May 3, 1932. J. VAN HOORN 1,856,856

SLICING MACHINE

Original Filed April 12, 1928

Fig. 1.

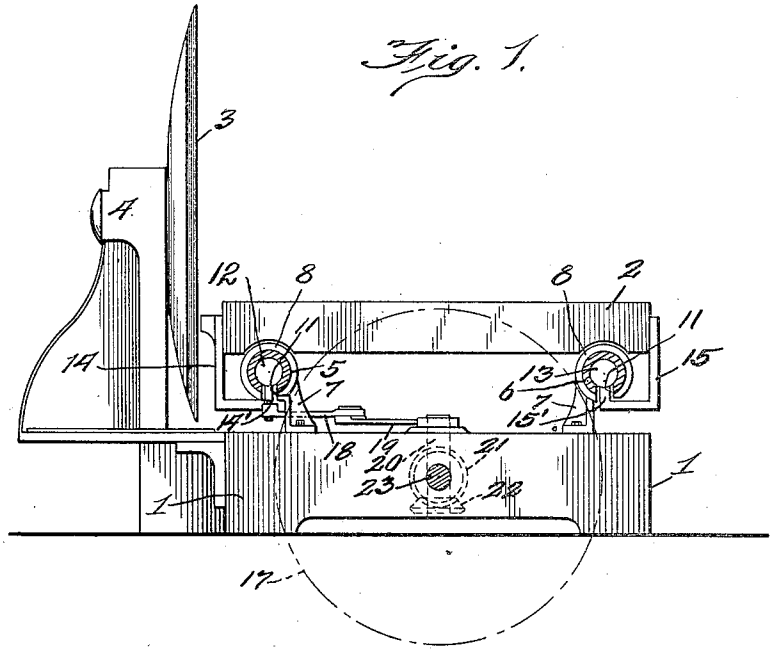
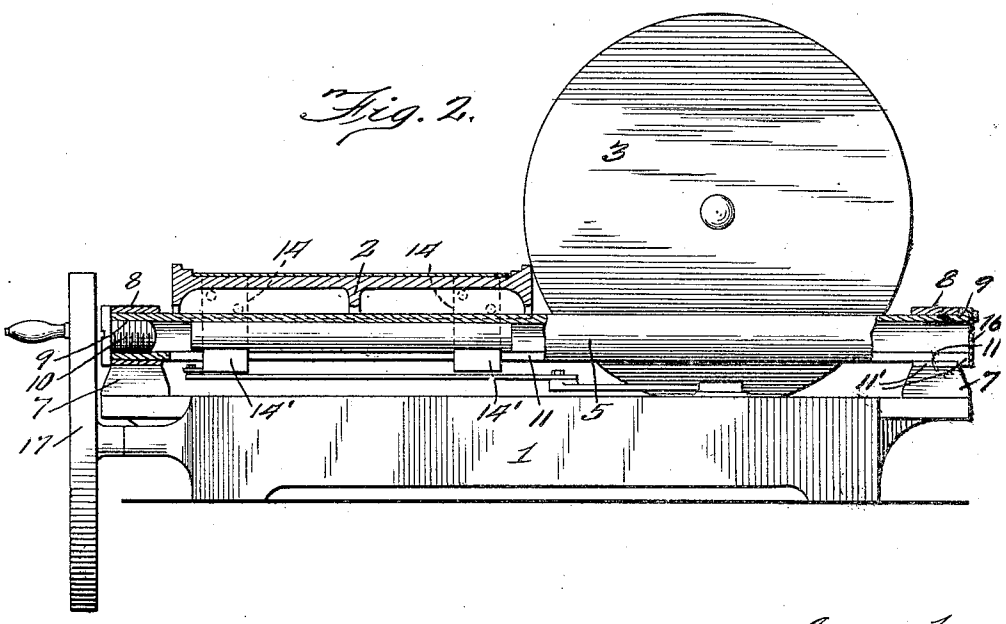


Fig. 2.



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UNITED STATES PATENT OFFICE

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SLICING MACHINE

Application filed April 12, 1928, Serial No. 269,525, and in Great Britain March 23, 1927. Renewed February 18, 1931.

This invention relates to slicing machines of the type wherein a carriage, for carrying the substance to be sliced past the slicing knife, is arranged to reciprocate along one or more stationary guide bars or rails mounted on the base of the machine.

In such machines, the guide bars or rails are apt to be soiled and roughtened by the adhesion thereto of grease and small particles of the substance sliced, together with particles abraded during the grinding of the knife, whereby the operation of the machine is rendered more difficult owing to the gradually increasing friction.

The object of this invention is to remove all liability of grease or grit being deposited on the actual guiding surfaces of the guide bars.

In accordance with the invention a slicing machine of the type referred to, in which the reciprocatory carriage is guided by one or more slide members fixed thereto and slidably mounted on the guide bar or bars, is characterized by the guide bar, or each guide bar, being so made or constructed that the actual bearing surface or surfaces thereof is or are covered by or enclosed within the bar itself. The guide bar, or each guide bar, may be either unitary or composite and is preferably formed with an internal guideway having a restricted opening for the passage of a connection between the slide member, or each of them, and the reciprocatory carriage. The construction is such that, although the said member or members can slide freely on the bearing surfaces, the latter are absolutely protected against the entry of foreign matters.

In order that the invention may be clearly understood, one embodiment thereof, chosen as an illustrative example, will now be described with reference to the accompanying drawings, in which:—

Fig. 1 is an end elevation, with certain parts in section, of a slicing machine;

Fig. 2 is a fragmentary sectional elevation at right angles to Fig. 1.

In the drawings, the numeral 1 denotes the base of the machine, 2 denotes the carriage for carrying the substance to be sliced and 3 denotes the circular slicing knife, which is rotatably mounted in a bracket 4 secured to the base.

Two parallel guide bars 5, 6 are mounted on the base 1, lengthwise thereof. Each bar is circular in cross-section and is tubular, so as to provide an internal guideway which also is circular in cross-section. The bars are supported at their ends by pillars 7 upstanding from the base 1, each pillar being provided with a tubular sleeve 8 through which one end of the relative guide bar passes. The bars are each formed at one end with a shoulder 9 and are internally screw-threaded at the other end to receive a cap 10, the shoulder 9 and cap 10 being adapted to abut against the outer faces of the sleeves 8 for the purpose of holding the bars rigidly in position. Each bar has cut in it an opening or slot 11, which extends along the bottom of the bar from a point near the internally screw-threaded end to the shouldered end, at which end the slot is open. The sleeves 8 against which the shoulders 9 bear are formed with slots 11′, adapted to register with the slots 11 at the open ends thereof.

Two round bearing blocks consisting of rods 12, 13 are slidably mounted in the guideways within the guide bars, and the rods 12, 13 are attached by means of L-shaped brackets 14, 15 to the sides of the carriage 2. A projection 14′ or 15′ on the free end of the horizontal limb of each bracket passes through the slot 11 in the relative bar 5 or 6.

When assembling the machine, the bars 5, 6 are passed through the sleeves 8 and the caps 10 are screwed into the ends of the bars. The rods 12 and 13, already secured to the carriage, are entered into the guide bars at

their shouldered ends, the extensions 14', 15' being passed through the slots 11, 12. The carriage 2 is then slid along the bars to its working position.

Cover-plates 16 may then be fitted on the shouldered ends of the guide rods to prevent the ingress of dust, dirt and the like.

The slicing machine shown is of the kind in which the carriage 2 is reciprocated past the rotary knife 3 by means of a flywheel 17, the carriage being connected through the intermediary of a connecting rod 18, a crank 19, a crankshaft 20 and bevel gearwheels 21, 22 to the flywheel shaft 23. This particular kind of machine has been chosen simply for the purpose of illustration, and it will be apparent that the invention may be applied to any of the other kinds of machines of the type to which this invention relates. For instance, the carriage might be fitted with a handle by means of which it could be pushed and pulled past the knife, the flywheel 17, gearwheel 22 and shaft 23 being dispensed with and a flywheel being preferably secured to the crankshaft 20.

Applicant does not wish to restrict himself to the use of a circular rod 13 fitted in a corresponding recess such as is illustrated for it will be apparent that other shapes of bearing members within the knowledge of one skilled in the art may be used without departing from the spirit or scope of the invention, the form shown being used merely as an illustration of the preferred embodiment of the device. The important feature of the invention is that the guideways substantially enclose the bar attached to the carriage. It is not even necessary that the slots be in the lowermost position as shown, it only being necessary that the slots are so located as to prevent the accumulation of dust, dirt and other foreign matter thereon.

In a slicing machine fitted with guides for the reciprocatory carriage as hereinbefore set forth, any grease or particles of meat or other substance likely to soil the guiding surface of these bars would be deposited on the top and sides thereof and would in no way affect the operation of the machine.

I claim:

1. In combination with a slicing machine having a reciprocable table, a supporting member formed with a longitudinally extending recess therein, a slide element mounted within said recess, and means attached to said table and slide element, said means extending under said member and upward through said recess.

2. In combination with a slicing machine having a reciprocable table, a slide element attached to said table, and protecting means for said element, said means comprising an elongated stationary cover supporting said table and positioned over said slide element and extending between said element and table to protect said slide when reciprocated in said cover.

3. In combination with a slicing machine having a base and a reciprocable table, a hollow tubular supporting member having a slot in the bottom thereof communicating with the interior of said tubular member, a cooperating slide element mounted for reciprocation within said tubular member, and a rigid connection between said table and slide element, said connection extending beneath said tubular member and through said slot to said slide element.

4. In combination with a slicing machine having a base and a reciprocable table, a plurality of slide elements, a pair of cover members on said base within which said slide members are mounted for reciprocation, and connecting means between said slide elements and table extending beneath said cover members to said slide elements.

5. A slicing machine comprising a reciprocable table, supporting means therefor comprising a covering guide, and a slide element connected to said table and associated with said covering guide to slide along and be guided by the latter while covered thereby.

6. A slicing machine comprising a reciprocable table, supporting mechanism therefor comprising a covering member having a longitudinal recess therein, a slide element connected to said table to move therewith and slidable within and guided by said recessed member while covered thereby, and means connecting said slide element and table to cause the slide element to move with the table as aforesaid.

7. A slicing machine comprising a supporting member and a reciprocating member mounted thereon by means of a recessed guide element on one of said members having a longitudinal slot therein opening downwardly, and a co-operating slide element on the other of said members adapted to be guided within the recessed guide and to slide relatively thereto.

8. A slicing machine comprising a supporting member and a reciprocatory member mounted thereon by means of a plurality of recessed guiding elements on one of said members each having a longitudinal slot therein opening downwardly and a co-operating slide element on the other of said members for each of said guiding elements adapted to be guided thereby and slide relatively thereto.

9. A slicing machine comprising a reciprocable table, supporting means therefor comprising a slide element, a stationary cover for guiding said element and within which said element is reciprocable by sliding movements, said cover extending between said slide element and table, and means connecting said slide element and table.

10. A slicing machine comprising a recip-

rocable table, a support therefor comprising a slide element connected to said table, a tubular guide adapted to cover said slide element to protect it from the accumulation of foreign matter thereon and having an elongated recess therein within which the slide element is guided.

In testimony whereof I have signed my name to this specification on this 27th day of March, A. D. 1928.

JETZE VAN HOORN.