

A. R. Silver,

Meat Chopper.

No. 106,879.

Patented Aug. 30, 1870.

Fig. 1

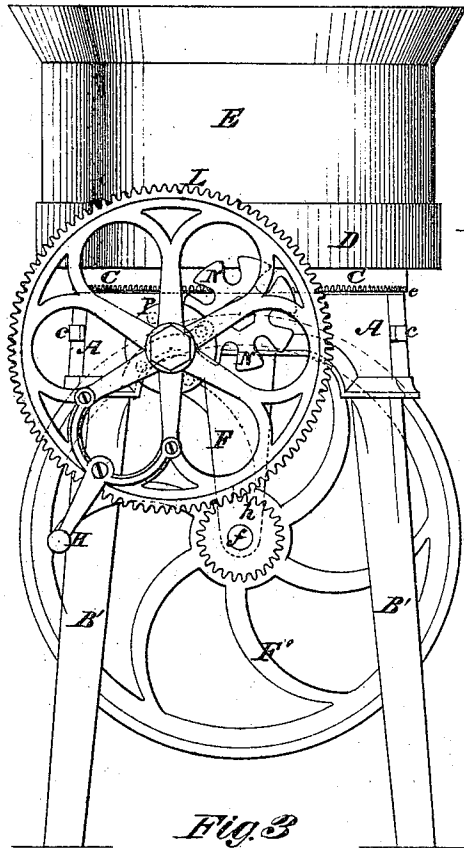


Fig. 2

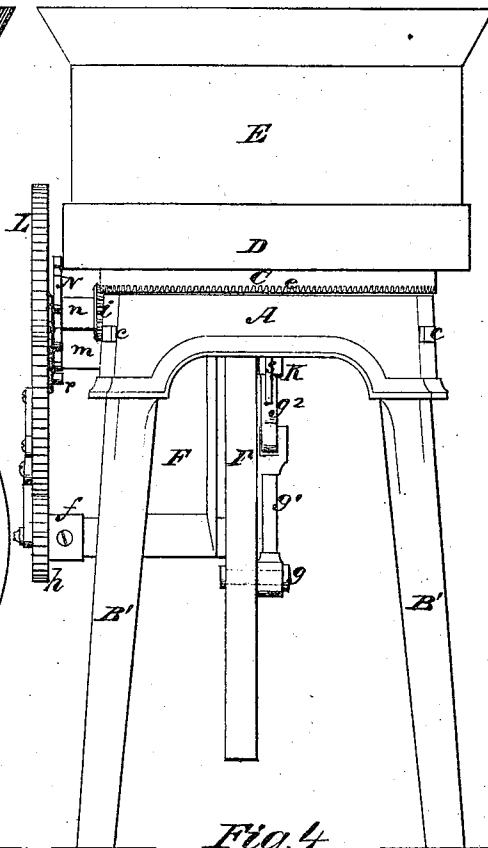


Fig. 3

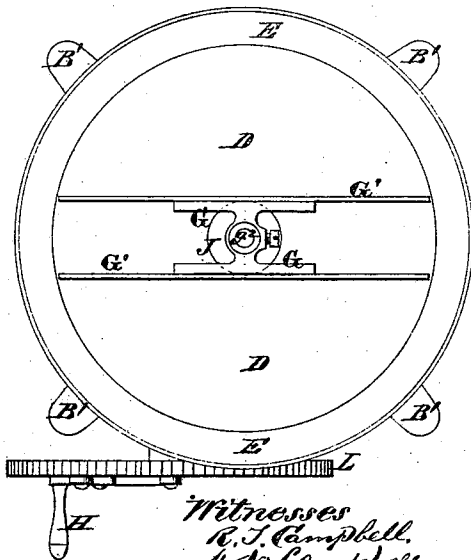
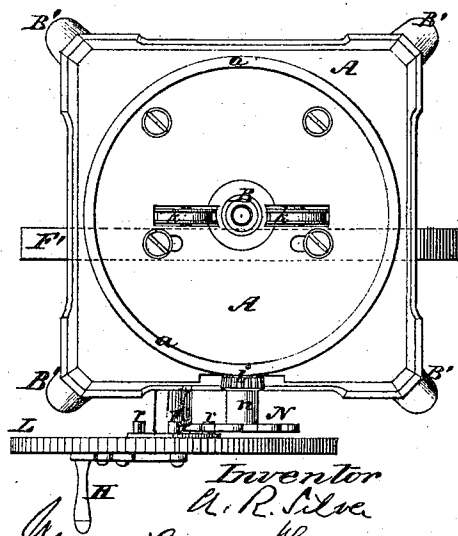


Fig. 4



Witnesses  
 R. J. Campbell.  
 J. M. Campbell

Inventor  
 A. R. Silver  
 Mason, Shurick & Lawrence

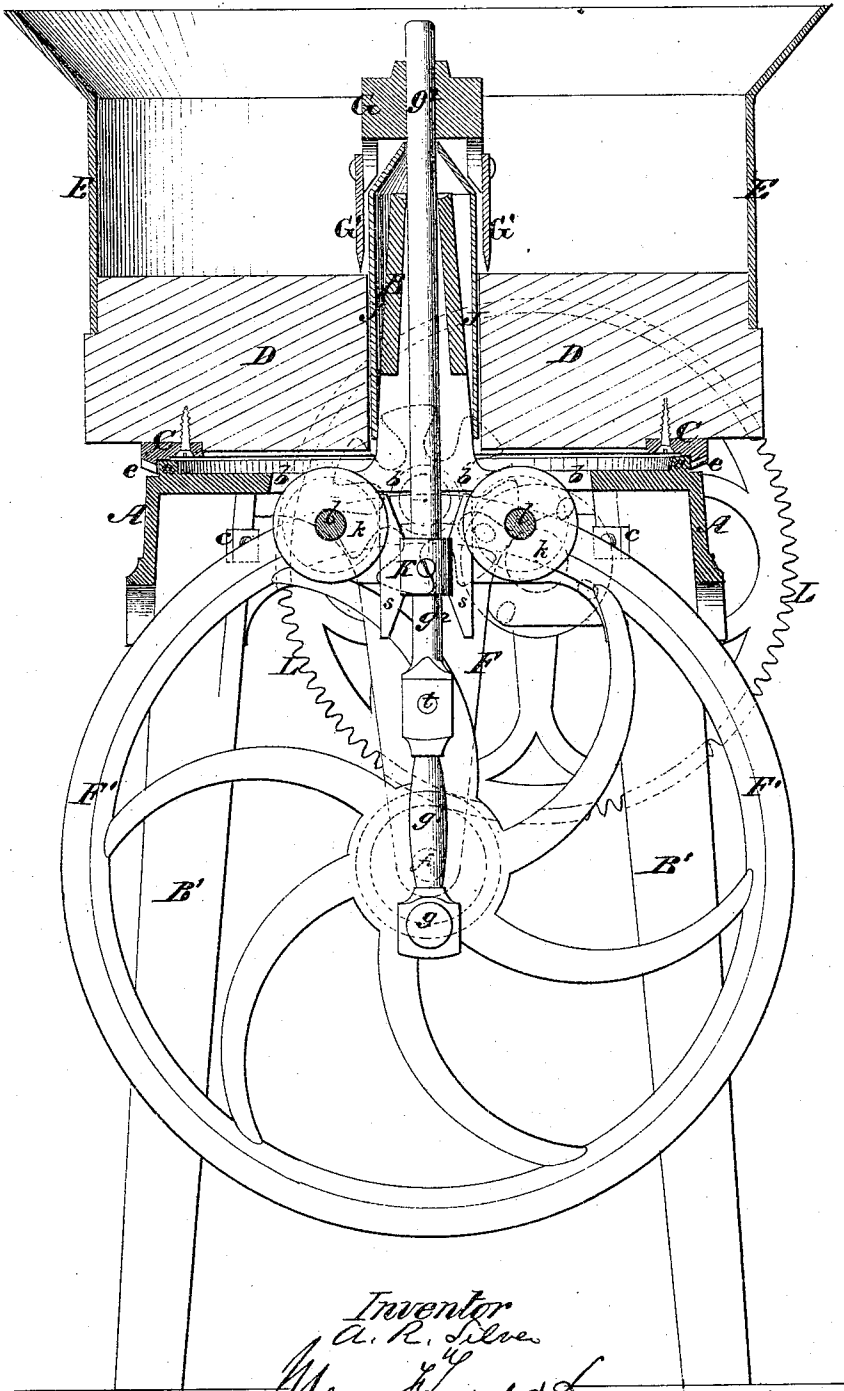
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Fig. 5



Inventor  
 A. R. Silver  
 by  
 Mason, Sewick & Lawrence.

Witnesses.  
 R. A. Campbell  
 J. A. Campbell

# United States Patent Office.

ALBERT R. SILVER, OF SALEM, OHIO, ASSIGNOR TO HIMSELF AND JOHN DEMING, OF SAME PLACE.

Letters Patent No. 106,879, dated August 30, 1870.

## IMPROVED MEAT-CHOPPER.

The Schedule referred to in these Letters Patent and making part of the same

### To all whom it may concern:

Be it known that I, ALBERT R. SILVER, of Salem, in the county of Columbiana and State of Ohio, have invented certain new and useful Improvements in Machines for Chopping Meat; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1, plate 1, is a side elevation of the front of the improved machine.

Figure 2, plate 1, is a side elevation of the machine.

Figure 3, plate 1, is a top view.

Figure 4, plate 1, is a top view of the machine as seen when the meat-tub is removed.

Figure 5, plate 2, is a vertical section taken centrally through the machine, looking toward the front thereof.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to certain novel improvements on machines for chopping meat, wherein a rotating tub is employed in combination with vertically reciprocating knives.

The nature of my invention consists—

First, in the construction of the main casting or center, to which the several parts constituting the machine are connected, in such manner as to adapt it to afford a solid support for and a means of holding in place the rotating tub; and, also, adapt it to receive and have secured directly to it the legs on which the machine is mounted.

Second, in the application to the central vertically reciprocating rod, carrying the chopping-knives, of a fixed hub having on each side a feather, thus forming a cross-head, which is held in place and guided by grooved anti-friction rollers, for the purpose of preventing friction between said rod and its bearing in the main casting; and, also, for the purpose of preventing lateral displacement and undue friction of the pitman joints which connect the said rod to the fly-wheel.

Third, in connecting the vertically moving rod, carrying the cutters, to the fly-wheel, by means of a pitman rod, when said cutter-carrying rod is guided by a cross-head working between rollers beneath the rotary tub.

Fourth, in providing for giving an intermittent rotary motion to the meat-tub, in combination with a regular reciprocating motion given to the cutters, the motions of the said tub taking place during the ascent of the cutters, thereby carrying fresh portions of meat beneath the latter at every stroke, and holding the tub momentarily at every act of cutting; all of which will be hereinafter described.

To enable others skilled in the art to understand my invention, I will explain its construction and operation.

In the accompanying drawing—

A represents the bed or "center" of the machine, which is a casting, presenting on top an annular rib, *a*, and a central hollow and upwardly tapering bearing, B, with the vertical axis of which the rib is concentric.

This bed is, also, constructed with a skirting around its four sides, the angles of which receive and have secured into them by bolts, *c*, the legs B', on which the bed A is mounted.

Upon the annular rib *a* of the bed A is supported a ring, C, having cogs, *e*, around its lower edge, which engage with a pinion spur-wheel, *i*, on the hub *n* of a radially notched stop-wheel, N.

This tooth-ring C is permanently-secured to the bottom of the meat-tub, which consists of a circular chopping-block, D, and a hopper, E.

Through the center of the chopping-block D a hole is made through which the tubular bearing B passes; and into which a shield, J, is fitted, that terminates upwardly in a cone, and prevents the meat from getting down into the opening through the block D or about the tubular bearing B.

Through the tubular bearing B and through the upper contracted end of the shield J a rod, *g*<sup>2</sup>, passes freely, which has secured to its upper end by a set-screw, a knife-head, G, carrying two straight-edge knives, G' G'. These knives are parallel to each other; they extend across the chopping-block, and their cutting-edges are parallel thereto. By giving vertical motion to the rod *g*<sup>2</sup>, the knives are caused to cut through or chop up anything which may be placed into the tub as rapidly as it is moved beneath them.

The knife-rod *g*<sup>2</sup> extends down through its tubular bearing B, and is prevented from having any vibration laterally by means of feathers, *s s*, which are formed on a hub, K, that is secured fast to said rod, thus constituting a cross-head; which is held between and guided by two grooved anti-friction wheels, *k k*, beneath the bed A.

The grooved wheels *k k* have their bearings on and turn freely about the short shafts *l l*, which are applied to a plate that is secured beneath the bed A. If desirable, these anti-friction wheels may be made adjustable, so that they can be set-up to accommodate for wear between the feathers of the cross-head and the grooved peripheries of the anti-friction wheels *k k*.

The lower end of the knife-rod is pivoted at *t*, fig. 5, to the upper end of a pitman rod, *g*<sup>1</sup>, the lower end of which is connected by a wrist-pin, *g*, to the face of the hub of a balance or fly-wheel, F'.

The shaft *f* of the fly-wheel F' has its bearing in a hanger which is bolted to the bottom side of the

bed A, and, on the outer end of this shaft *f*, a pinion spur-wheel, *h*, is keyed, which engages with teeth on the driving-wheel L.

The wheel L is provided with a crank-handle, H, and it has its bearing on a short shaft which is secured fast to the front side of the bed A.

On the inner side of wheel L, and concentric to its axis, is a circular plate, P, having four studs, *r*, projecting from it, and arranged concentrically about its axis at regular distances apart.

These studs are designed to enter radial notches made into the circumference of a stop-wheel, N, and give to this wheel an intermittant rotary motion.

On the short hub *u* of wheel N the pinion which moves the tub is keyed; consequently, the tub will partake of the motions given to the wheel N.

The movements imparted to the knife-rod *g*<sup>2</sup> are so adjusted, with respect to the intermittent movements imparted to the meat-tub, that the latter is moved during the ascent of the cutters, and is held stationary during the act of cutting; thereby fresh portions of meat are moved beneath the cutters at each stroke thereof.

Having described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. The construction of the bed or center A with annular bearing rib *a*, and a central tubular bearing B, and, also, with the legs of the machine secured directly to it, substantially as described.

2. The cross-head guide K *s s*, applied to the knife-rod *g*<sup>2</sup>, and working between anti-friction wheels *k k*, substantially as described.

3. The knife-rod *g*<sup>2</sup>, connected to the fly-wheel F' by means of a pitman *g*<sup>1</sup>, and prevented from lateral displacement by means of a cross-head working between wheels beneath a rotary tub, substantially as described.

4. Communicating a regular reciprocating motion to the knife-rod *g*<sup>2</sup> by means of wheels L, *h*, and F' and a pitman, *g*<sup>1</sup>, in combination with means which will give an intermittent rotary motion to the meat-tub, substantially as described.

ALBERT R. SILVER.

Witnesses:

M. L. EDWARDS,  
N. A. MORLAN.