

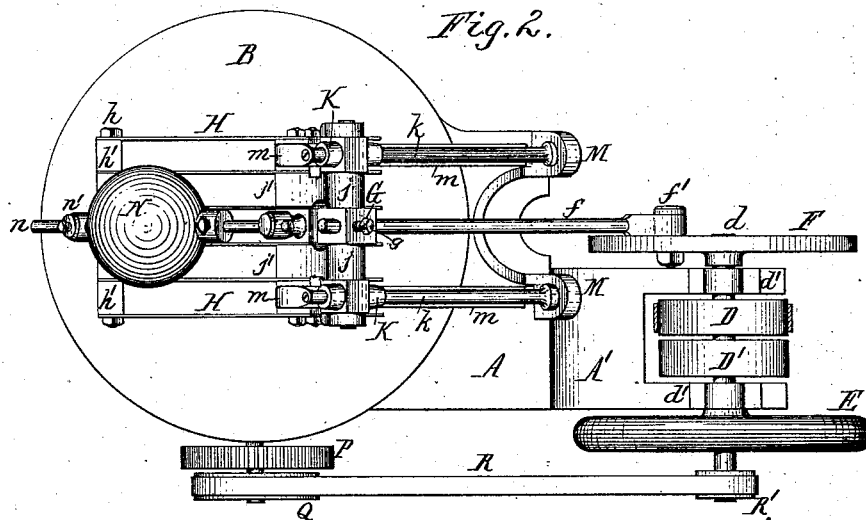
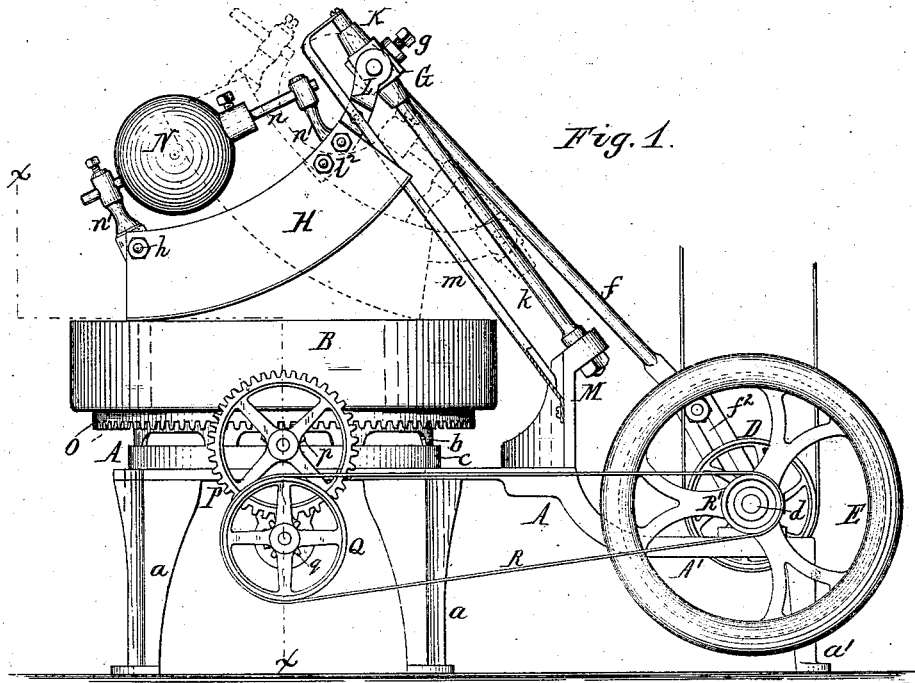
(No Model.)

2 Sheets—Sheet 1.

J. E. SMITH.
MEAT CUTTER.

No. 261,397.

Patented July 18, 1882.



Chas. J. Reichert.
Edw. J. Brady.
Witnesses.

John E. Smith. Inventor.
By Wilhelm H. Bonner.
Attorneys.

(No Model.)

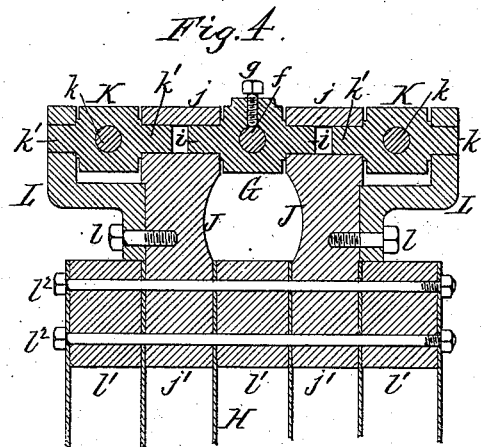
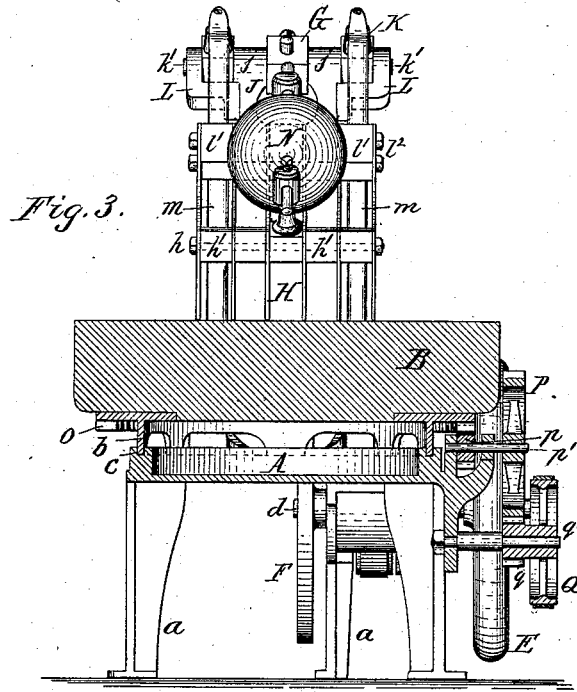
2 Sheets—Sheet 2.

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John E. Smith Inventor.
By Nicholas Thomas
Attorneys.

UNITED STATES PATENT OFFICE.

JOHN E. SMITH, OF BUFFALO, NEW YORK.

MEAT-CUTTER.

SPECIFICATION forming part of Letters Patent No. 261,397, dated July 18, 1882.

Application filed March 27, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN E. SMITH, of the city of Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Meat-Cutters, of which the following is a specification.

This invention relates to an improvement in that class of machines which are employed for chopping or mincing meat for sausage, and which consist essentially of a table or block, upon which the meat is placed, and one or more rocking-knives which are operated by suitable mechanism.

The object of my invention is to produce a simple and effective mechanism for actuating the rocking knives, and to provide means for regulating the pressure of the knives.

My invention consists to that end of the improvements which are hereinafter described, and pointed out in the claims.

In the accompanying drawings, consisting of two sheets, Figure 1 is a side elevation of my improved chopping-machine. Fig. 2 is a top plan view thereof. Fig. 3 is an end elevation of the upper portion of the machine and a vertical section of the lower portion of the machine in line *xx*, Fig. 1. Fig. 4 is a sectional view of the cross-head which is attached to the chopping-knives, and to which the power is applied.

Like letters of reference refer to like parts in each of the figures.

A represents the stationary frame of the machine, provided with legs *a*, and B represents the circular horizontal table or block upon which the meat is placed.

As shown in Fig. 3, the block B is provided on its under side with a circular flange or rim, *b*, which runs in a grooved ring, *c*, formed on the upper side of the frame A; but the block B may be supported on the stationary frame in any other suitable manner, so as to be capable of rotating about its axis.

The frame A is provided with an extension, A', which has legs *a'*, and which supports the horizontal driving-shaft *d*, which latter rotates in bearings *d'*, secured to the extension A' of the frame.

D D' represent a tight and a loose pulley, mounted on the shaft *d*, and E is a suitable fly-wheel secured to said shaft.

F represents a crank or crank-wheel secured to the inner end of the shaft *d*, and *f* is a connecting-rod attached with one end to the crank-pin *f'* and with the other end to a cross-head, G, in which it is secured by a set-screw, *g*.

H represents a gang or set of rocking knives, arranged parallel with each other, side by side, and resting with their curved cutting-edges on the block or table B. The several knives are secured together at their rear ends by a horizontal screw-bolt, *h*, and intermediate blocks, *h'*.

The cross-head G is provided at each side with a horizontal stud or pin, *i*, which projects into a bearing, *j*, formed at the end of an arm, J, which is provided at its opposite end with a space-block, *j'*, fitted between the ends of two adjacent knives.

K K are sleeves which slide upon inclined parallel guide bars or rods *k*, and which are provided on both sides with horizontal studs or pins *k'*. The pins on the inner side of each sleeve K project into the same bearing *j* into which the adjacent pin *i* of the cross-head G projects, so that each bearing *j* receives and holds a pin, *i*, of the cross-head and a pin, *k'*, of one of the sleeves K, as clearly shown in Fig. 4.

L is a bracket-bearing, which receives the outer pin, *k'*, of the sleeve K, and which is secured by a bolt, *l*, to the arm J.

l' are space-blocks placed between the front ends of the knives H, to hold them at the proper distance apart, and *l''* are horizontal bolts, whereby the knives and intermediate blocks are secured together. The inclined guide-bars *k* are secured with their lower ends to brackets M, formed with or secured to the main frame A.

m are inclined gutters arranged underneath the guide-bars *k*, to receive the oil which may drip from said guide-bars or the parts moving on the same. These gutters are secured with their lower ends to the frame A and with their upper ends to the guide-bars *k*. The latter are preferably inclined at such an angle that the motion imparted to the knives by the cross-head and connecting-rod will simply cause the knives to rock on their curved cutting-edges without drawing the knives over the block B. The crank or crank-wheel F is preferably provided with a radial slot, *f''*, in which the crank-

pin can be adjusted to increase or reduce the stroke of the knives, as may be desired.

N represents a weight, which is made adjustable on a bar, *n*, attached to standards *n'* rising from the central space-blocks at both ends of the gang of knives. This weight exerts upon the knives the pressure which is required to cause them to cut through the meat on the block. By adjusting the weight on the bar *n* the center of gravity of the system of knives can be shifted toward or from the point at which power is applied to the knives as may be necessary to properly balance the knives.

O represents a circular gear-rack or crown-wheel, secured to the under side of the block or table B, and *p* is a pinion meshing with said wheel and secured concentrically to a gear-wheel, P, which turns on an arbor or stud, *p'*. *q* is a pinion engaging with the gear-wheel P, and secured concentrically to a pulley, Q, which turns on a horizontal arbor, *q'*.

R is an endless belt, which runs around the pulley Q and a pulley, R', secured to the driving-shaft *d*. By this means a slow rotary motion is imparted to the table or block B. Any other suitable mechanism for accomplishing the same effect may, however, be employed, if preferred.

Power being applied to the driving-shaft *d*, the gang of knives H is rocked to and fro on the block or table B, and the latter is at the

same time slowly rotated, thereby bringing all parts of the meat placed on the table successively and repeatedly under the knives until the meat has been reduced to the proper degree of fineness. The rocking knives cut the meat without crushing or bruising the same, thereby producing a more desirable quality of chopped or minced meat than that which is produced by reciprocating cutters.

The table or block B is preferably provided with a hoop projecting several inches above its surface to confine the meat to the surface of the block.

I claim as my invention—

1. The combination, with a block or table, B, of a gang of curved knives, H, provided with a cross-head, G, inclined guide-rods *k*, upon which the cross-head G slides, connecting-rod *f*, and crank F *f'*, substantially as set forth.

2. The combination, with a table or block, B, of a gang of curved knives, H, provided with an adjustable weight, N, and suitable mechanism, whereby a rocking motion is imparted to the gang of knives, substantially as set forth.

JOHN E. SMITH.

Witnesses:

JNO. J. BONNER,
EDW. J. BRADY.