

Aug. 13, 1940.

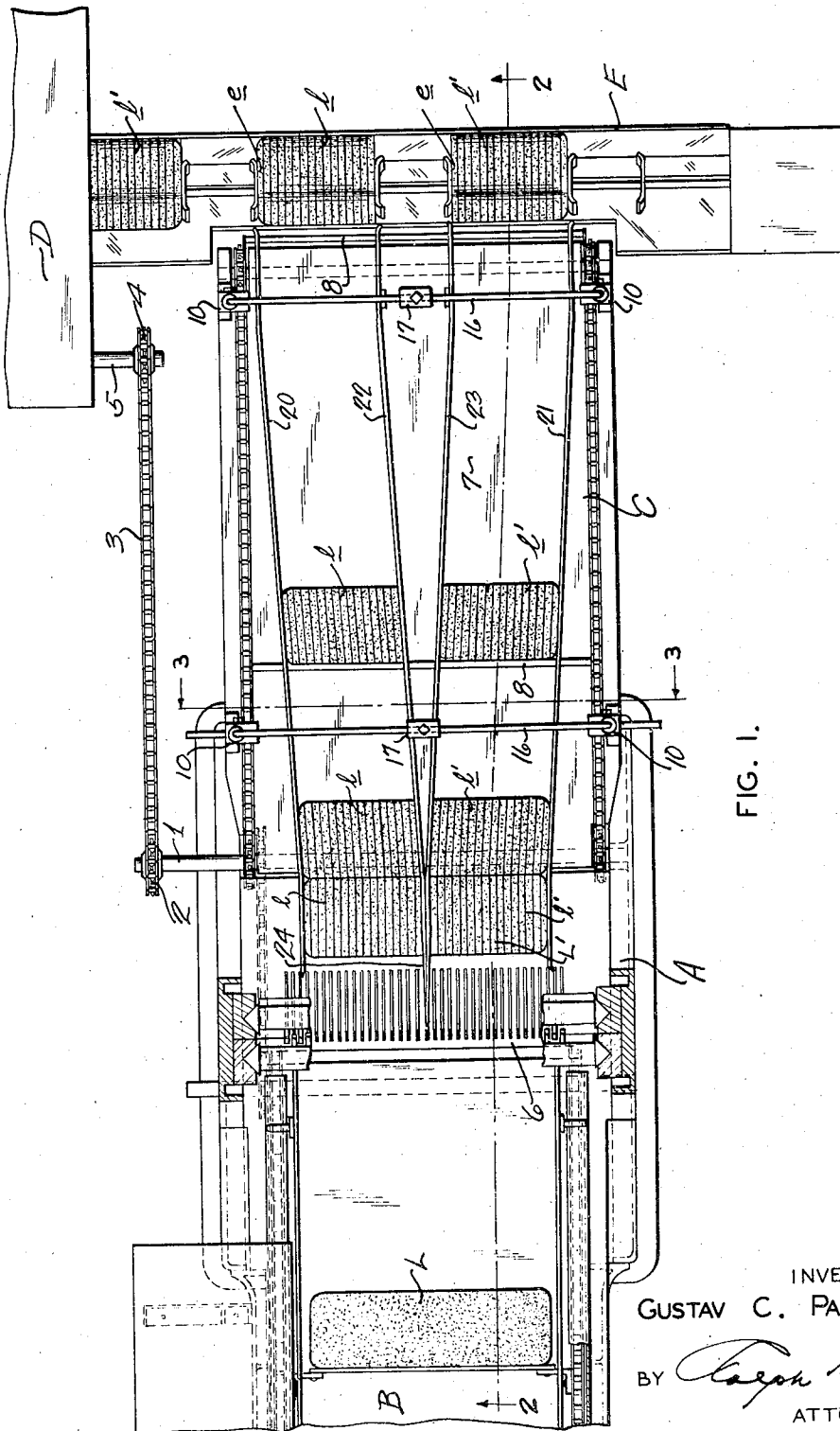
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2,211,433

SLICED BREAD-LOAF FRACTIONATING MACHINE

Filed Nov. 25, 1939

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

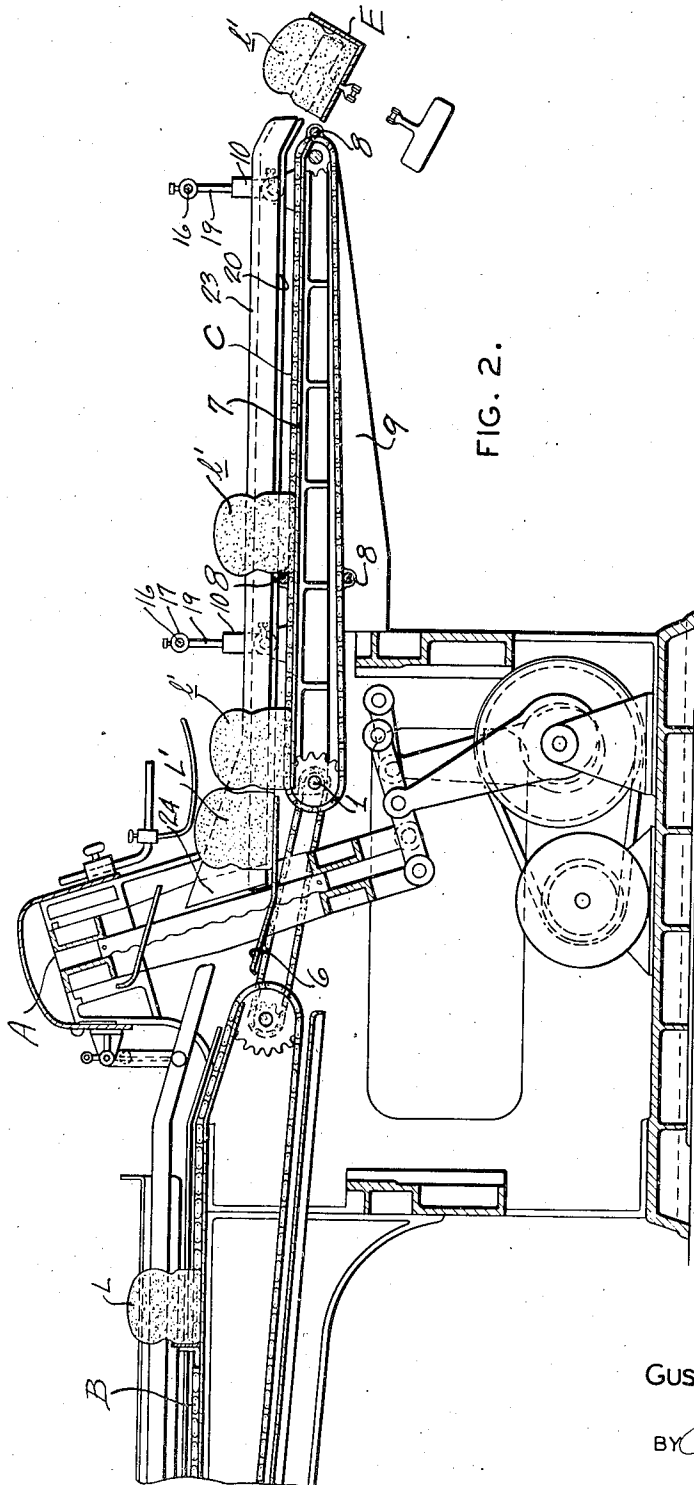


FIG. 2.

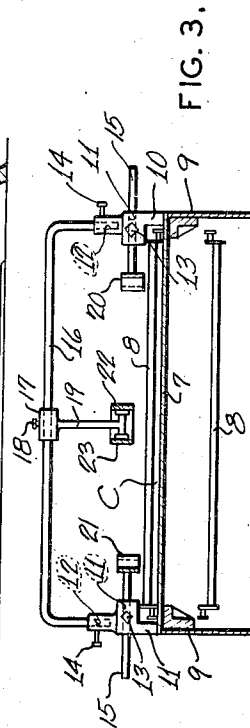


FIG. 3.

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SLICED BREAD-LOAF FRACTIONATING MACHINE

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Application November 25, 1938, Serial No. 242,432

5 Claims. (Cl. 146—153)

This invention relates to certain new and useful improvements in sliced bread-loaf fractionating machines and has for its primary object the provision of a machine which will automatically sub-divide respective sliced bread-loaves into a plurality of fractions in a simple, speedy, and efficient manner without materially adding to the production cost of the bread-loaves, which will fractionate or sub-divide the bread-loaves at high speed in timed relation to the other bread production processes, and which will provide the consumer trade with tasty and fresh fractionated or sub-divided bread-loaves, which may be wrapped or packaged for direct visual inspection.

And with the above and other objects in view, my invention resides in the novel features of form, construction, arrangement, and combination of parts presently described and pointed out in the claims.

In the accompanying drawings (2 sheets)—

Figure 1 is a top plan view of a sliced loaf fractionating machine constructed in accordance with and embodying my present invention;

Figure 2 is a vertical sectional view of the machine, taken approximately along the line 2—2, Figure 1; and

Figure 3 is a fragmentary transverse sectional view of the machine, taken approximately along the line 3—3, Figure 1.

Referring now in more detail and by reference characters to the drawings, which illustrate a preferred embodiment of my invention, A designates a high-speed bread-loaf slicing machine of the vertically reciprocating knife type more specifically described in my co-pending application for Letters Patent, Serial No. 242,430, filed November 25, 1938, and equipped with a suitable type of loaf speeding conveyer B preferably, though not necessarily, of the chain-driven flight type.

Extending outwardly from the discharge side of the slicing mechanism A, is a discharge mechanism also of the more or less conventional chain-driven flight type and being driven from a main drive shaft 1 operatively journaled in the side frames of the slicing machine A and provided at its extended end with a sprocket 2 connected by a suitable sprocket chain 3 to the sprocket 4 and drive shaft 5 of the loaf-wrapping machine D for synchronous operation therewith, as best seen in Figure 1.

The slicing machine A is further provided with a delivery plate 6 extending horizontally forwardly on the discharge side of the slicing machine A for a distance approximately equal to the width of a bread-loaf and terminating at a

point spaced slightly upwardly from the upper face of a transfer conveyer table 7 for permitting flight bars 8 to move upwardly from beneath the table 7 and forwardly into loaf engagement.

Rigidly mounted on the upwardly presented faces of each of opposed parallel side frame extensions 9, are two spaced upstanding brackets 10 having a transversely extending horizontal bore 11 and an upwardly opening vertical bore 12, the side walls of each of the bores being provided with suitably threaded set screws 13, 14. Shiftably mounted in each of the horizontal bores 11, is a guide-supporting rod 15 held firmly in any adjusted position by means of the set screw 13.

Similarly mounted at its ends in the bores 12 of the transversely aligned bracket members 10 and extending upwardly and transversely over the transfer conveyer C, are U-shaped bridge members 16 and being provided along its bight with a shiftable sleeve member 17 provided with a set screw 18 for securing the sleeve member 17 at any shifted position along the bridge member 16, the sleeve 17 further being provided with a preferably integral downwardly extending guide support 19 formed in the shape of an inverted T.

Welded or otherwise fixed on the ends of the guide-supporting rod 15, are two opposed side guide members 20, 21. Similarly mounted upon the ends of the guide supports 19, are two inner guide members 22, 23. The guide members 20, 21, 22, 23, at their lower margins are all spaced substantially upwardly from the upper face of the transfer conveyer table 7 to allow the flight bars 8 to pass freely thereunder. The guide members 20, 21, at one end terminate adjacent the discharge side of the slicing machine conveyer and are transversely spaced apart by a distance slightly greater than the length of the entire sliced loaf and extend forwardly in this relationship parallel to the side margins of the transfer conveyer for a distance approximately equal to the width of one loaf and then diverge outwardly from each other to a point spaced inwardly from the discharge end of the transfer conveyer C by a distance approximately equal to the width of a loaf and then extend forwardly again in parallelism with the side margins of the machine, as best seen in Figure 1.

The inner guide members 22, 23, are similarly welded or otherwise rigidly mounted on the outwardly presented ends of the guide support 19 and extend longitudinally therebetween, terminating at one end in a sharpened blade-like wedge 24 extending to a point adjacent the discharge end of the slicing machine A, the guide

member 22 extending thence forwardly in uniformly spaced parallelism throughout its length with the side guide 20, the inner guide 23 similarly extending forwardly in uniformly spaced parallelism throughout its entire length with the side guide members 21, the distance between the guide members 20, 22, and 21, 23, being substantially equal to the desired length of a loaf fraction, all as best seen in Figure 1.

The wrapping machine D is provided with an outwardly extending conveyer E having a plurality of chain-driven pockets *e* actuated in step motion by a Geneva drive or other suitable mechanism (not shown). The wrapping machine conveyer E is so adjusted that during each interval of motion a pair of the pockets *e* will be moved forwardly and be brought to rest in alignment with the guide members 20, 22, and 21, 23, respectively, substantially as shown in Figure 1.

Meanwhile, the successive bread-loaves L will be progressed through the slicing knives, and the resulting sliced loaves L' divided into fractions *l*, *l'*, by the wedge member 24, the fractions *l*, *l'*, being progressed forwardly under the pressure of successive loaves which are being forced through the slicing machine by the feed conveyer B thereof. The loaf fractions *l*, *l'*, are successively held firmly between the pairs of guide members 20, 22, and 21, 23, respectively, and ultimately drop over the edge of the delivery plate 6 and come to rest upon the upwardly presented face of the transfer conveyer table 7, from which they are picked up by one of the moving flight bars 8 and rapidly progressed across the transfer conveyer table 7 in longitudinal alignment and ultimately pushed off into the waiting pockets *e* of the wrapping machine conveyer E and thereby carried into the wrapping machine D for conventional handling.

It should be understood that changes and modifications in the form, construction, arrangement, and combination of the several parts of the machine may be made and substituted for those herein shown and described without departing from the nature and principle of my invention.

Having thus described my invention, what I claim and desire to secure by Letters Patent is—

1. A sliced loaf fractionating machine for use with a wrapping machine having an intake conveyer including a plurality of groups of pockets; said fractionating machine comprising slicing means, conveying means for advancing the unsliced loaves through the slicing means, means for fractionally dividing each sliced loaf into a plurality of fractions as it leaves the slicing means, transfer conveyer means, means for depositing the divided loaf fractions upon the transfer conveyer, guides associated with the transfer conveyer for shifting the deposited fractions away from each other, and means for progressing the several fractions across the transfer conveyer in axial alignment and simultaneously depositing the several fractions into the several pockets of one of the pocket-groups of said intake conveyer.

2. A sliced loaf fractionating machine for use with a wrapping machine having an intake conveyer including a plurality of groups of pockets;

said fractionating machine comprising slicing means, conveying means for advancing the unsliced loaves through the slicing means, means for fractionally dividing each sliced loaf into a plurality of fractions as it leaves the slicing means, transfer conveyer means, means for depositing the divided loaf fractions upon the transfer conveyer, guides associated with the transfer conveyer for shifting the deposited fractions away from each other, and means for progressing the several fractions across the transfer conveyer in axial alignment and simultaneously depositing the several separated fractions of each loaf into successive pockets of said intake conveyer.

3. In a sliced loaf handling machine, a primary conveyer having means for receiving an entire sliced loaf, means for subdividing the sliced loaf into a plurality of fractions, a secondary conveyer operatively mounted at the discharge end of the primary conveyer and having a plurality of groups of spaced pockets, intermittent driving means operatively associated with the secondary conveyer for momentarily stopping each group of pockets at the discharge side of the primary conveyer, and means operatively associated with the primary conveyer for simultaneously progressing the several fractions of each subdivided loaf to the discharge side of the primary conveyer and simultaneously discharging said fractions into the pockets.

4. In a sliced loaf handling machine, a primary conveyer having means for receiving an entire sliced loaf, means for subdividing the sliced loaf into a plurality of fractions, a secondary conveyer operatively mounted at the discharge end of the primary conveyer and having a plurality of groups of spaced pockets, intermittent driving means operatively associated with the secondary conveyer for momentarily stopping each group of pockets at the discharge side of the primary conveyer, means operatively associated with the primary conveyer for simultaneously progressing the several fractions of each subdivided loaf to the discharge side of the primary conveyer and simultaneously discharging said fractions into the pockets, and means for driving said primary conveyer in predetermined timed relation to the secondary conveyer.

5. In a sliced loaf handling machine, a primary conveyer having means for receiving an entire sliced loaf, means for subdividing the sliced loaf into a plurality of fractions, a secondary conveyer operatively mounted at the discharge end of the primary conveyer and having a plurality of groups of spaced pockets, intermittent driving means operatively associated with the secondary conveyer for momentarily stopping each group of pockets at the discharge side of the primary conveyer, and means operatively associated with the primary conveyer for simultaneously progressing the several fractions of each subdivided loaf to the discharge side of the primary conveyer and simultaneously discharging said fractions into the pockets, said discharge being timed to occur during the stationary interval of the secondary conveyer.

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