June 27, 1939. C. G. LANG 2,163,791

PICKLE SLICING MACHINE

Filed July 18, 1938 2 Sheets-Sheet 1

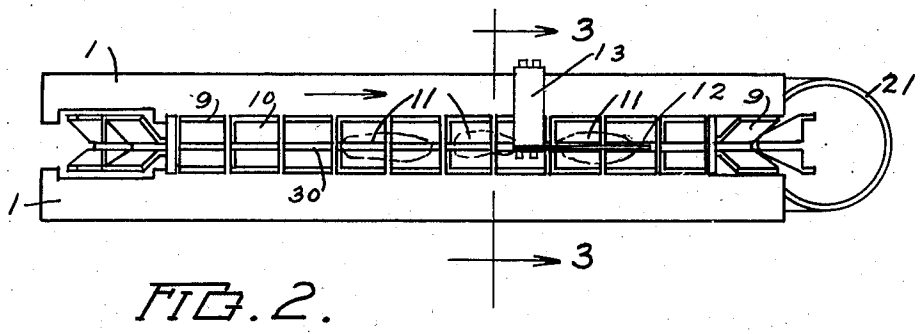



FIG. 2.

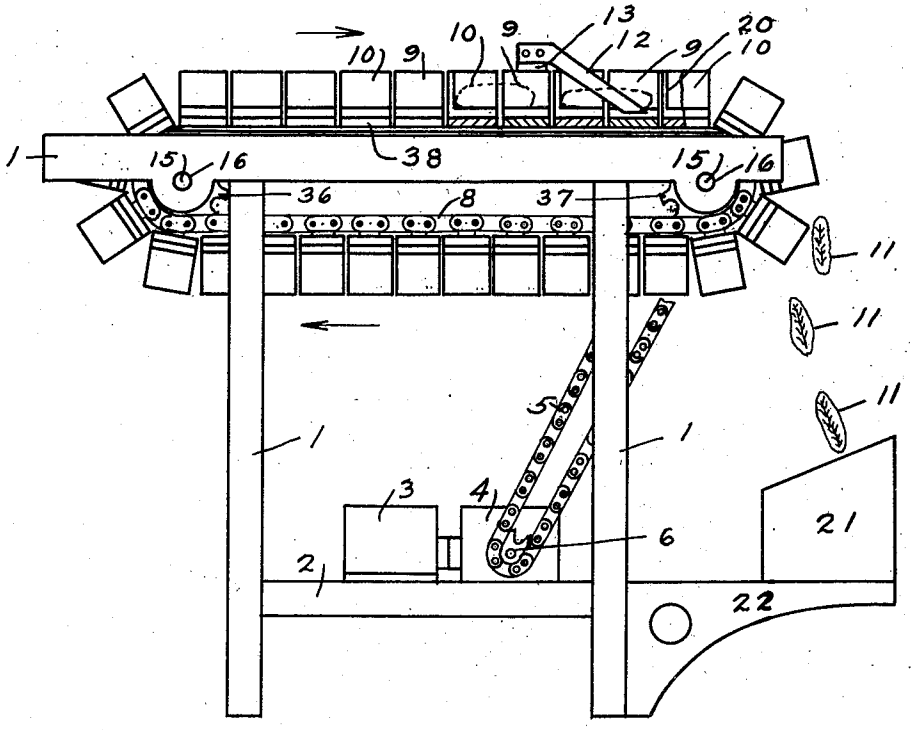



FIG. 1.

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Filed July 18, 1938 2 Sheets-Sheet 2

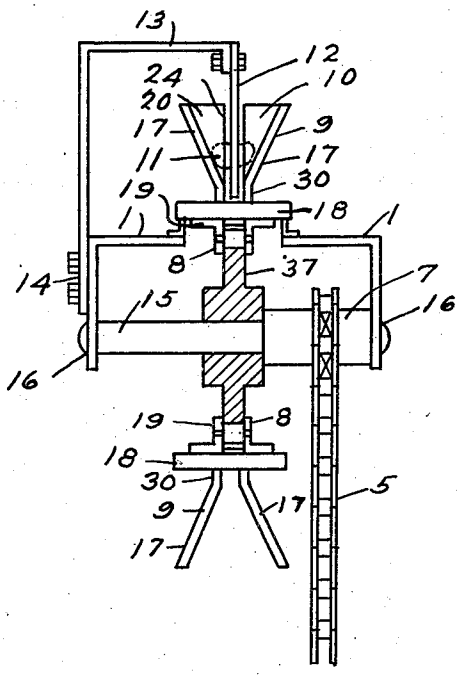



FIG. 3.

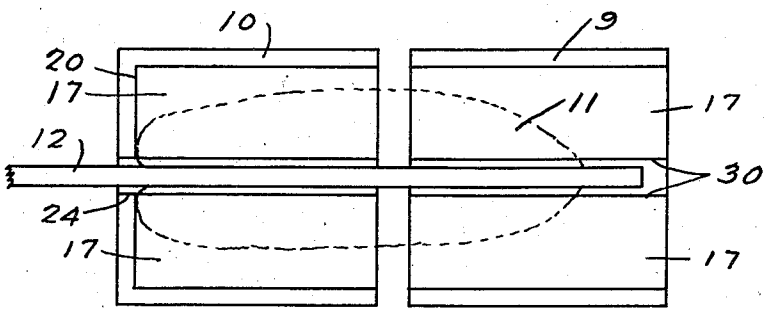



FIG 4

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# UNITED STATES PATENT OFFICE

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## PICKLE SLICING MACHINE

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Application July 18, 1938, Serial No. 219,852

1 Claim. (Cl. 146—72)

This invention refers to machines used in the manufacture of pickle products and more particularly to a device for slicing pickles of the cucumber family. It has among its objects to provide a device of this nature that will slice pickles longitudinally of regular or irregular form; to do such slicing equably and quickly, to use the whole size of the pickle and avoid waste of any portion that has a value from an edible point of view; to utilize nubs and deformed vegetables to be packed as efficiently as selects; to have the device provided with a stationary knife that will work effectively and avoid the dangers of moving knives and to have the device such that the pickles will be self-aligning. Other objects will become apparent as the invention is more fully set forth.

The slicing of pickles of the cucumber family, as usually done, is more or less unsatisfactory. This is due to the waste incurred by the removal of the end portions; the inconvenience of handling irregular shapes of vegetables pickled; and the discarding of nubs because of the difficulty in slicing same properly; and the use of many pickles for cheaper grades that could be utilized for packing in higher grade classes. In this invention, practically all shapes and forms of pickles are sliced readily. They are made suitable for packing in containers as selects; and the operation and functions of the machine avoid the use of moving knives that might be dangerous to the operator and less effective in cutting the pickles. The device keeps the pickle properly aligned for longitudinal cutting down the middle and pushes same against the knife in a very effective and natural manner. The machine consists in general of a frame supporting a conveyor mechanism, carrying buckets that hold the pickles. Alternate buckets have a barrier or block that contacts one end of the pickles and forces the latter against stationary knives or knife which slices them into equal halves, ready for packing. They are carried to a storage bin on the machine and held for the next step in the production determined for the pickles. The pickles are dropped in the buckets of the conveyor at the beginning and are automatically positioned for the slicing by the knife without further handling or mechanical manipulation.

In the drawings which illustrate an embodiment of this invention:

Figure 1 is a side elevation of a pickle slicing machine embodying this invention,

Figure 2 is a plan view of Figure 1,

Figure 3 is a sectional view along the line 3—3 of Figure 2 indicating the general construction of the conveyor and buckets,

Figure 4 is an enlarged detail of the bucket and knife used in this machine, and a pickle to show the manner in which the slicing is accomplished.

Similar reference characters refer to similar parts throughout the drawings.

In the construction shown in the drawings, the reference character 1 indicates a conventional form of framework for supporting the parts of the machine. It has a shelf 2 for supporting a motor 3 and speed changer 4 for operating a conveyor 38 used. The chain 5, sprockets 6 and 7 respectively, form the means for transmitting power from the motor to the conveyor. The conveyor has a conventional carrier link chain 8 and sprockets 36 and 37 for propelling and supporting the buckets 9 and 10 respectively used with the conveyor for carrying the pickles 11 passing through production. The arrows show the general direction of movement of the conveyor. A stationary knife 12, preferably set at an angle to the direction of movement is mounted on and adjustably fastened to an arm 13, which holds it rigidly in position for cutting the pickles. The arm is attached to the frame 1 at 14 in any suitable manner. The axles 15 for holding the gearing of the conveyor are journalled at 16 in the frame.

The buckets 9 and 10 that carry the pickles are preferably provided with downwardly converging walls 17 to neck members 30 that rest on and are secured to yokes 18. These yokes have boss pieces 19 formed underneath them to fit over the conveyor chain 8 and connect to same. The buckets 9 are termed the forward buckets and open on top and at each end. The buckets 10 are termed the rear buckets and have each a pressure block 20 which contacts the pickle to propel it forward against the knife 12 and cause it to be sliced. The pressure block 20 is slotted at 24 to allow the knife to pass through the buckets without obstruction. The use of the two types of buckets is made necessary for the length of the pickle and to limit the size of the conveyor sprockets 36 and 37 and to enable the cut pieces of pickle to positively discharge themselves from between the converging walls that hold them, as the sections go around the corner following the cutting. The hinging sections bend the pickles sufficiently to cause them to release themselves at these corners and gravity completes the discharging action. If long buckets were used, the flexibility of the machine would be reduced and the design would have to conform to the special requirements that would be entailed. The

buckets as here used permit the conveyor to move smoothly and enable variable lengths of pickles to be effectively used without change in the machine or its parts.

A storage bin 21 secured to the frame 1, by a bracket 22 to catch the pickles as they are cut and pass from the machine proper is provided. The parts are provided with all necessary adjustments to permit efficient operation.

The operation of the device is as follows: The conveyor is started; as it travels, the operator drops pickles into the buckets at the receiving end of the machine. The pickles adjust themselves quickly as they slide down the converging walls of the buckets and align longitudinally therein. The bucket aproaches the knife 12 and brings the pickle against same. The pressure block 20 in that bucket comes into action as the knife stops the pickle, and forces the pickle against the knife until it is sliced through. The bucket proceeds with the sliced pickle and the knife 12 passes through the slot 24 in it to the approaching next bucket. The sliced pickle is carried to the delivery end portion of the conveyor over the sprocket 37, and as the bucket turns around on the latter, the pieces of pickle are dumped out and caught by the storage bin 21.

It should be noted that the pickles, in being dropped into the buckets at the receiving end of the conveyor may fall in any position, but as soon as they strike the side walls of the bucket, they are turned into the proper longitudinal position and held, so that when sliced, the cut through them is central and straight. The lower portion of the knife extends through to the neck portion 30 and positively assures the cutting of the pickle completely through.

While but one form of the invention is shown in the drawings and described in these specifications, it is not desired to limit the application to this specification construction, otherwise than limited by the prior art, as it is appreciated that other forms of construction might be used that would employ the same principles and come within the scope of the appended claim.

Having thus described the invention what is claimed is:

A machine of the class described for equably slicing cucumber pickles of regular and irregular shapes indiscriminately deposited therein, comprising in combination, a frame; an endless conveyor with links and yokes mounted on the frame; a plurality of spaced buckets mounted on the conveyor and connected with the links and yokes, each bucket being in two sections spaced apart from each other, said sections having smooth downwardly wedgelike converging walls spaced apart at the proximate apex, and adapted to align and gravitationally grip the pickles longitudinally in the direction of travel of the conveyor, the walls being extended at the proximate apex in parallel relation to form a guiding slot therebetween, each last section of a bucket being provided with inwardly extending flange walls for affording pressure backs for the pickle therein, to push same along with the conveyor; knife means on the frame and disposed stationarily and angularly between the converging walls and in the guiding slot, to cut the pickles in the buckets longitudinally and through the middle axis thereof as the buckets are carried by on the conveyor, said sections being arranged to bend hingedly on their links as the conveyor varies its directional travel and thereby stress the pieces of cut pickles to force their release from the converging walls for discharge therefrom.

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