D. R. KINYON.

MEAT-CHOPPERS.

No. 183,938. Patented Oct. 31, 1876.

Fig. 1.

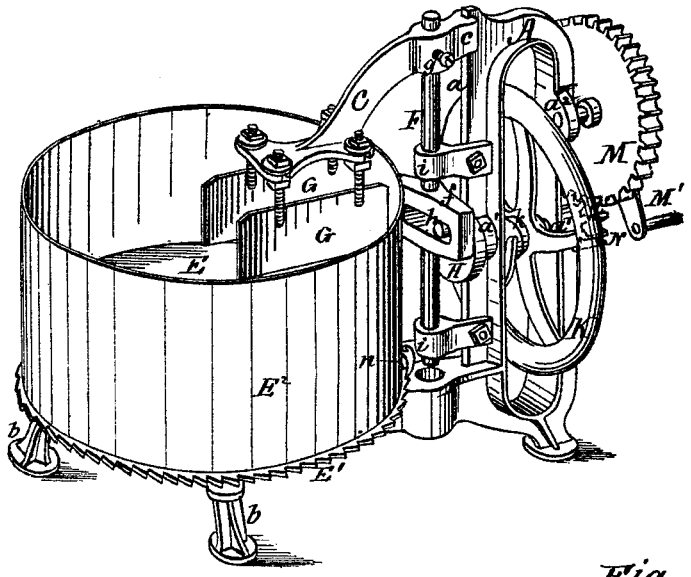


Fig. 3.

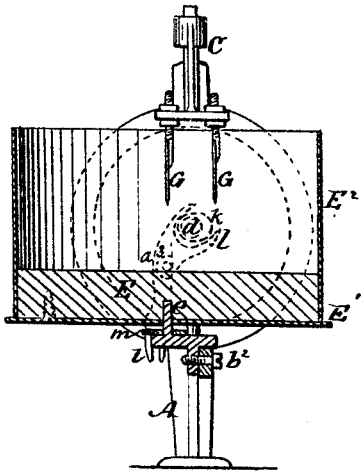
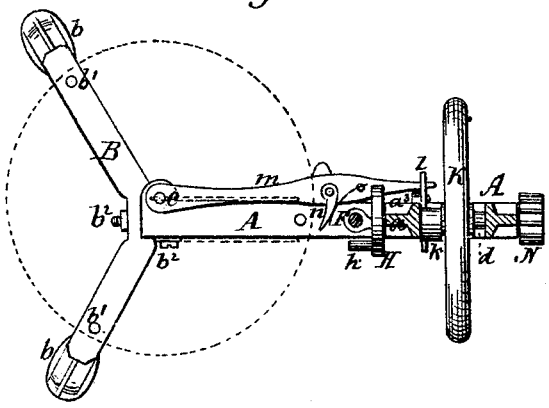


Fig. 2.



Witnesses:

W. B. Masson

W. R. Edelen

Inventor:

David R. Kinyon

by E. E. Masson, atty

UNITED STATES PATENT OFFICE.

DAVID R. KINYON, OF RARITAN, NEW JERSEY, ASSIGNOR OF ONE-HALF HIS RIGHT TO JOB C. KINYON, OF SAME PLACE.

IMPROVEMENT IN MEAT-CHOPPERS.

Specification forming part of Letters Patent No. **183,938**, dated October 31, 1876; application filed August 19, 1876.

To all whom it may concern:

Be it known that I, DAVID R. KINYON, of Raritan, in the county of Somerset and State of New Jersey, have invented certain new and useful Improvements in Meat-Chopping Machines; and that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a perspective view of the machine. Fig. 2 represents a top view of the frame with the upper parts removed. Fig. 3 represents a vertical section of the same through the axis of the chopping-block.

Similar letters of reference where they occur denote like parts of the machine in all the figures.

My invention relates to machines for chopping meat, vegetables, &c., in which a slow rotary motion is transmitted to the block upon which the chopping is done, while a series of knives are raised and lowered above it, operating rapidly upon the meat to reduce it to fine and uniform particles; and the object of my invention is to locate the center of the block in relation to the center of the frame and knife-arm, upon one side of it, so that one of the knives shall cut to the center of said block, thereby preventing clogging. Its object is also to construct the frame out of as few pieces as possible, to make it stronger and the fitting of the parts less expensive; and making the knife-arm adjustable and removable, it can readily be taken off the machine to clean or renew the chopping-block, and be replaced in position without removing any other part of the machine.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

The frame is cast in two pieces, the part A having formed upon it the vertical guideway *a* for the heel or guide *c* of the knife-arm C; the boxes a^1, to receive the main shaft *d;* the ears a^2 and a^3, to carry studs for axis of revolving parts, as will be described hereafter; the socket for one of the side bearings and for the central spindle *e* of the chopping-block E, and one of the feet of the machine, all these parts being formed in one casting. The part B of the frame has two feet, *b*, and the two sockets for the side bearings b^1 for the block E, and is connected to the part A of the frame by two bolts, b^2. The knife-arm C and its guide *c* are cast in one piece, the guide *c* fitting the guideway *a* on the main frame. The knife-arm is mounted upon a vertical power-rod, F, and the side strain upon it is relieved by the heel or guide *c*, bearing against the guideway *a*, formed upon the frame. This arm is made adjustable to the power-rod F by means of a set-screw, *g*, so that it can be lowered bodily with the knives G, as the block E becomes worn, or can be taken off the power-rod and the block removed after the meat is cut. The knives G receive a reciprocating motion by means of the crank-pin *h*, projecting from the disk H, working into the slot-piece *f*, cast to the upright power-rod F, the rod being guided by two arms, *i*, bolted to the frame A. The block E is revolved slowly by means of an eccentric, *k*, cast upon the hub of the fly-wheel K, operating upon the forked lever *l*, pivoted to the ear a^3 of the frame, this forked lever operating upon a lever, *m*, pivoted to the spindle *e*, and located horizontally beneath the block E. The lever *m* carries a spring-pawl, *n*, that engages with the ratchet-wheel E^1 of the block E, and receiving cylinder E^2. The center of the revolving block is not in a line with the center of the knife-arm, but so placed that one knife shall cut to the center of the block, and the other as far from it as the knives are apart, so that the meat lying at the center of block always passes under one knife, and the space at the side of the first-acting knife, between it and the rim of the block, is less wedging, thereby preventing clogging.

To operate with this machine, the meat or other substance is placed within the cylinder E^2, and motion given to the gear-wheel M by means of the handle M′, or otherwise. This gear-wheel, rotating upon a stud riveted to the ear a^2 of the frame, transmits its motion to the pinion N, mounted upon the main shaft *d*, and through it to the different parts of the machine.

In small machines, for family use, I prefer to

employ a single knife, operating upon the block at right angle with the knife-arm C.

Having now described my invention, I claim—

1. The block E, located upon one side of a vertical longitudinal plane passing through the center of the knife-arm, in combination with said knife-arm, carrying two knives, acting together substantially as and for the purpose described.

2. The knife-arm C and its extension-guide *c*, the guideway *a*, boxes a^1, ears a^2 and a^3, and socket for spindle *e*, constructed and arranged as and for the purpose described.

3. In combination with the power-rod F and guideway *a*, the adjustable knife-arm C and its guide *c*, acting both as a guide and support for the power-rod, substantially as described.

4. The adjustable knife-arm C and extension-guide *c*, operated vertically above the revolving block, and the eccentric *k* upon the hub of the fly-wheel K, revolving said block by means of the levers *l m* and pawl *n*, the whole being constructed and arranged in the manner shown and described.

DAVID R. KINYON.

Witnesses:

JOHN S. AMERMAN,

D. M. SUTPHEN.