and coacting rolls; and the objects we have in view are to produce a machine of neat appearance, of simple and cheap construction, which is thoroughly adapted for performing the operation of rendering steak and other meats subjected to its operation tender and eatable without undue marring or maceration, and, furthermore, to construct the machine in such manner as to adapt it for ready cleaning and removal of the rolls when desired for such or any other purpose and to permit of the passage between the rolls of bones occurring in the meat without danger of causing breakage or other injury to the machine.

Various other objects and advantages of our invention will hereinafter appear, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a top plan view of a meat-tenderer embodying our invention. Fig. 2 is an end elevation of the same. Fig. 3 is a detail of one of the side frames, the locking-bar being swung upward to its open position and the boxing and roll-journals removed. Fig. 4 is a detail of the movable or adjustable boxing.

Like numerals of reference indicate like parts in all the figures of the drawings.

In practicing our invention we employ a pair of cast-metal frames or sides 1, the same comprising the transverse portions 2 and the compoundly-curved supporting-legs 3, which at their lower ends merge into suitable feet having screw-holes through which screws may be passed for screwing or bolting the machine on a table or other base provided for the purpose. The frames or sides are, for the purpose of lightness and design, made T shape in cross-section, or, in other words, their outer edges have formed thereon a flange. The two frames are connected at opposite sides of their centers with parallel tie-rods 4, the same combining with said frames to produce a perfectly rigid structure or support for the meat-tendering rolls 5 and 6, hereinafter described.

Each frame or side 1 is provided between its opposite edges with a recess forming a depressed bearing 7 for the accommodation of the extended journal 8 of the tendering-roll 6, which, as will be seen, is journaled in a stationary manner. Each frame 1 is further provided with an angular recess or depression 9 at the opposite side of its center, such depression or recess being in line with the bearing 7. Between these recesses or bearings the frames are cut away on their upper sides, producing an intermediate rest 10, which is elevated above the recess 9.

The formation described produces at each end of each frame an upwardly-projecting standard 11, the same being above the plane of the bearings 7 and recesses 9, and also above the rest 10. These standards are longitudinally recessed or bifurcated to points on about a level with the upper ends of the rests 10, and the standards of each side piece or frame 1 receive within their bifurcations a horizontal locking-bar 12. The rear ends of the locking-bars are pivoted, as at 13, to the bifurcations of the rear standards, while the front ends of said locking-bars are perforated transversely to agree with similar perforations 14, with which the bifurcations of the front standards are provided. Within the perforations thus produced split or spring pins 15 are located in a removable manner, whereby, as will be obvious, the front or free ends of the locking-bars may be locked in position and against pivotal movement, or said bars may be removed by being swung upward and to the rear upon their pivots 13 subsequent to a removal of said pins. When lowered, each locking-bar, it will be seen, will have three points of support upon its frame—that is, the two standards and the intermediate rest 10—so that when locked by the pins these bars become substantially rigid.

In each of the recesses or depressions 9 is located a U-shaped movable box 16, the re-

cess of said box receiving and forming the bearing for the journal 17 of the tendering-roll 5. The opposite sides of the box 16 project upward above the rest 10 and in line with the locking-bar 12, at which point each of said boxes is longitudinally recessed, as at 18, to receive and embrace the lower edge of the locking-bar. By this it will be seen that not only are the journals of the stationary roll locked in their bearings 7, but the journals 17 of the movable roll are locked in their bearings and the bearing-boxes themselves are in turn locked against lateral movement, yet free to move in a longitudinal manner. The front standards are bored and threaded, as indicated at 19, and receive adjusting-screws 20, whose inner ends extend into the recesses 9, so as to limit the spread of the rolls and also to serve as a means for adjusting coil-springs 21, seated in the recesses 9 and interposed between the rear faces of the standards 11 and the adjacent faces of the movable bearing-boxes 16.

The surfaces of the tendering-rolls 5 and 6 may be given any desired configuration, and we do not limit our invention in this respect. In the present instance the rolls are grooved, both longitudinally and annularly, so as to produce a series of teeth which intermesh so that both rolls move in unison, the one driving the other. The annular grooves of one roll are located out of line with or between those of the adjacent or companion roll, so that the resulting teeth occur in "break-joint fashion." In this character of roll—that is, where they are toothed—the one will, as before stated, operate the other; but where the rolls are not toothed, so as to intermesh, we may apply to the adjacent ends of the journals of the two rolls intermeshing gears. Such, however, is not necessary in the form of rolls herein shown, and for the purpose of economy we prefer not to use them. To the extended journal of the front roll we apply the power through the medium, in this instance, of an ordinary hand-crank 22. Any other means may be employed for applying the power, and, as shown in Fig. 2, it may be applied to the rear shaft.

Having described our invention, what we claim is—

1. In a meat-tenderer, the combination with opposite sides or frames having their upper edges between their ends provided with front angular recesses and rear bearings, and at their ends beyond the recesses and bearings, provided with vertical standards, that portion of each frame between the bearing and recess forming a horizontal rest, of a journal-box mounted for sliding in each of the recesses, springs interposed between the same and the adjacent standards for yieldingly pressing said journal-boxes to the rear, front and rear tendering-rolls having their journals mounted for revolution in the bearings of the frames and in the journal-boxes, means for rotating the rolls in unison, locking-bars pivoted near their ends to two of the standards and adapted to close over and upon the horizontal rests and retain the journals in the boxes and the bearings, and means for temporarily securing in a removable manner the free ends of said locking-bars to the opposite standards.

2. In a meat-tenderer, the combination with the opposite side frames comprising opposite legs, with terminating feet and upper horizontal portions, each of said side frames being provided with the rear bearings, 7, the front recesses, 9, the intermediate rest, 10, and the opposite, longitudinally-bifurcated standards, 11, of the U-shaped journal-boxes, 16, bifurcated in line with the standards, the front and rear rolls adapted to move in unison and having their journals mounted in the recesses, 7, and boxes, 16, the locking-bars pivoted within the bifurcations of the rear standards, adapted when lowered to bear upon the rests at their free ends temporarily secured within the bifurcations of the front standards and at intermediate points received by the bifurcations of the journal-boxes whereby they form guides, as well as retainers, for the same, extraneous fastening devices for securing the free ends of the locking-bars in position, adjusting-screws passed through the front standards and taking into the recesses, 9, and springs in said recesses bearing upon the journal-boxes.

In testimony whereof we affix our signatures in presence of two witnesses.

JAMES SCOTT MILNE.
ABRAM L. MOTT.

Witnesses:
E. C. ROSS,
C. S. TUCKER.