(No Model.)

J. R. GRATH & T. K. WATSON.

SAUSAGE MEAT CUTTER.

No. 324,835. Patented Aug. 25, 1885.

FIG. 1.

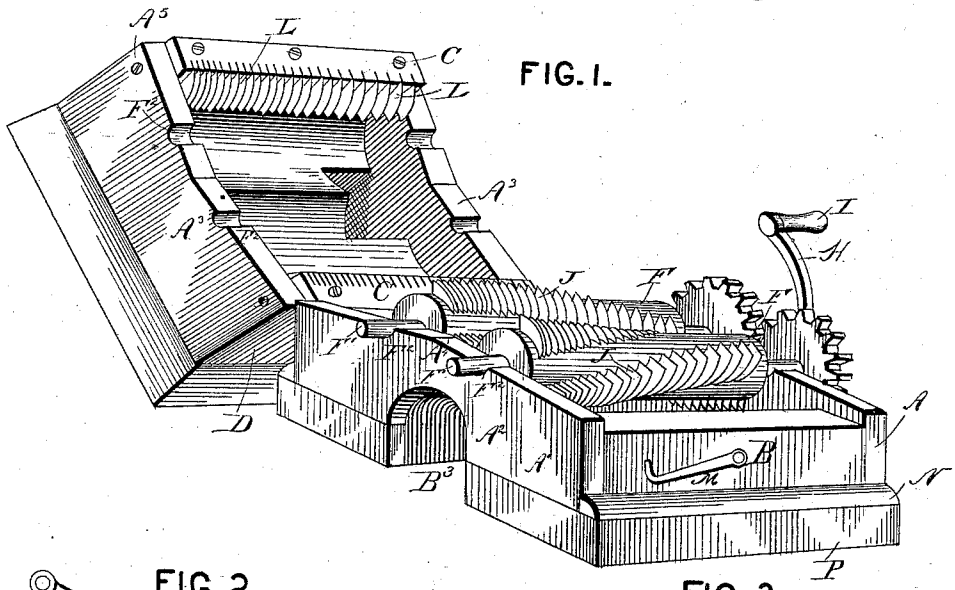


FIG. 2.

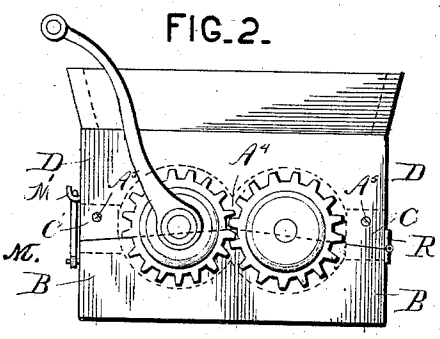


FIG. 3.

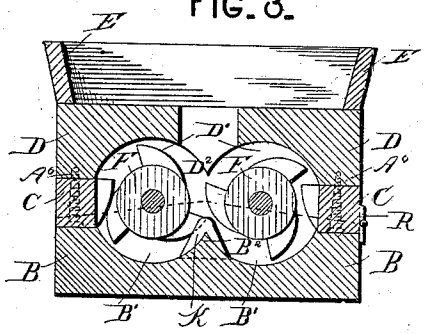


FIG. 4.

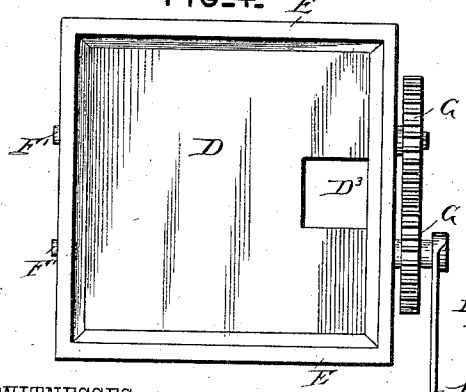


FIG. 5.

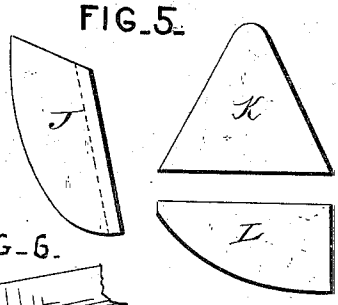
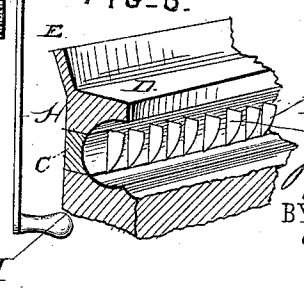


FIG. 6.



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UNITED STATES PATENT OFFICE.

JOHN R. GRATH, OF LORAH, AND THOMAS K. WATSON, OF LEINBACH, PA.

SAUSAGE-MEAT CUTTER.

SPECIFICATION forming part of Letters Patent No. 324,835, dated August 25, 1885.

Application filed March 28, 1885. (No model.)

To all whom it may concern:

Be it known that we, JOHN R. GRATH and THOMAS K. WATSON, citizens of the United States, residing, respectively, at Lorah and Leinbach, both of the county of Berks, State of Pennsylvania, have invented a new and useful Improvement in Sausage-Meat Cutters, of which the following is a specification.

Our invention relates to improvements in meat-cutting machines in which twin rollers with inserted knives operate in conjunction with a series of fixed knives secured in the lower portion of the machine central to the pair and in the upper portion of the machine coincident with the outer surfaces of the rolls.

The object of the improvement is to secure a more uniform product, cleanly cut without shredding, and a machine that will operate quicker and with less labor than those now in the market, and which is readily adapted to be run by steam or manual power. These objects we attain in the use of the mechanism shown in the accompanying drawings, in which similar letters indicate similar parts.

Figure 1 represents in perspective the completed machine with the top thrown back, disclosing the rolls in place, and showing the fixed knives at the sides of the top. Fig. 2 is an elevation of the operating side of the machine, showing gearing and crank. Fig. 3 is a cross-sectional elevation taken just inside of the machine at the working end, detailing the interior construction, and showing both rolls, side, and central cutters in place. Fig. 4 is a plan of the top of the machine, showing the hopper and feeding-aperture. Fig. 5 represents detail views, upon an enlarged scale, of the roll, central and side knives or cutters; Fig. 6, a longitudinal section of a portion of the box, exhibiting the arrangement of the side knives.

A represents the lower end piece of the machine on the operating side; A′, the same piece upon the opposite end; A^2, an aperture for the discharge of the cut material. A^3 represents the upper end pieces of the machine, being similar at both ends.

For the purpose of facilitating the construction and giving an increased steadiness to the machine when closed, the double concaves B and D are separated by the intermediate removable pieces, C C, the ends A A′ being made of such height where they meet the front and rear of B as to project above the same about one-half inch, and the top edge of the ends being drawn through said points, and the centers of the roll-shafts form an apex, A^4, the ends A^3 being formed at a corresponding reverse angle to mate therewith. This gives an opportunity to introduce the screws A^5 into the ends of the intermediates, and locks the top between the sides when closed.

The pieces D B, forming the top and bottom concaves of the machine, are similarly grooved at B′ D′, the center longitudinally forming a ridge, B^2 D^2, which in the upper piece, D, retains the material introduced in contact with the roll-knives as it passes from the feeding to the discharging end of the machine. The lower piece has its ridge B^2 sawed across at right angles with the grooves for the insertion of a series of knives, K, placed in said saw-kerfs, arranged to have the distance between the same gradually diminish from the feeding toward the discharging end of the same. The pieces C C are also saw-kerfed in a similar manner to the ridge B^2, and have knives or cutters L secured therein. These pieces are removably secured in place by the screws A^5 at the ends and by screws A^6 through the body of the same.

A hopper, E, is placed upon the top of the machine.

Two hard-wood rolls, F F, provided with shafts F′, are journaled in seats F^2 in the ends of the machine, and have a series of knives or cutters, J, set in saw-kerfs at three equidistant points upon their circumference, and with their heads upon a spiral of a gradually-decreasing pitch traced from the feeding toward the discharging end of the machine, the time which shall be consumed by the material in passing from the feeding to the discharging end being regulated by the change in the pitch between the two ends of the roll.

Gears G are placed upon the shafts F′, and a crank, H, and handle I serve for operating the same. As the gears are direct, the cutters or knives J are placed upon the rolls in reverse spiral to each other, the cut being made downward toward the central ridge, D^2, and knives K, and upward toward the side

knives, L. This insures a clean cut between the intersecting cutting surfaces, and being a gradual one, commencing at the lowest point of the several cutters and the depth of cut gradually increasing until the highest point of the same is passed, involves very little labor in operating the machine.

The machine has hinges R upon one side, and hook M with catch M′ upon the opposite side, whereby it is retained in a closed position when in use.

The knives J, K, and L are made of sheet-steel in the form shown, and after sharpening are driven into their respective saw-kerfs, which are so adjusted relatively to each other that when the rolls F with the knives J revolve said knives shall just pass the cutting-faces of the knives K L. A feeding-aperture, D^3, and discharging-aperture B^3 complete the machine, which is shown in Fig. 1 as seated upon a bench, P, with cleats N.

We are aware that twin-roller meat-cutters have been used prior to our improvement, (see Patent No. 88,666, April 6, 1869, to J. G. Perry;) but our improvement thereon, whereby the knives or cutters are made adjustably removable for tempering and sharpening, adds to the life of the cutter, to the ease of cutting, and to the quantity of meat which may be cut in a given time, making our machine an essential advance upon all prior twin cutters.

Having shown the construction, operation, and advantages of our machine, we desire to secure by Letters Patent the following claim thereon:

A twin roller meat-cutter consisting, essentially, of the following elements: top and bottom concaves, D B, having feeding-aperture D^3 and discharge-aperture B^3, intermediate pieces, C C, ends A, A′, and A^3, hopper E, cutters or knives L L, rolls F F, with cutters or knives J and central knives or cutters, K, all of said cutters being removably fixed in saw-kerfs, gear G, and crank H, the parts being combined substantially as and for the purpose as shown and described.

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Witnesses:
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