2 Sheets—Sheet 1.

A. R. GILLIS.

MEAT-CUTTER.

No. 191,281. Patented May 29, 1877.

Fig. 1.

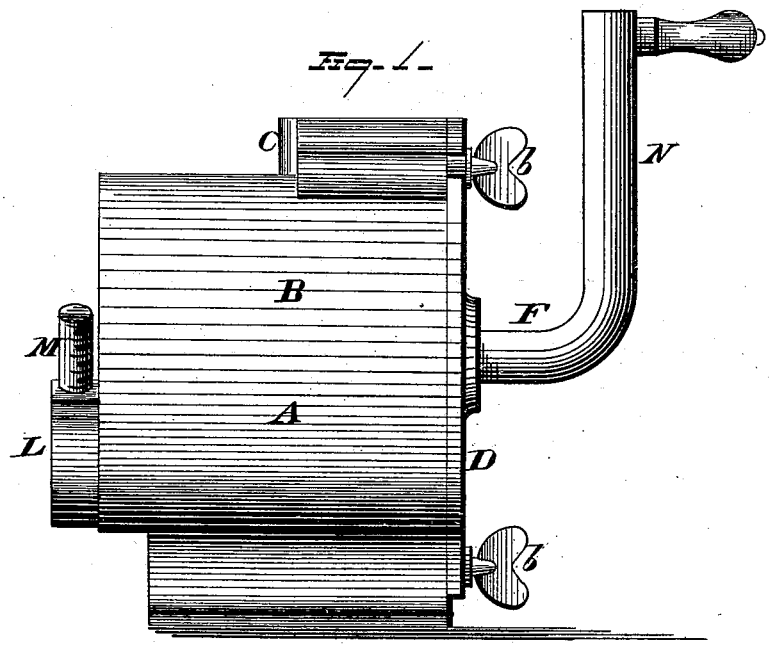
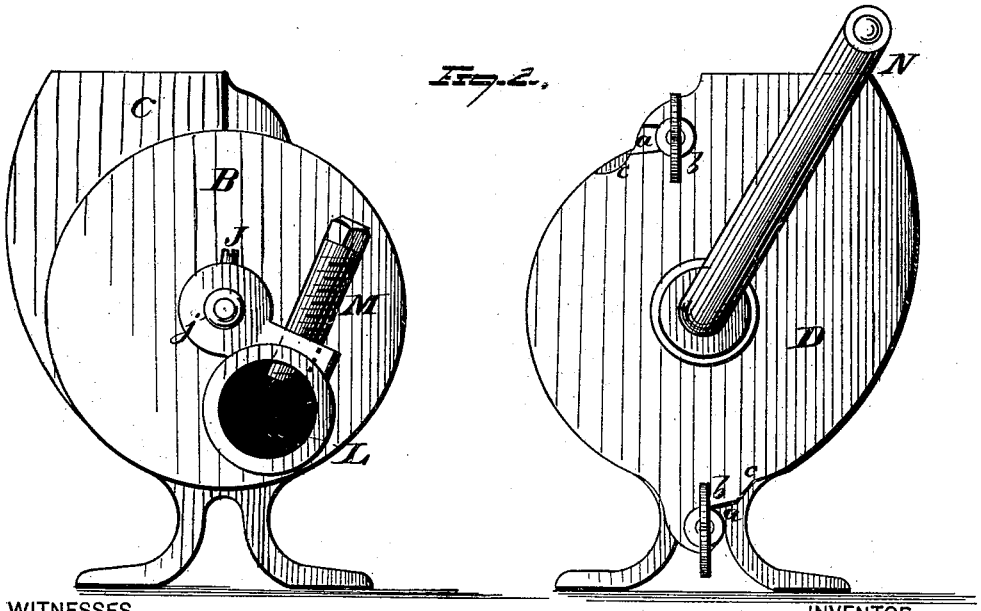


Fig. 2.



WITNESSES

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Albert H. Bright

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A. R. Gillis,

By Dewgett and Dewgett,

ATTORNEYS

2 Sheets—Sheet 2.

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Fig. 3.

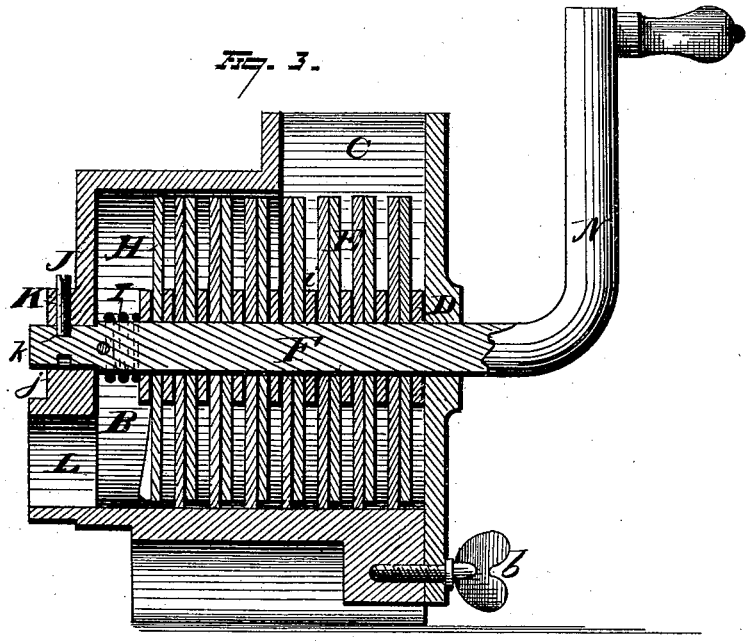
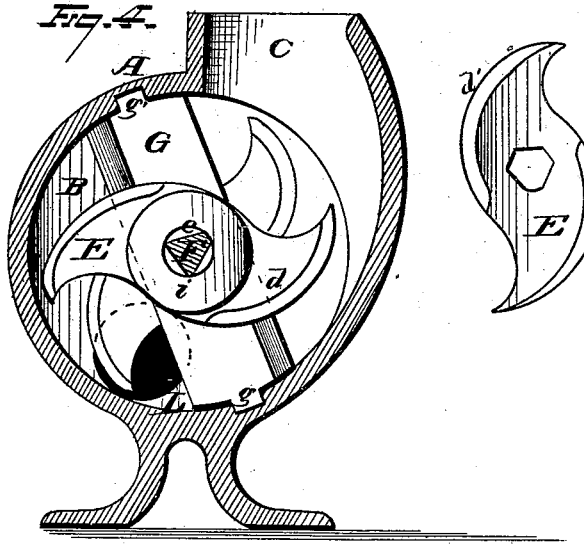


Fig. 4.



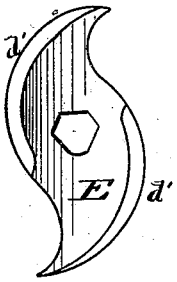
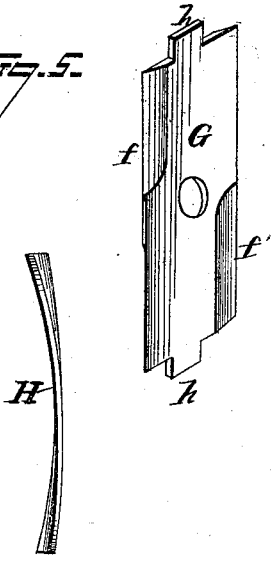


Fig. 5.



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UNITED STATES PATENT OFFICE.

ALBERT R. GILLIS, OF SALEM, OHIO.

IMPROVEMENT IN MEAT-CUTTERS.

Specification forming part of Letters Patent No. **191,281**, dated May 29, 1877; application filed December 7, 1876.

To all whom it may concern:

Be it known that I, ALBERT R. GILLIS, of Salem, in the county of Columbiana and State of Ohio, have invented certain new and useful Improvements in Meat-Cutters; and I 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improved meat-cutter.

Figure 1 is a side elevation of my device. Fig. 2 represents end views of the casing. Fig. 3 is a longitudinal section, and Fig. 4 a transverse section. Fig. 5 represents the different forms of cutters or knives employed.

In the drawings, A represents the casing of the apparatus, and the same consists of the cylinder B and hopper C, the latter being cast solid with the cylinder at its extreme end, so that one side of the hopper may be opened to view by securing a removable head, D, thereto. The head D is constructed with open slots *a a'*, within which engage set-screws *b*, the latter serving to bind the head D firmly against the end of the casing.

When it is desired to remove the head D the set-screws are loosened, and the head revolved until the notches or depressions *c c'* register with the shoulders of the set-screws, when the head may be moved away from the machine and detached from the casing.

E represent revolving knives, constructed with double cutting-edges, which latter are formed of reverse curves *d'*, struck from points without their centers of revolution, whereby they operate to effect a drawing or shearing action on the meat as it passes through the machine. Knives E are flat on one side, and the opposite beveled to form the double cutting-edges above set forth.

In order to secure the revolving knives E to the driving-shaft F the latter is formed with two or more flattened faces, *e*, upon which said knives snugly fit, and are actuated simultaneously with the shaft.

G represent stationary knives, and the same are (preferably) rectangular in form, as shown in Fig. 5. Knives G are formed with reversely-beveled cutting-edges *f f'* on each of their sides, thus forming four distinct cutting-edges for each stationary knife. The casing A is provided with two longitudinal grooves or guides, *g g'*, diametrically opposite each other, the lower groove *g* being situated at one side of a perpendicular line passing through the center of the casing, thereby insuring a free and unobstructed passage for the material along the bottom of the casing to the discharge-opening L.

Each knife G is provided with end projections or tenons *h h'*, which latter correspond in size and shape with the grooves *g g'* in the casing A. The knives are placed on the shaft as follows: A washer is first placed on said shaft, and then the stationary and revolving knives are preferably arranged on the shaft in sets, which latter are separated from each other by an intervening washer, *i*. The flat surface of the revolving knife is placed against either surface of the stationary knife, as the latter, with its four cutting-edges, may be used on either side with equally good results.

It will be observed that a constant cutting-action is preserved between each set of knives, as both stationary and revolving knives are formed with double cutting-edges, and, as when the point of the reversely-curved cutting-edge of the revolving knife leaves one cutting-edge of the stationary knife, the heel of the knife will have commenced its engagement with the opposite edge of the stationary knife, thereby keeping up a continuous cutting-action between the cutting-edges of the several sets of knives employed.

In order to facilitate the discharge of meat from the casing a spiral feed-plate, H, is secured on the discharge end of the revolving shaft, and said plate serves to keep the rear end of the casing open, and thus assist the discharge of the meat from the casing.

The several sets of knives are kept in close cutting-contact by means of a spiral spring, I, which is placed on the revolving shaft between the rear head and the feed-plate. The revolving shaft is journaled in the ends of of the casing, and is secured against accidental displacement by means of a pin, J, which is inserted in an opening, K, formed in the hub or bearing *j*, the end of said pin engag-

ing in a groove, *k*, formed in the end of the shaft. The discharge-opening L is provided with a screw, M, which serves to regulate the amount of discharge-opening. By turning the screw either upwardly or downwardly the opening is either increased or diminished, as desired.

Handle N may be formed as a part of the revolving shaft, as shown in the drawing; or it may be made in a separate piece, and secured thereto in any desired manner.

When the knives become dull the shaft may be readily removed, and the stationary knives taken off the same and replaced in a reverse position, thus presenting new cutting-edges to the action of the revolving knives. As the beveled faces of the revolving knives are placed toward the discharge-opening they operate to force the meat toward the discharge end of the casing.

The revolving knives may be placed on the shaft to form a spiral conveyer, and thus facilitate the feeding action of the cutters.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the casing of a meat-cutter, having a hopper formed on one end of said casing, of a detachable cylinder-head, which serves to form a removable side of the hopper, substantially as and for the purpose set forth.

2. The combination, with the discharge-orifice of a meat-cutter, of a screw, located in a hub surrounding said orifice, said screw arranged to restrict or enlarge the opening of said orifice, substantially as and for the purpose set forth.

3. The combination, with the casing of a meat-cutter, of the removable head, constructed with open slots *a a*, and notches or depressions *c c* and set-screw *b*, substantially as and for the purpose set forth.

4. The combination, with the revolving shaft, constructed with angular faces, of revolving knives secured to said shaft, and stationary knives, the ends of which are secured to the casing, said stationary knives provided with openings to allow of the free rotation of the shaft therein, substantially as and for the purpose set forth.

5. The combination of the stationary knives with the casing, having a discharge-orifice below its center, and provided with grooves located at one side of a perpendicular line drawn through the center of the casing, substantially as and for the purpose set forth.

6. The combination, with the series of knives, of a spiral or other spring located on the shaft, and adapted to impart a yielding pressure to the knives, substantially as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 4th day of December, 1876.

ALBERT R. GILLIS.

Witnesses:
JOHN E. ROGERS,
JONA. MENDENHALL.