C. A. SPOTZ.

MEAT SLICING MACHINE.

APPLICATION FILED JAN. 19, 1912.

1,042,165. Patented Oct. 22, 1912.

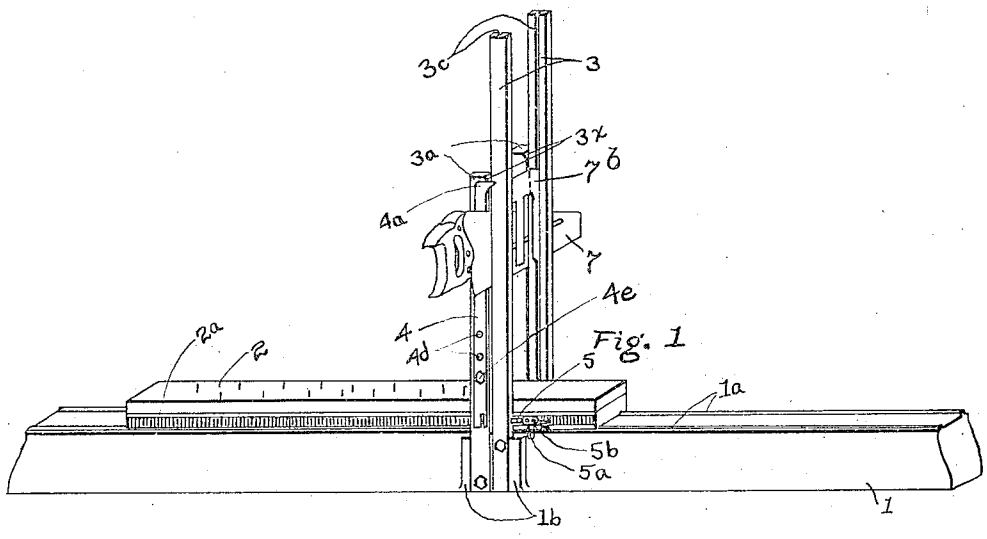

Fig. 1

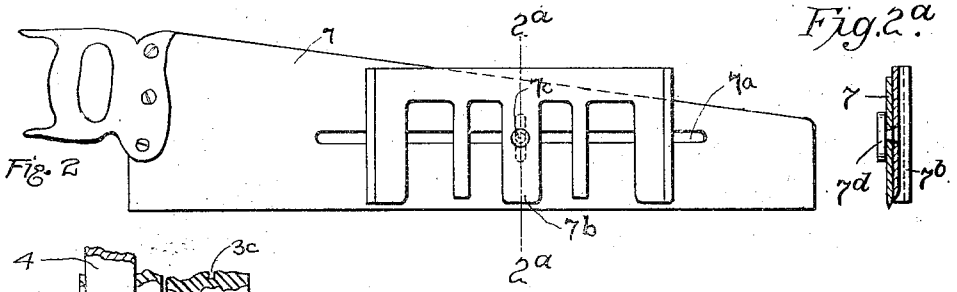

Fig. 2

Fig. 2a.

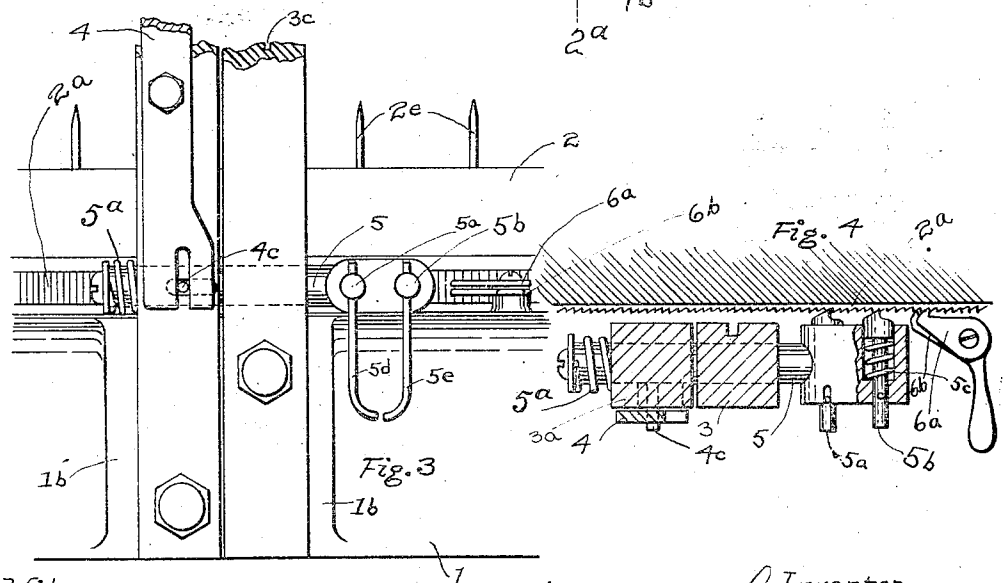

Fig. 3

Fig. 4

Witnesses.

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MEAT-SLICING MACHINE.

1,042,165. Specification of Letters Patent. Patented Oct. 22, 1912.

Application filed January 19, 1912. Serial No. 672,255.

To all whom it may concern:

Be it known that I, CHESTER A. SPOTZ, citizen of the United States, residing at York, Pennsylvania, have invented certain new and useful Improvements in Meat-Slicing Machines, of which the following is a specification.

It is the object of my invention to provide a simple and efficient form of apparatus for slicing meats for use particularly in restaurants, markets or stores where large quantities of such product is used.

The invention consists in the features, combinations and arrangement of parts hereinafter described and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a meat slicing machine embodying my invention; Fig. 2 is a side elevation of the knife or cutter with a guard combined therewith to prevent the sliced meat from adhering to the knife under all conditions of use and positions of said knife. Fig. 2ª is a sectional view of Fig. 2 substantially on the line 2ª of said figure. Fig. 3 is a detail side elevation of a portion of the main table, the carriage for the meat and portions of the mechanism for giving the carriage a step by step movement of predetermined length. Fig. 4 is a plan view of a section through a portion of the meat carriage or table and the mechanism for operating it step by step.

In these drawings, 1 is the main base or table of the machine having guideways 1ª on its upper side of any suitable form. Upon these guideways a table or meat carrying block 2 is adapted to slide longitudinally, said carrier having guides on its under face matching those of the main table or frame 1. The carrier block or table 2 has pins 2ᵉ projecting upwardly therefrom to engage the meat and hold it in position while being cut. At the sides of the main frame or table 1 are lugs 1ᵇ to which are attached uprights 3, one at each side, said uprights having guide grooves 3ᶜ on their inner faces extending vertically for a purpose hereinafter described. Associated with each of the upright guides 3. is another guide 3ª arranged parallel with the guide 3 at each side and attached to the lug 1ᵇ by bolts or otherwise. The guides 3 and 3ª form between them a guideway in which a knife 7 is adapted to slide and for the purpose of easily inserting the knife in place, the upper ends of the guide-bars or uprights 3ª are beveled off at 3ˣ to provide a flaring space or channel to receive the knife when this is inserted for use.

I provide means whereby the carrier block or table 2 is moved step by step by the act of lifting the knife for a new cut so that the operator has only to operate the knife properly in order to have the parts of the machine perform their functions. For the purpose just mentioned, of operating the carrier block or sliding table 2 from the upward movement of the knife when the operator raises this for a new cut, I provide a lever 4 pivoted at 4ᵉ on the side of one of the uprights 3ª, this lever extending upwardly along the said upright and having at its upper end a cam shaped projection 4ª overhanging the path or guideway of the knife so that as the knife is raised for a new cut its upper edge will contact with the incline of this cam projection and swing the feed lever 4 on its pivot 4ᵉ. The lower end of this lever is bifurcated and embraces a stud 4ᶜ projecting from a pawl carrying bar or slide 5 which is guided through openings in the uprights or guides 3 and 3ª. The pin 4ᶜ projects through a slot in the upright 3ª and is as said above, embraced by a lower forked end of the feed lever 4 so that as the feed lever is swung by contact with the knife when raised for the new cut, the pawl slide 5 will be moved toward the right and one of its pawls 5ª or 5ᵇ which is then in engagement with one of the teeth on the toothed bar 2ª fixed to the sliding meat block, the said movement of the pawl carrying bar will be transmitted to the sliding carrier or meat block 2 and this will move forward one step so that the meat will be brought under the knife for a new cut, and as the arm of the lever 4, which projects below the fulcrum 4ᵉ is short, the movement will be only that predetermined upon as sufficient to give the desired thickness to the slice of meat. This thickness may be regulated at the will of the operator by adjusting the fulcrum pin of bolt 4ᵉ into one or the other of a series of holes 4ª, thus diminishing or increasing the lower arm of the feed lever 4 to get different thicknesses of slices as may be desired.

The pawl carrier of slide 5 is pressed to

the left by a spring 5^a so that as the knife is forced down the pawl slide will be retracted for the next feed action, the carrier block or slide 2 for the meat being held against retracting movement at this time by one of the detents 6^a or 6^b pivotally mounted on the main base or frame 1, of the machine. I prefer to employ two feed pawls 5^a, 5^b, and two detents 6^a, 6^b. These pawls and detents are so spaced in relation to each other as to permit the tooth of one pawl to be in engagement with one of the teeth of the rack 2^a, while the tooth of the other pawl is positioned midway of the tooth of the rack 2^a. This will permit greater variation in the thickness of the slices than if but one pawl is used. The pawls 5^a and 5^b are pressed forward by coil springs one of which is shown at 5^c. The pawls have each a wire or rod attached to their stems as shown at 5^e and 5^d which fit in notches in the pawl carrier block. If it is desired to hold the pawls out of operation they are simply retracted against the tension of their springs 5^c and given a quarter turn so that the wires or rods 5^e or 5^d will then overlie the face of the pawl carrying block and act to retain the pawls in their retracted positions away from contact with the rack bar 2^a and the spring pressed detents may be swung aside to allow the carriage to be perfectly free for its return to its initial position at the left of the apparatus.

In order to prevent the slices of meat from adhering to the knife, I provide a guard or shield 7^b preferably in the form of a comb and having its ends slidably engaging the guide grooves 3^c of the uprights 3. This guard is attached to the knife by a pin 7^c which is riveted to the guard plate or shield, the stem of said pin passing through a slot 7^a extending longitudinally of the knife and having upon its end an elongated head 7^d fitting against the side of the knife and holding the knife and the shield together when in the relation shown in Fig. 2. This guard will move up and down with the knife and the slice of meat will be shielded by this guard from contact with the knife as the cutting proceeds, and the knife is in reciprocation, the slice of meat coming upon the outer face of the guard and being held thereby away from contact with the reciprocating knife. The prongs or teeth of the comb shaped guard are slightly curved in a vertical direction so that their lower ends will contact or be close to the face of the knife when attached thereto and will receive upon their outer faces the slice as the cutting is being done and thus keep the slice from contact with the moving knife.

Should it be desired to remove the knife from the guard it will simply be necessary to turn one of these parts so that the elongated head 7^d of the connecting pin 7^c will register with the slot 7^a and then removal can be effected.

I claim as my invention:—

1. In combination a carrier for the meat, a reciprocating hand operated cutter, vertical guides in which said cutter may reciprocate and move vertically, a lever extending vertically and pivoted on a horizontal axis, the upper end of the lever extending across the guide way to be struck by the upper edge of the knife at the end nearest the handle thereof, a rack bar on the side of the meat carrier, pawls engaging said rack, a pawl slide carrying the pawls, and a connection between the lower end of the pivoted lever and the pawl slide, substantially as described.

2. In combination with a cutter, guide means therefor, a guard extending over the face of the cutter adjacent the sliced meat to prevent contact of the slice with the cutter said cutter being movable in relation to the guard and a carrier for the meat, substantially as described.

3. In combination a reciprocatory cutter having also vertical movement, a guard to move vertically with the cutter and held against reciprocating movement therewith, said guard preventing the slice from adhering to the cutter and a carrier for the meat, substantially as described.

4. In combination a reciprocatory cutter, a carrier for the meat, a guide for the cutter and a guard of toothed form for preventing contact of the slice of meat with the cutter, substantially as described.

5. In combination a reciprocatory and vertically movable cutter, guide means therefor, a carrier for the meat, a guard movable vertically in guide means and held from moving with the reciprocations of the cutter, substantially as described.

6. In combination, a cutter, guide means therefor, a guard, guide means for the guard, a pin and slot connection between the guard and the cutter, said slot being formed in the cutter and receiving the pin from the guard, and a carrier for the meat, substantially as described.

7. In combination, a cutter, guides through which the cutter may be reciprocated and moved vertically, guides for a guard parallel with the guides of the cutter, a guard mounted in the said guides last mentioned and a carrier for the meat, said guard extending over the face of the knife on the side adjacent the slice of meat, substantially as described.

8. In combination a meat carrier, uprights having a guide way between them, a knife to reciprocate transversely of the meat carrier and movable vertically in the said guide way, a lever pivotally mounted having its upper end extending across the

guide way to be struck directly by the upper edge of the knife blade, and a connection between the lower end of the lever and the meat carrier for moving the same, substantially as described.

9. In combination in a meat cutter, a carrier for the meat, a cutting knife, guide means for the cutting knife to allow the same to reciprocate across the meat carrier, and to move vertically in respect thereto, a guard for the knife, a sliding connection between the guard and the knife whereby the guard will move vertically with the knife, and means for restraining the guard from moving with the knife in its reciprocations, substantially as described.

In testimony whereof, I affix my signature in presence of two witnesses.

CHESTER A. SPOTZ.

Witnesses:

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