Fig. 3.

Invention

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This invention relates to machines for slicing meat or other food products wherein the rotary slicing knife and the reciprocating work table are power driven. In machines of this character, it is disadvantageous to have the reciprocating work table driven at all times at the same speed as the rotating knife.

It is one object of this invention to provide a means for varying the speed of the work table while the speed of the knife remains constant.

Fig. 1 is an elevation of a slicing machine embodying this invention;

Fig. 2 is a top plan view partly in horizontal section;

Fig. 3 is an elevation of the controlling means as viewed from the right of the motor in Fig. 2, the motor and parts of the driving mechanism being drawn in section.

In these figures, the numeral 1 indicates the base or frame of a slicing machine over which the carriage 2 may be reciprocated by the hand wheel 3. In front of the machine, there is secured a flat bracket 4 having a bearing 5 for supporting the shaft 6 of the knife and it has also a bracket 7 for supporting the casing 8 of the electric motor. The armature 9 of this motor is secured on a tubular shaft 10 supported in bearings 11 at one end of the casing and is attached at its other end to the primary part 15 of a three-speed casing. The element 16 of this three-speed casing is journeled in roller bearings 18 in the cap 19 attached to the motor casing. The opposite end of the shaft 10 carries a spur gear 12 which meshes with a ring gear 14 attached to the knife 13. The secondary element 16 of the three-speed casing has a pulley 17 attached thereto. A shaft 20, for changing the speed ratio between the parts 15 and 16 of the change speed mechanism, is slidably mounted in an arm 21 projecting from the cap 19. The speed of the pulley 17 is varied by adjustment of the rod 22 connected at 23 to an adjustment handle 24, said handle being pivoted about the point 25, which pivot point is supported in the arm 21 projecting from the motor casing.

As shown, the handle 24 is adjustable to three different positions, a, b, c. Upon placing this handle in different positions, the speed of the pulley 17 is varied.

Over the pulley 17 and the pulley 27 on the hollow shaft 28, there is trained a belt or chain 26. This tubular shaft is rotatably supported in the bearing 5 of the knife bracket and forms the journal for the knife shaft 6. The shaft 28 carries at one end a sprocket wheel 29 driven by means of a chain 30 and sprocket 31 on the shaft 32, the latter being coupled in the ordinary way with the carriage.

Upon variation of the speed of the carriage, it is also advisable to interrupt the circuit to the motor and this motor circuit should then be closed again. This may be effected by some suitable connection, for instance, by a spring clutch or friction clutch between the shaft of the motor and the variable transmission gearing, which can be thrown into and out of operation.

The motor may also find a different position with respect to the frame of the machine, in which case the transmission mechanism, with respect to this special drive, would have to be altered.

The shaft for the knife does not necessarily have to go through the tubular shaft or a bushing for driving the carriage.

It is also possible to connect the motor shaft with the shaft 27 driving the carriage through different forms of transmission mechanism without varying the support for the knife.

I claim:

1. In combination with a slicing machine having a rotatably mounted slicing knife and a reciprocating carriage, of a motor for driving said knife and carriage, said motor having a motor shaft, one end of which is in fixed driving relation with said knife and the other end of which is connected with said carriage through a change speed mechanism concentrically mounted with respect to said motor shaft to vary the speed of said carriage independently of the speed of said knife.

2. In combination with a slicing machine having a rotatably mounted slicing knife and a reciprocating carriage, of a motor for driving said knife and carriage, the motor...
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A shaft of said motor having a gear at one end in fixed driving relation with said knife, a change speed mechanism comprising a primary and secondary element concentrically arranged with respect to each other, said motor shaft being connected at its end to said primary element, and a driving connection between said secondary element and said carriage.

In combination with a slicing machine having a rotatably mounted slicing knife and a reciprocating carriage, of a motor for driving said knife and carriage, a motor casing, the motor shaft of said motor being journaled in said casing, and having a driving element at one end thereof connected in driving relation with said knife, a change speed mechanism comprising a primary and a secondary element, said primary element being connected to said motor shaft and said secondary element being journaled in said motor casing and carrying a driving element in driving relation with said carriage, and a controller for selecting the speed ratio between said primary and secondary elements.

In combination with a slicing machine having a slicing knife and a reciprocating carriage, of a motor having a reciprocating carriage, of a motor having a motor shaft for driving said knife and carriage, a bracket having a hollow shaft journaled therein, a shaft supporting said knife and journaled in said hollow shaft, a driving connection between one end of said motor shaft and knife, a driving connection between the other end of said motor shaft and hollow shaft, and a driving connection between said hollow shaft and said carriage.

In combination with a slicing knife and a reciprocating carriage, of a motor having a motor shaft for driving said knife and carriage, a gear on said knife, a bracket having a hollow shaft journaled therein, a shaft supporting said knife and journaled in said hollow shaft, a gear on one end of said motor shaft connecting with the gear on said knife, a change speed mechanism having a primary element connected to one end of said motor shaft and a secondary element in driving relation with said hollow shaft, and a driving connection between said hollow shaft and said carriage.

A slicing machine comprising a slicing knife and a carriage adapted to be moved recurrently past said knife, a motor, a shaft running through said motor for driving said knife and carriage, a gear on said knife, a bracket having a hollow shaft journaled therein, a second shaft supporting said knife and journaled within said hollow shaft, a gear on one end of said motor shaft meshing with the gear on said knife, and a driving connection between said hollow shaft and said carriage.

In testimony whereof I have signed my name to this specification on this 12th day of April, A. D. 1928.

JETZE VAN HOORN.

In combination with a slicing knife and a reciprocating carriage, of a motor having a motor shaft for driving said knife and carriage, a gear on said knife, a bracket having a hollow shaft journaled therein, a shaft supporting said knife and journaled in said hollow shaft, a gear on one end of said motor shaft meshing with the gear on said knife, a driving connection between the other end of said motor shaft and said hollow shaft, and a driving connection between said hollow shaft and said carriage.

In combination with a slicing knife and a reciprocating carriage, of a motor having a motor shaft for driving said knife and carriage, a gear on said knife, a bracket having a hollow shaft journaled therein; a shaft supporting said knife and journaled in said hollow shaft, a gear on one end of said motor shaft meshing with the gear on said knife, a driving connection between the other end of said motor shaft and said hollow shaft, and a driving connection between said hollow shaft and said carriage.

7. In combination with a slicing knife and a reciprocating carriage, of a motor having a motor shaft for driving said knife and carriage, a gear on said knife, a bracket having a hollow shaft journaled therein; a shaft supporting said knife and journaled in said hollow shaft, a gear on one end of said motor shaft meshing with the gear on said knife, a driving connection between the other end of said motor shaft and said hollow shaft, and a driving connection between said hollow shaft and said carriage.