July 1, 1941. W. A. THUM 2,247,673

BREAD-LOAF FRACTIONATING MECHANISM

Filed June 21, 1939 3 Sheets-Sheet 1

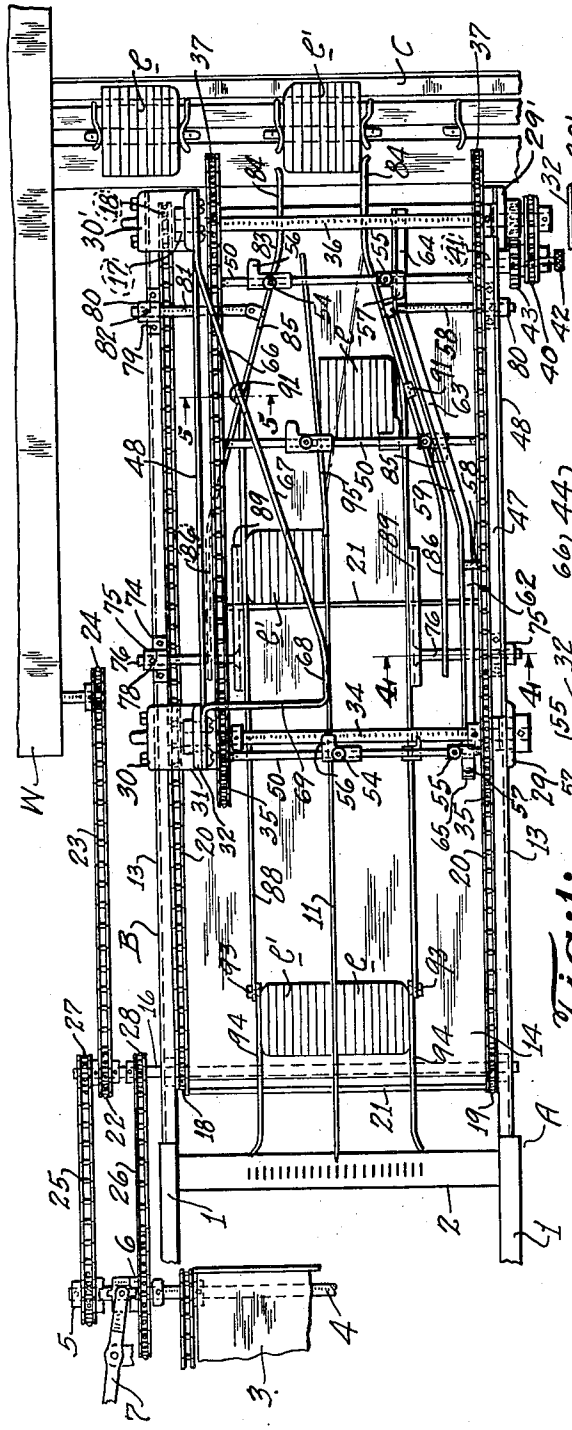

Fig. 1.

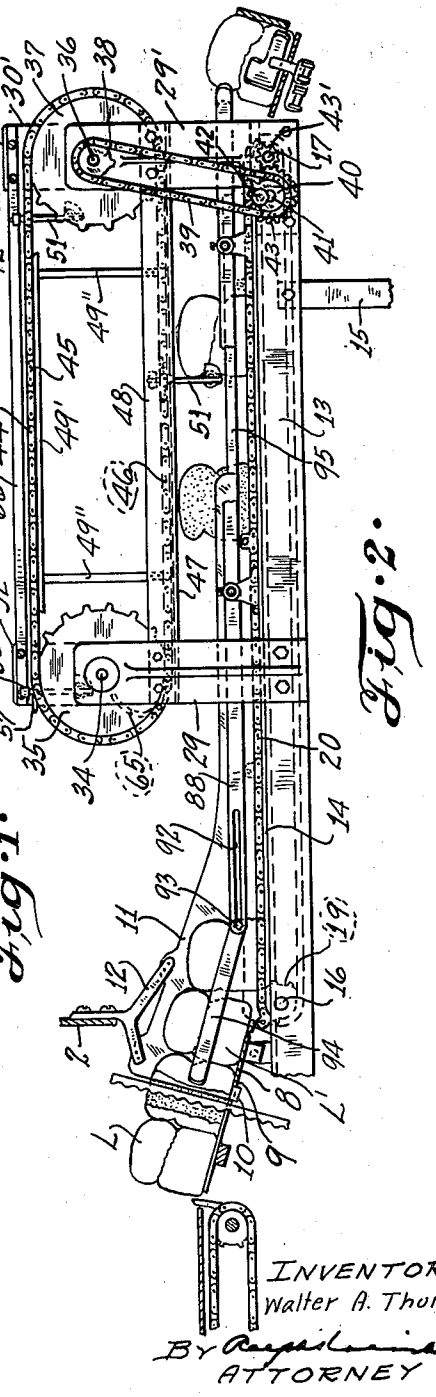

Fig. 2.

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BREAD-LOAF FRACTIONATING MECHANISM

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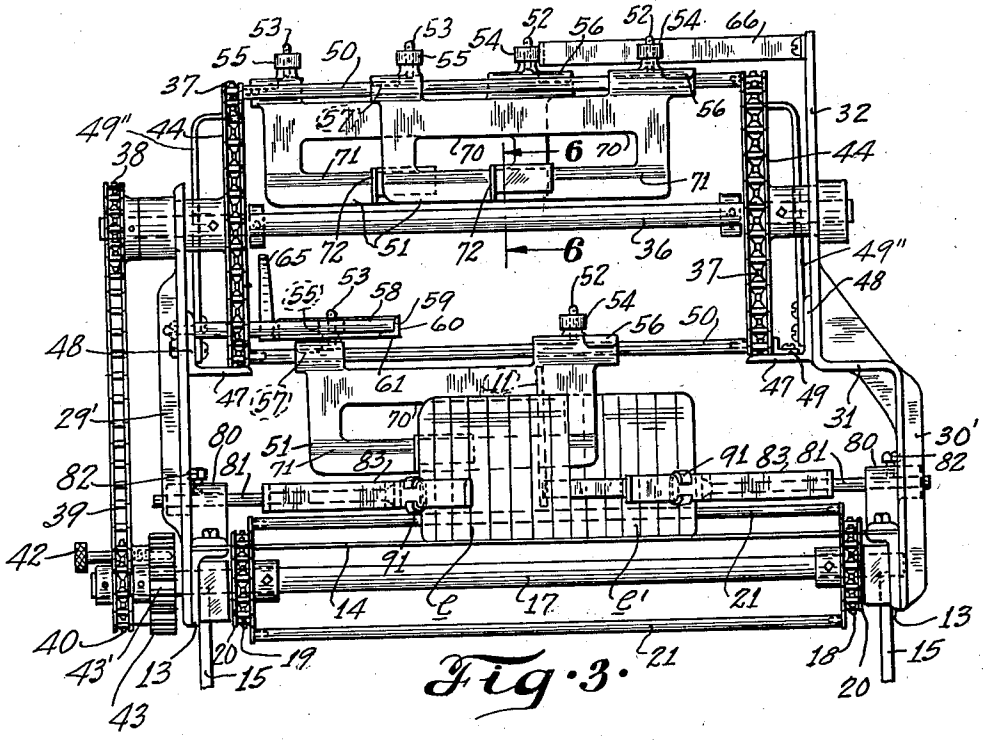

Fig. 3.

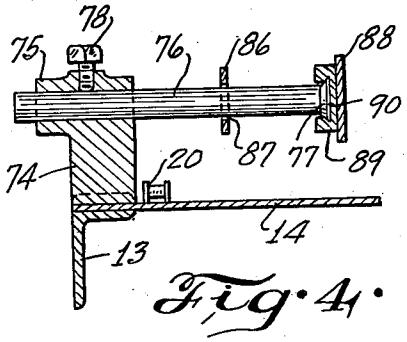

Fig. 4.

Fig. 5.

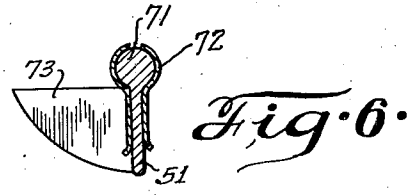

Fig. 6.

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BREAD-LOAF FRACTIONATING MECHANISM

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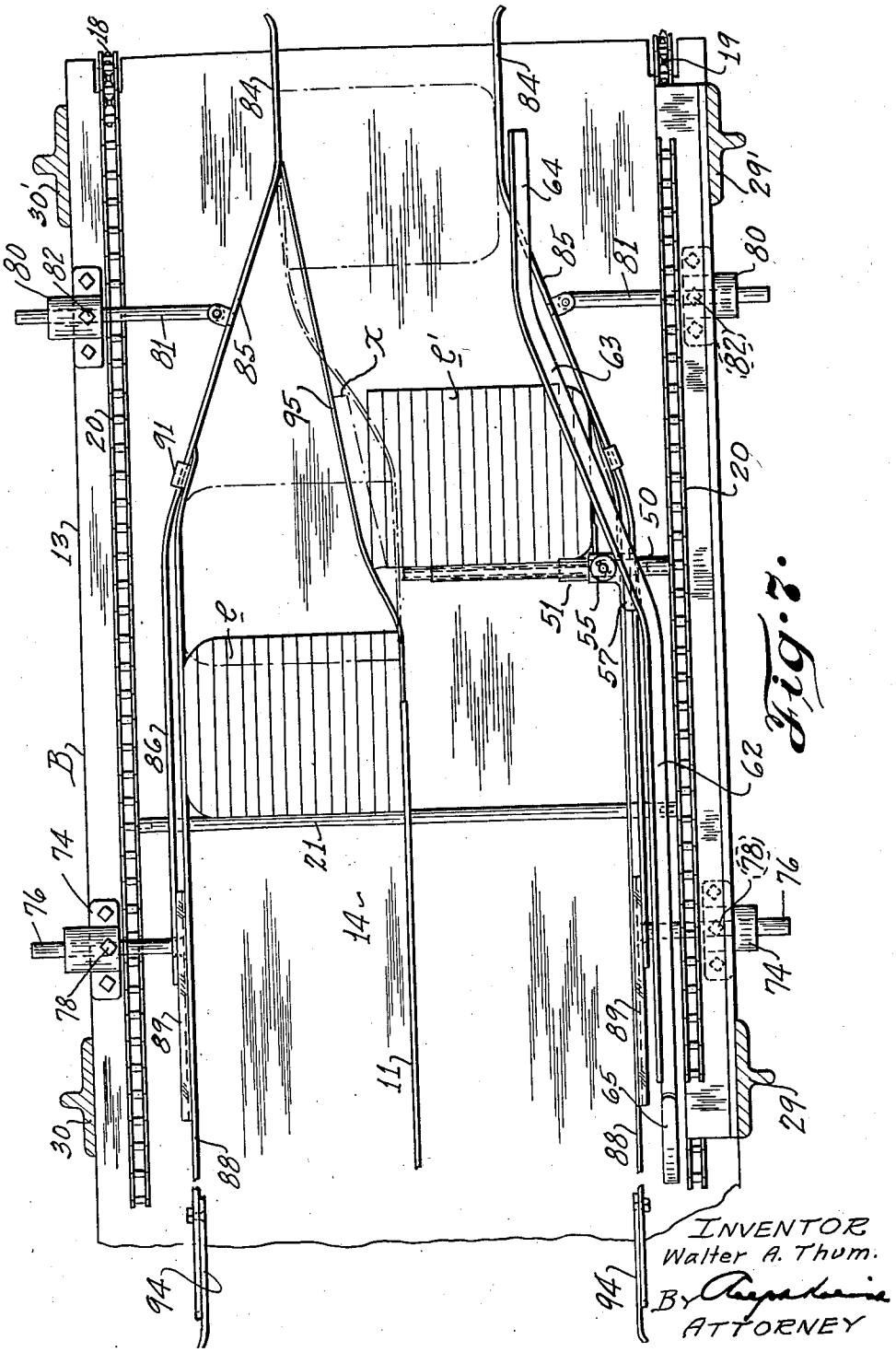

Fig. 3.

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UNITED STATES PATENT OFFICE

2,247,673

BREAD-LOAF FRACTIONATING MECHANISM

Walter A. Thum, St. Louis, Mo., assignor to Papendick, Inc., St. Louis, Mo., a corporation of Missouri

Application June 21, 1939, Serial No. 280,395

20 Claims. (Cl. 146—153)

This invention relates generally to sliced bread handling equipment. More particularly, my invention relates to a certain new and useful improvement in equipment of the type known as sliced bread-loaf fractionating mechanism and has for its primary objects the provision of mechanism uniquely constructed and operating for positively fractionating or subdividing the sliced loaf and depositing the loaf-portions or fractions into the wrapping machinery in proper sequence and in a substantially definite predetermined timed relation.

My invention has for a further object the provision of mechanism of the type and for the purpose stated which is simple in structure, economical in operation and maintenance, which is extremely flexible in its applicability to a wide variety of different types and shapes of bread-loaves, which is capable of fractionating, conveying, and otherwise handling bread-loaves of non-uniform or irregular shape, such as rye bread, French bread, and the like, and which is efficient in the performance of its stated and intended functions.

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 (three sheets)—

Figure 1 is a plan view of a baked bread-loaf fractionating and conveying mechanism constructed in accordance with and embodying my present invention;

Figure 2 is a side elevational view of the mechanism;

Figure 3 is an enlarged end elevational view of the mechanism;

Figures 4 and 5 are fragmentary detail sectional views of the mechanism, taken approximately along the lines 4—4 and 5—5, respectively, Figure 1;

Figure 6 is a fragmentary detail sectional view of an adjustable end-slice gripper of the mechanism, taken approximately along the line 6—6, Figure 3; and

Figure 7 is an enlarged fragmentary plan view diagrammatically illustrating the operation of the path-defining guides of the mechanism.

Referring now in more detail and by reference characters to the drawings, which illustrate a preferred embodiment of my invention, A designates a bread-loaf slicing machine preferably of the vertical reciprocating knife type, such machine including a pair of opposed parallel side frames 1 for supporting a slicing-knife head 2. Disposed for operation on the rear or intake side of the slicing head 2, is a feed conveyor 3 preferably of the conventional pusher or flight-bar type actuable through connection with a driven shaft 4 projecting at one end through one of the side frames 1 and equipped with a pair of free-running sprockets 5, 6, for alternate connection with the shaft 4 by means of a manually operable conventional tooth-clutch 7 for effecting travel of the conveyor 3 in timed relation with transfer conveying means B and a wrapping machine W, as presently fully appears.

Mounted along its side margins on, and extending horizontally between, the side frames 1 on the forward or discharge side of the knife or slicing-head 2, is an inclined delivery-plate 8 centrally provided with a recess 9 for receiving a downwardly projecting ear 10 of a divider plate 11, in turn, supported at its upper margin upon the framework of the slicing head 2 by means of a yoke-shaped hanger 12, all as best seen in Figure 2 and as more fully disclosed and described in my co-pending application Serial No. 242,430.

Extending forwardly from the forward or discharge side of the slicing machine A, is a transfer conveyor assembly B, which includes a pair of opposed parallel side rails 13 marginally supporting a preferably horizontally disposed table 14 having its rear end-portion presented under the forward margin of the delivery plate 8, the side rails 13 being preferably supported at their outer end by means of vertically upstanding legs 15.

Journaled at their respective ends in, and disposed adjacent the opposite ends of, the rails 13, are parallel transverse jack shafts 16, 17, provided with peripherally aligned pairs of sprockets 18, 19, for operatively supporting opposed parallel conveyor chains 20 connected by a plurality or series of spaced parallel flight rods 21.

At its one end, the jack shaft 16 projects outwardly through one of the side rails 13 and is provided with a driving sprocket 22 connected by means of a drive chain 23 to a drive sprocket 24 of the wrapping machine W. Also secured upon the extended end of the jack shaft 16 in peripheral alignment, and connected by means of drive chains 25, 26, with the respective sprockets 5, 6, are auxiliary sprockets 27, 28, all as best seen in Figure 1, and for purposes presently more fully appearing.

Fixed on the side rails 13 approximately midway their ends, is a pair of upstanding bearing-posts 29, 30, the latter being inwardly offset, as at 31, and then continued upwardly in the provi-

sion of an elongated bracket-arm 32 terminating in a plane substantially above the upper extremity of the post 29.

Similarly mounted on the side rails 13 adjacent the forward or discharge end of the transfer conveyor-assembly B, are opposed bearing-posts 29' and 30' substantially identical with the posts 29, 30, respectively, all as best seen in Figures 1 and 3, and for purposes presently fully appearing.

Journaled in, and extending horizontally between, the posts 29 and 30, is an idle shaft 34 provided with a pair of axially spaced sprockets 35. Similarly journaled in, and extending through, the posts 29', 30', is an auxiliary drive shaft 36 provided with a pair of axially spaced sprockets 37 positioned, respectively, in peripheral alignment with the sprockets 35. On its one extended end, the auxiliary drive shaft 36 is provided with a sprocket 38 connected by a drive chain 39 to a driven sprocket 40 freely journaled on a stub shaft 41 mounted on and extending outwardly from the side frame 13. Also journaled on the stub shaft 41 and adapted for connection with the sprocket 40 by means of a conventional pin-clutch 42, is a drive gear 43 having meshing engagement with a drive pinion 43' fixed upon the extended end of the jack shaft 17, all as best seen in Figure 1 and for purposes presently more fully appearing.

Trained over the peripherally aligned pairs of sprockets 35, 37, substantially above the plane of the conveyor table 14, are spaced parallel conveyor chains 44 having an upper return run 45 and a lower forward run 46 supported intermediate the sprockets 35, 37, upon the horizontal legs 47 of angle iron members 48 fixed upon and extending horizontally between the pairs of supporting posts 29, 29', and 30, 30', and provided with chain-engaging side rails 49 for holding the chains 44 against side sway. Operatively mounted at their ends on, and extending transversely between, the chains 44, is a plurality of spaced parallel bars 50 each provided with a normally free-swinging pusher-plate 51 having upwardly projecting spaced pintles 52, 53, for rotatably supporting guide rollers 54, 55, respectively. Outwardly to one side of the guide roller 54, each plate 51 is provided with a preferably integral forwardly extending slide-boss 56 and correspondingly outwardly to one side of the guide roller 55 with a similar rearwardly projecting slide-boss 57, all as best seen in Figures 1 and 3 and for purposes presently more fully appearing.

Mounted on, and extending inwardly of the machine from, the posts 29, 29', just above the plane of the forward or lower run 46 of the conveyor chains 44, are horizontally extending arms 58 supporting at their inner end a horizontally disposed guide-track 59 having a vertically extending roller-engaging rail 60 and a horizontally extending boss-engaging rail 61. The guide track 59 extends initially longitudinally along a side margin of the conveyor table 14 for a short distance, as at 62, is then bent to extend obliquely inwardly of the table 14, as at 63, and finally is bent to extend longitudinally forwardly, as at 64, again in parallelism with the longitudinal axis of the conveyor table 14. At its rear end-portion, the straight section 62 of the track 59 is provided with an upwardly curled lead guide 65 for initially engaging the slide-boss 57 of the respective pusher-plates 51 for smoothly directing the same successively into operative engagement with the track-rail 61.

Similarly mounted at its extremities upon, and extending horizontally just above the plane of the return run 45 of the conveyor chains 44 between, the posts 30, 30', is a return track 66 having an inwardly extending oblique section 67 paralleling the oblique section 63 of the track 59 and a straight section 68 paralleling and corresponding with the straight section 62 of the track 59, the track 66 being at its rear end provided preferably integrally with an L-shaped bracket extension 69, all as best seen in Figure 1 and for purposes presently appearing.

Each of the pusher plates 51 is provided with a relatively large longitudinal slot or opening 70 having along its lower horizontal margin an enlarged annular bead 71 for slidably accommodating a complementarily shaped spring metal clip 72 provided with a forwardly projecting arc-shaped end gripper 73, all as best seen in Figures 3 and 6 and for purposes presently more fully appearing.

Mounted on the rails 13 a short distance forwardly of the posts 29, 30, is a pair of transversely aligned upstanding brackets 74 each provided with a tubular sleeve 75 for shiftably accommodating guide supporting arms 76 each, in turn, provided at its inwardly presented end with an enlarged frusto-conical head 77, and each secured adjustably in its sleeve 75 by a set-screw or the like 78.

Similarly mounted on the side rail 13 a short distance rearwardly of the posts 29', 30', is a pair of transversely aligned brackets 79 each provided with a tubular sleeve 80 for accommodating guide supporting arms 81 disposed substantially parallel to the arms 77, and each likewise secured adjustably in position by means of a set-screw or the like 82 engaging the sleeves 80. Pivotally mounted upon the inner end of the respective arms 81, is a shiftable guide 83 having a forwardly extending straight section 84 projecting preferably, as shown, over the discharge end of the table 14 of the transfer conveyor assembly B, a rearwardly and obliquely outwardly extending section 85, and a rear straight section 86 extending in parallelism with the adjacent side rail 13 and having an aperture, as at 87, positioned and sized for freely accommodating one of the transversely disposed guide supporting arms 76, all as best seen in Figures 1 and 4 and for purposes presently fully appearing.

88 designates a straight guide provided longitudinally upon its outwardly presented face and intermediate its ends with a block 89 having a dovetail slot 90 for slidable engagement with the frusto-conical head 77 of the arm 76. At their respective forward end, the guides 88 are bent slightly inwardly of the machine and each provided upon its outer face with a C-shaped slide clip 91 sized for snug-fitting shiftable engagement around the oblique section 85 of the shifting guide 83, all as best seen in Figures 4 and 5 and for purposes presently fully appearing.

At their respective rearward end, each guide 88 terminates a substantial distance forwardly of the delivery plate 8 and is provided with a longitudinally extending slot 92 for shiftably accommodating a wing-screw 93 mounted in a short extension-guide 94 extending obliquely upwardly across the delivery plate 8, all as best seen in Figure 2 and for purposes presently fully appearing.

Welded or otherwise fixed upon the forward end of the divider plate 11 and extending horizontally over the conveyor table 14, is a free swinging switching guide 95 constructed pref-

erably of relatively flexible steel or other suitable material and terminating at its forward or free end between the forward straight sections 84 of the shifting guides 83, the guide 95 being of sufficient length to swing obliquely from side to side into contact at its free end with the respective switching guides 83 at a point slightly forwardly of the juncture line between the straight sections 84 and the oblique sections 85 thereof, all as best seen in Figures 1 and 7 and for purposes presently fully appearing.

In use and operation, the set-screws 82 are loosened and the guide supporting arms 81 adjusted transversely of the table 14, so that the forward straight sections 84 of the shiftable guides 83 are spaced apart by a distance substantially equal to the length of the particular loaf-portion or loaf-fraction to be delivered into the conveyor C of the wrapping machine W.

Similarly the set-screws 78 are loosened and the guide arms 76 shifted transversely of the table 14, so that the straight guides 88 are each spaced equidistantly from and on opposite sides of the divider plate 11 by a distance equal to the length of the particular loaf-portions or loaf-fractions to be conveyed and wrapped, the guides 88 being also simultaneously shifted lengthwise to maintain proper adjusted relation with the oblique sections 85 of the shiftable guides 83 at the clips 91. The extension guides 94 are likewise shiftably adjusted longitudinally so as to extend across the delivery plate 8 in substantial proximity, at their rearward extremities, to the knives of the slicing head 2.

As the loaves L are successively fed through the slicing head 2, the sliced loaves L' are discharged in succession across the delivery plate 8 between the extension guides 94 and each subdivided into fractions *l*, *l'*, by the divider plate 11. Thereupon, the fractions *l*, *l'*, of each loaf L' are simultaneously picked up by a flight rod 21 and progressed forwardly over the table 14. As such loaf fractions *l*, *l'*, pass between the posts 29, 30, one of the pusher blades 51 drops downwardly behind the fraction *l*. Since, as previously stated, the chains 44 and the associated pusher plates 51 are moving at approximately twice the speed of the flight rods 21, the loaf-portion or fraction *l* will be accelerated sharply and advanced ahead of the slower moving fraction *l'*, which continues its forward movement under the influence of the particular guide rod 21. As the particular pusher plate 51 is moved forwardly, its slide boss 57 engages the under face of the track 61, thereby holding such pusher plate 51 against swingable movement on its supporting rod 50, and simultaneously the roller 55 rides against the track face 60, thereby shifting said pusher plate 51 transversely inwardly and disposing the end gripper 73 into facewise abutting engagement with the outer end face of the particluar loaf fraction *l* approximately at the instant at which the same moves forwardly away from the straight guide 88 and against the oblique section 85 of the shifting guide 83. As the loaf fraction *l* is progressed further forwardly, it is shifted toward the center of the conveyor table 14 as a result of the combined forward movement of the pusher plate 51 and the oblique direction of the shifting guide section 85, the end gripper 73 serving to prevent unauthorized tilting or misalignment of the loaf slices at the outer end of the particular loaf-fraction *l*. Meanwhile the inner or crustless end face of the loaf-fraction *l* moves into engagement with the switching guide 95, which, being sufficiently flexible to bend under the pressure exerted by the loaf-fraction *l* without materially deforming the crustless end face thereof, will initially assume a shape somewhat as shown in full lines in Figure 7. In fact, frequently the crustless end slice of the loaf-fraction *l* swings outwardly into more or less flush engagement along the switching guide 95, as shown in dotted lines at *x* in Figure 7.

As the particular loaf-fraction *l* moves forwardly between the straight sections 84 of the shifting guides 83 for discharge into one of the pockets of the wrapping machine conveyor C, such particular pusher plate 51 swings upwardly and rearwardly as the chain 44 passes over the forward sprockets 37 and moves rearwardly along the return run 45, the roller 52 coming into engagement with the track 67 and causing such pusher plate 51 to be again shifted transversely during the course of its rearward travel to initial position for engaging a subsequent loaf-fraction *l*, all as best seen in Figure 3.

Meanwhile the loaf-fraction *l'* of the one sliced loaf L' has been moved forwardly by the flight rod 21 and comes into engagement with the rearward portion of the switching guide 95, deforming the latter to approximately the position shown in dot-dash lines in Figure 7 and actually pulling the free end of the switching guide 95 away from engagement with the preceding loaf-fraction *l* and thereby materially speeding up the fractionating operation, the particular portion or fraction *l'*, in turn, being discharged in consecutive order between the guide-sections 84 into the wrapping conveyor C. Thus the fractions or portions of the several sliced loaves L' are in consecutive order and in predetermined timed relation fed automatically to the machine W for wrapping and further handling.

It will also be evident that the transfer conveyor assembly B may be very quickly and simply adjusted for transferring unfractionated sliced loaves or portions of loaves if, for some reasons during production, it becomes desirable to package a predetermined number of unfractionated loaves. This may be readily and quickly accomplished simply by removing the divider plate 11 and its associated switching guide 95. At the same time, the pin-clutch 42 may be disengaged for effecting a cessation of movement of the chains 44 and the associated pusher plates 51. In most instances, the chains 44 will come to rest in such a position that one or more of the pusher plates 51 are in downwardly disposed loaf-pushing position. Such plates, therefore, may be swung forwardly and upwardly out of the path of the unfractionated sliced bread loaves and pushed laterally along the rods 50, so that a corner thereof will rest upon the upper margin of the guide track 59, the pusher plates 51 being thereby retained in such upwardly disposed inoperative position.

The mechanism is positive in operation and fulfills in every respect the objects stated, and it should be understood that changes and modifications in the form, construction, arrangement, and combination of the several parts of the mechanism 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. Bread-loaf fractionating mechanism comprising, in combination, means for continuously progressing a sliced loaf along a first path, means

engageable with a fractional portion of the loaf for advancing said portion at an accelerated rate of speed away from the remainder of the progressing loaf and along a path obliquely disposed to the first path, and means for subsequently shifting the remainder of the progressing loaf for continuing travel by said first means along a third path.

2. Bread-loaf fractionating mechanism comprising, in combination, means for progressing a loaf along a first path, means engageable with a fractional portion of the loaf for progressing said portion at an accelerated rate of speed away from the remainder of the progressing loaf and along a path partly obliquely disposed to the first path, and means for subsequently shifting the remainder of the progressing loaf for continuing travel by said first means along first a third path also obliquely disposed to the first path and then into consecutive order with the preceding fractional portion.

3. Bread-loaf fractionating mechanism comprising, in combination, a table, a flight-bar conveyor movable over the table for progressing a loaf in a first guide-defined path, means traveling over the table including a swingable member engageable with a fractional portion of the loaf for progressing said portion at an accelerated rate of speed away from the remainder of the flight-progressing loaf and first in a second guide-defined path obliquely disposed to the first path and then in a discharging path from the table, and means for shifting the remainder of the progressing loaf for continuing travel by said first means along first a third path also obliquely disposed to the first path and then in discharge from the table in consecutive order with the preceding fractional portion.

4. Bread-loaf fractionating mechanism comprising, in combination, a table having a receiving end and a discharge end, means for progressing a plurality of axially aligned loaf-fractions from the receiving end toward the discharge end, means engagable with one of the fractions for advancing one of said fractions toward the discharge end at an accelerated rate of speed with respect to the remainder of the loaf for thus dividing the loaf into a plurality of separate portions, and means for moving each of such separated portions in consecutive order along a path different from its original path of movement.

5. Bread-loaf fractionating mechanism comprising, in combination, means for progressing a sliced loaf along a first path, and means including an overhead conveyor engageable with a fractional portion of the loaf for advancing said portion at an accelerated rate of speed away from the remainder of the loaf and means cooperable with the overhead conveyor for directing said loaf-portion along a path oblique to the first path.

6. Bread-loaf fractionating mechanism comprising, in combination, means for progressing a sliced loaf along a first path, means disposed substantially above said path and engageable with a fractional portion of the loaf for progressing said portion at an accelerated rate of speed away from the remainder of the loaf and along a path oblique to the first path, and means for subsequently shifting the remainder of the loaf along an oblique path into consecutive order with the preceding fractional portion.

7. Sliced bread-loaf fractionating mechanism comprising, in combination, means for progressing a sliced loaf along a first path, a pair of spaced parallel chains operatively mounted for movement in planes spaced upwardly from said first means, a rod mounted on and extending between the chains, a pusher shiftably mounted on the rod and engageable with a fractional portion of the progressing loaf for accelerating said portion with respect to the remainder of the loaf, and guide means for shifting the accelerated portion for travel along a path oblique to its first path.

8. In combination with a sliced bread-loaf transfer conveyor having a plurality of driven flight bars and a plurality of path-defining guides for subdividing each sliced loaf into a plurality of fractions as it is progressed, an auxiliary conveyor including means comprising a series of swingable members for engaging and accelerating the movement of a selected loaf-fraction of each loaf, driving means operably connecting the auxiliary conveyor and the transfer conveyor for movement in predetermined timed relation, and means for shifting the accelerated loaf-fraction along a path oblique to its original path prior to acceleration.

9. In a fractionating mechanism, an overhead conveyor including a plurality of spaced flight-bars, a swingable pusher plate shiftably depending from each rod and having a projecting shoulder, and a slide-track engageable with the respective plate shoulders as the conveyor is caused to travel for locking the plates against swingable movement and shifting the same longitudinally along the rods during a predetermined portion of their travel.

10. In a bread-loaf fractionating mechanism having a traveling pusher plate, an end clip including complementarily shaped opposed spring sections for slidably engaging the pusher plate, and an outwardly projecting arcuate gripper member for engaging the end slice of a bread loaf.

11. In a fractionating mechanism, a table, a first pair of axially aligned rods shiftably mounted on the table, a horizontal block fixed at the end of each rod, said block having opposed slideways, a second pair of axially aligned rods also shiftably mounted on the table and spaced forwardly from the first rods, a pair of parallel guide members shiftably mounted in the slideways and provided at their forward end with slide clips, and a pair of auxiliary guide members mounted upon the opposed ends of the second rods and extending shiftably through the slide clips.

12. In a bread-loaf fractionating machine, slicing means, means for subdividing the sliced loaf into a plurality of axially aligned fractions, first conveyor means for progressing the loaf through the slicing and subdividing means, second conveyor means having a plurality of spaced flight bars positioned for receiving and progressing the axially aligned loaf fractions from the first conveyor means, third conveyor means including overhead pushers for gripping a selected loaf fraction and advancing it ahead of the remainder of the loaf by a distance approximately equal to half the distance between the flight bars, and means for subsequently shifting the separated fractions one behind the other into spaced consecutive alignment.

13. In a fractionating mechanism, a table, a first pair of axially aligned rods shiftably mounted on the table, a horizontal block fixed at the end of each rod, said block having opposed slideways, a second pair of axially aligned rods also shiftably mounted on the table and spaced forwardly from the first rods, a pair of parallel

guide members shiftably mounted in the slideways and provided at their forward end with slide clips, said parallel guide members being shiftably mounted at their rearward ends upon the first named rods, and a pair of auxiliary guide members mounted upon the opposed ends of the second rods and extending shiftably through the slide clips.

14. In combination with a sliced bread-loaf transfer conveyor having a plurality of chain-driven flight bars and a plurality of path-defining guides for subdividing each sliced loaf into a plurality of fractions as it is progressed, an auxiliary conveyor positioned over a portion of the path of the transfer conveyor and including a plurality of driven flight rods, means for driving the latter flight rods more rapidly than the flight bars of the transfer conveyor, and a pusher plate shiftably mounted on each rod for engaging and accelerating the movement of a selected loaf-fraction of each loaf.

15. In combination with a sliced bread-loaf transfer conveyor having a plurality of chain-driven flight bars and a plurality of path-defining guides for subdividing each sliced loaf into a plurality of fractions as it is progressed, an auxiliary conveyor including a plurality of flight rods, means for driving said flight rods substantially faster than the transfer conveyor, said flight rods being each shiftably provided with a pusher plate having a width substantially equal to the transverse width of a selected one of said paths for engaging and accelerating the movement only of the loaf-fraction being progressed along said path, and means for shifting the accelerated loaf-fraction along a path oblique to its original path.

16. In combination with a sliced bread-loaf transfer conveyor having a plurality of chain-driven flight bars and a plurality of path-defining guides for subdividing each sliced loaf into a plurality of fractions as it is progressed, an auxiliary conveyor including a plurality of flight rods, means for driving said flight rods substantially faster than the transfer conveyor, said flight rods being each shiftably provided with a pusher plate having a width substantially equal to the transverse width of a selected one of said paths for engaging and accelerating the movement only of the loaf-fraction being progressed along said path, means for shifting the accelerated loaf-fraction along a path oblique to its original path, and track means for shifting each of the pusher plates along an oblique path during fraction-engagement.

17. In combination with a sliced bread-loaf transfer conveyor having a plurality of chain-driven flight bars and a plurality of path-defining guides for subdividing each sliced loaf into a plurality of fractions as it is progressed, an auxiliary conveyor including a plurality of flight rods, means for driving said flight rods substantially faster than the transfer conveyor, said flight rods being each shiftably provided with a pusher plate having a width substantially equal to the transverse width of a selected one of said paths for engaging and accelerating the movement of the loaf-fraction being progressed along said path, track means for shifting each of the pusher plates along an oblique path during fraction-engagement, and means for returning the pusher plates to initial position.

18. In combination with a sliced bread-loaf transfer conveyor having a plurality of chain-driven flight bars and a plurality of path-defining guides for subdividing each sliced loaf into a plurality of fractions as it is progressed, an auxiliary conveyor including a plurality of flight rods, means for driving said flight rods substantially faster than the transfer conveyor, said flight rods being each shiftably provided with a pusher plate having a width substantially equal to the transverse width of a selected one of said paths for engaging and accelerating the movement of the loaf-fraction being progressed along said path, means for shifting the accelerated loaf-fraction along a path oblique to its original path, track means for shifting each of the pusher plates along an oblique path during fraction-engagement, and means for returning the pusher plates to initial position.

19. Bread-loaf fractionating mechanism comprising, in combination, means for progressing a loaf-portion along a first path, means including members engageable with the progressing loaf-portion, and means for moving said members both longitudinally and transversely with respect to said path of travel of said first named means for effecting continuing travel of the loaf-portion along a second path obliquely disposed to the first path.

20. Bread-loaf fractionating mechanism comprising, in combination, means for dividing a loaf into a plurality of axially aligned fractions, means for progressing the fractions forwardly along parallel paths, pusher-plate means engageable with one of the fractions for progressing such fraction at an accelerated rate of speed away from the remainder of the loaf, and means engageable with the loaf-fraction and cooperable with the pusher-plate means for directing the loaf-fraction initially along a continuation of its initial path and then obliquely into a path parallel to and within the confines of said projections of said parallel paths.

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