

W. H. ASHTON.
MEAT CHOPPING MACHINE.

Patented June 23, 1891.



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MEAT-CHOPPING MACHINE.

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To all whom it may concern:

Be it known that I, WILLIAM H. ASHTON, of Seward, in the county of Seward and State of Nebraska, have invented a new and Improved Meat-Chopping Machine, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved meat-chopping machine which is simple and durable in construction and very effective in operation.

The invention consists of certain parts and details and combinations of the same, as will be hereinafter fully described, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the improvement. Fig. 2 is a side elevation of the same with parts broken out and parts removed. Fig. 3 is a sectional side elevation of part of the improvement on the line $x x$ of Fig. 1, and Fig. 4 is a rear perspective view of part of the improvement.

The improved meat-chopping machine is mounted on a suitably-constructed frame A, supporting a bed B, in the center of which is held a pivot-pin B', engaging a bearing C', formed in the middle and on the under side of the meat-chopping block C. The bed B also supports a number of friction-rollers B², arranged in a circle, the center of which is the pivot-pin B'. The friction-rollers B² support a ring C², secured on the under side of the block C and formed on the metallic rim C³, surrounding the block and extending above the same, as is plainly illustrated in Fig. 2.

On the top of the meat-chopping block C are arranged to rock a series of knives D, having their cutting-edges curved, as is plainly illustrated in Fig. 2. These several knife-blades D are arranged parallel to each other and rigidly secured to a frame E, having two rearwardly-extending arms E', connected at their rear ends by a shaft or rod E², carrying the friction-rollers E³, mounted to travel in segmental slots formed in brackets F, secured to the standards A' of the main frame A. The

brackets F have their slots formed in such a manner that when the friction-rollers E³ travel up and down in the said slots the knife-blades D, with their curved cutting-edges, rock on the top surface of the block C. From the frame E also extends upward an arm E⁴, rigidly fastened to the frame and carrying a weight E⁵ to hold or press the cutting-edges of the knife-blades into the meat to be chopped and held on the top of the block C. The upper forked end of the fixed arm E⁴ carries a bolt E⁶, which engages a notch G', formed on the under side of a pitman G, pivotally connected with a wrist-pin H', held adjustable in a crank-arm H of the main driving-shaft I and mounted to turn in suitable bearings in the upper part of the standards A'. The main driving-shaft I is provided with a hand-wheel for rotating the said shaft by hand, or it may be provided with pulleys connected by belts with suitable machinery to impart a rotary motion to the main driving-shaft by power. The transversely-extending rod E², carrying the friction-rollers E³, also engages the slotted upper end J' of a lever J, fulcrumed at its lower end at J² on the main frame A. This lever J engages below the rod E² the slotted end K' of a transversely-extending lever K, pivoted at K² on a bracket K³, secured to the main frame A. The lever K is connected at opposite sides of its fulcrum K² with the pawls L and L', arranged one above the other and both engaging ratchet-teeth C⁴, formed on the rim C³ of the meat-block C. Suitable springs press on the pawls L and L', so as to hold the same in contact with the ratchet-teeth C⁴. When the lever K receives a swinging motion, it imparts by the pawls L' and L a continuous rotary motion to the meat-block C.

The operation is as follows: The meat is placed on the meat-block C in the usual manner, and then the main shaft I is rotated, so that the crank-arm H and the pitman G impart a rocking motion to the frame E, and consequently to the knife-blades D, which with their cutting-edges cut into the meat on the block C. The rocking motion of the knife-blades D in the frame E is controlled by the friction-rollers E³, traveling in the seg-

mental slots of the bracket F. The up-and-down movement of the friction-rollers E^3 and the rod E^2 causes the latter to impart a swinging motion to the lever J, which by its connection with the lever K swings the latter horizontally, and its pawls L impart a rotary motion to the meat-block C. Thus the knife-blades D in rocking over the revolving meat-block C come continually in contact with new parts of the meat on top of the meat-block. Thus every part of the meat is acted on by the knives, so that the meat is thoroughly chopped. When it is desired to remove the chopped meat from the block or to sharpen the knife-blades D, the latter are thrown in a raised position by the following means: On the pitman G is arranged a second notch G^2 , adapted to be engaged by the pivot-bolt E^6 of the arm E^4 , the said notch being located between the notch G' and the wrist-pin H' . A frame N is arranged to support the rod or shaft E^2 , and this frame is provided at its lower end with forks N' , resting on a transversely-extending rod N^2 , secured to the standards A' of the main frame A. On the upper end of this frame N are formed similar forks N^3 , adapted to engage the rod or shaft E^2 , previously mentioned, when the said shaft is in a central position in the slotted brackets F. On the main driving shaft I is secured a wheel O, provided on its periphery with a notch O' , adapted to be engaged by a pawl P, fulcrumed to one of the standards A' . Now in order to raise the knife-blades D and to support the same in a raised position the shaft I is turned until the rod E^2 moves downward and engages the forked end N^3 of the frame N, which is placed in such a position that the said forks are in the path of the rod E^2 . A further downward movement of the rod E^2 and its friction-rollers E^3 is thus prevented. The notch G^2 is then engaged with the bolt E^6 , and a further turning of the main shaft I causes the frame E to swing upward, the rod E^2 being the fulcrum. The knife-blades D thus swing completely off of the block C, and when in this position the pawl P is thrown into the notch O' of the wheel O, so that the main driving-shaft is locked in place, and the pitman G, the frame E, and the blades D are securely held in their respective positions. The chopped meat on the block can now be

conveniently removed and new meat placed in the block, and the knife-blades may be sharpened, if necessary.

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

1. A meat-chopping machine comprising the frame having vertical standards A' , the rotary horizontal block provided with a toothed surface c^4 , the transverse crank-shaft journaled in the upper ends of said standards, the slotted brackets F, secured to said standards, the knife-frame E, having a transverse rod E^2 , the ends of which work in the slots in said brackets, the curved knife-blades secured to said frame, a pitman connecting said crank-shaft and knife-frame for rocking the latter, a vertically-rocking lever J, pivoted at its lower end to the frame and having a slot J' , through which passes the rod E^2 of the knife-frame, a horizontal lever K, pivoted to the frame and connected with the vertical lever J, and a pawl carried by the lever K and engaging the teeth on the rotary block, substantially as set forth.

2. In a meat-chopping machine, the combination, with the main driving-shaft having a crank-arm, and a pitman connected with the said crank-arm, of a knife-frame connected with the said pitman, curved knife-blades secured on the said frame, a transverse rod held on the said frame, a second frame adapted to engage the said rod, and a lock for locking the said main driving-shaft in place, substantially as shown and described.

3. The combination, with the vertically-rocking knife-frame having a transverse rod at its inner end, guides for said rod, a crank-shaft, and a pitman connected with said shaft and having a detachable connection at its outer end with the said knife-frame and a notch G^2 in rear thereof, of a vertically-extending frame N, pivoted at its lower end and having forks N^3 at its upper end to receive the said transverse rod when the knife-frame is to be raised, and a lock for the crank-shaft, substantially as set forth.

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Witnesses:

ED P. SMITH,
C. D. ROBBINS.