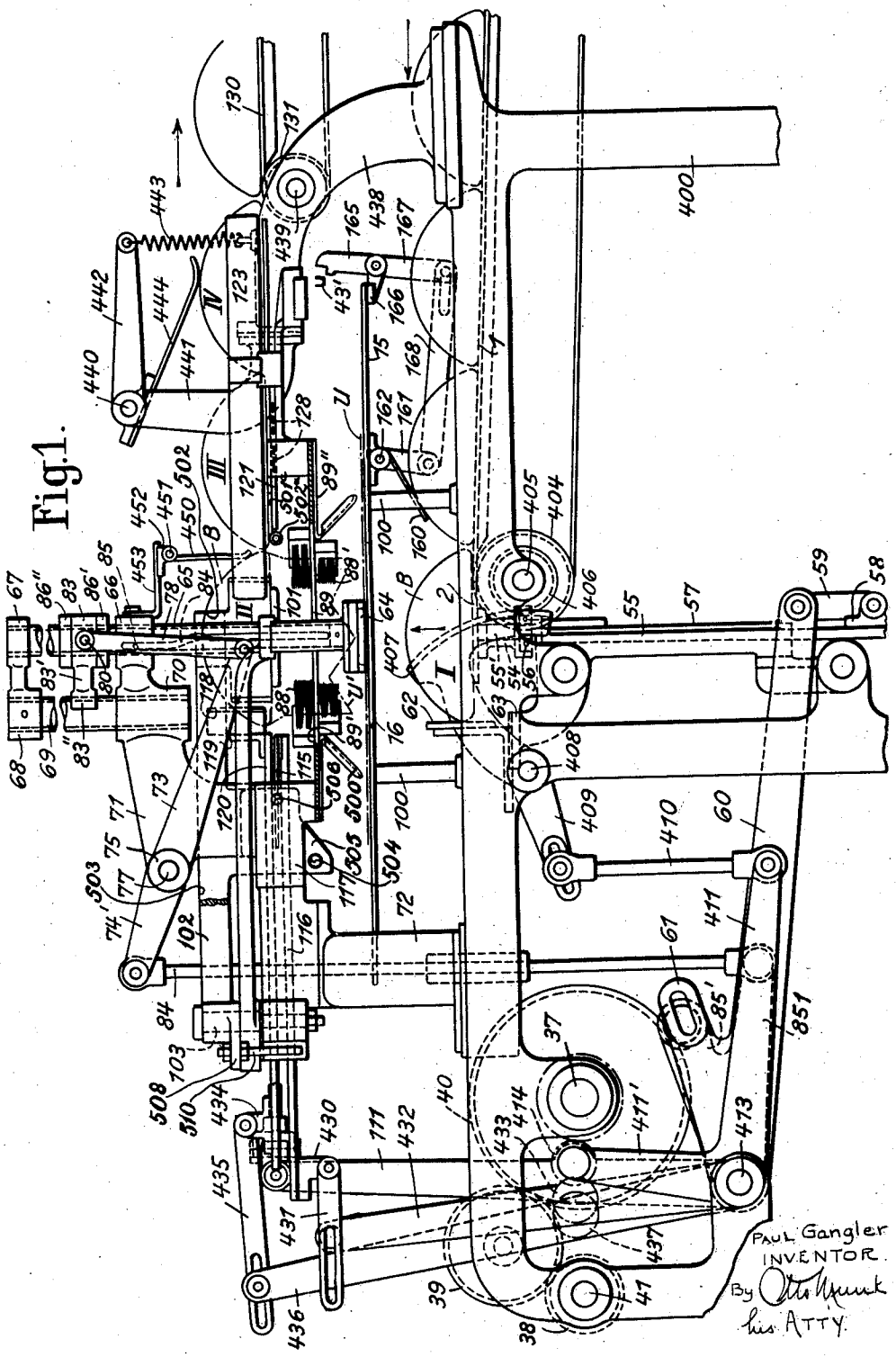
May 8, 1928. 1,669,046

P. GANGLER

MACHINE FOR WRAPPING LOAVES OF BREAD

Filed July 19, 1927 4 Sheets-Sheet 1

Fig.1.



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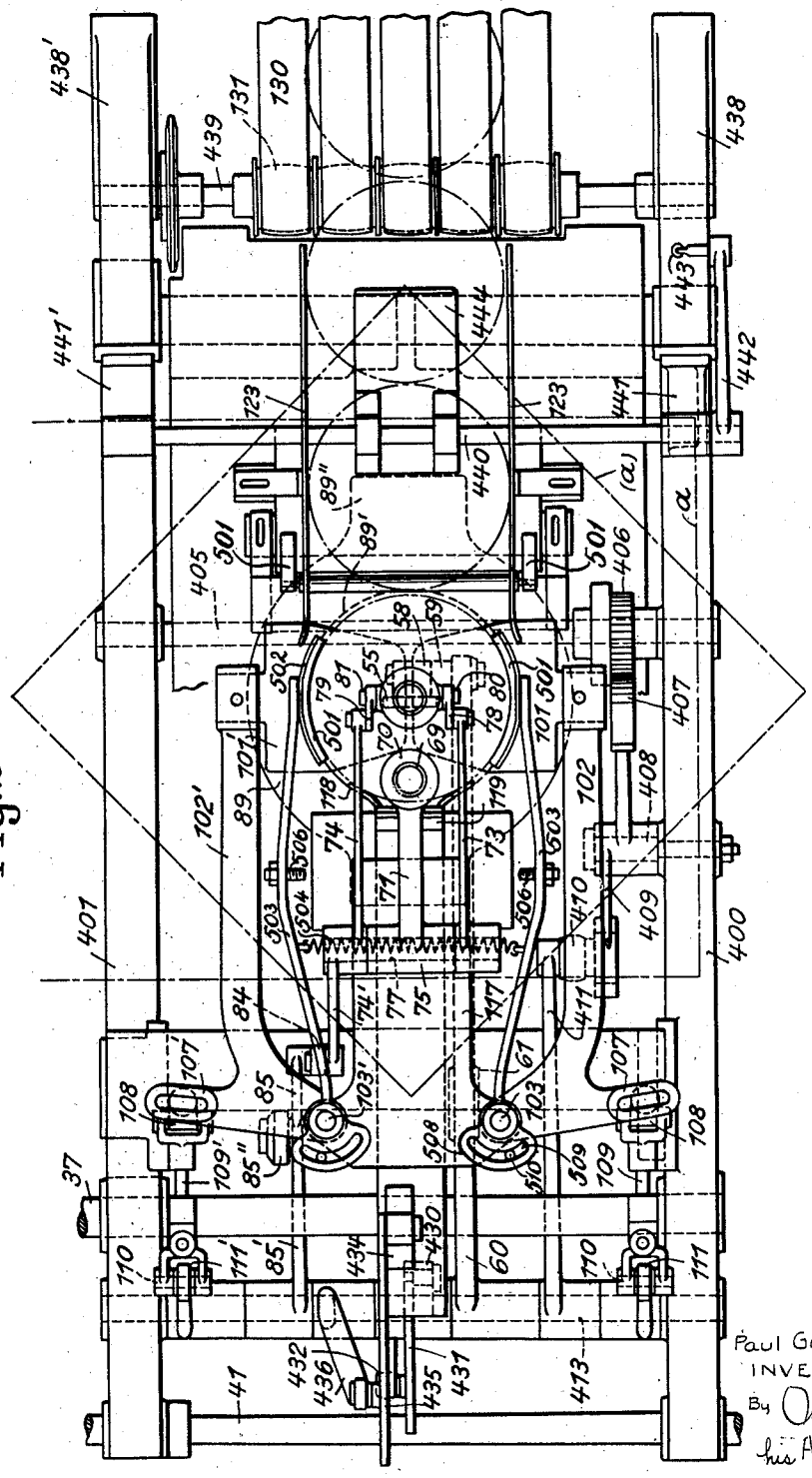
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P. GANGLER

MACHINE FOR WRAPPING LOAVES OF BREAD

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Fig. 2.



May 8, 1928. 1,669,046

P. GANGLER

MACHINE FOR WRAPPING LOAVES OF BREAD

Filed July 19, 1927 4 Sheets-Sheet 3

Fig. 3.

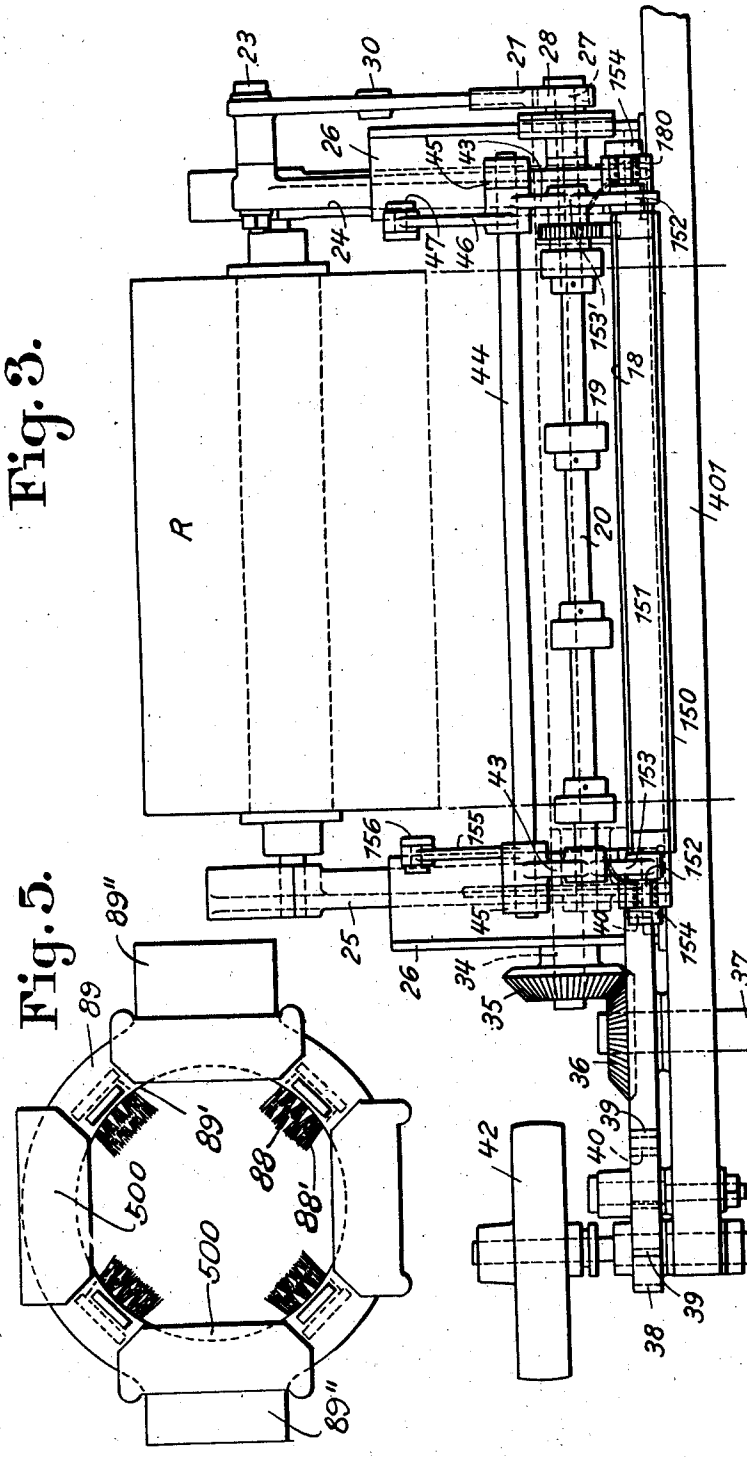


Fig. 5.

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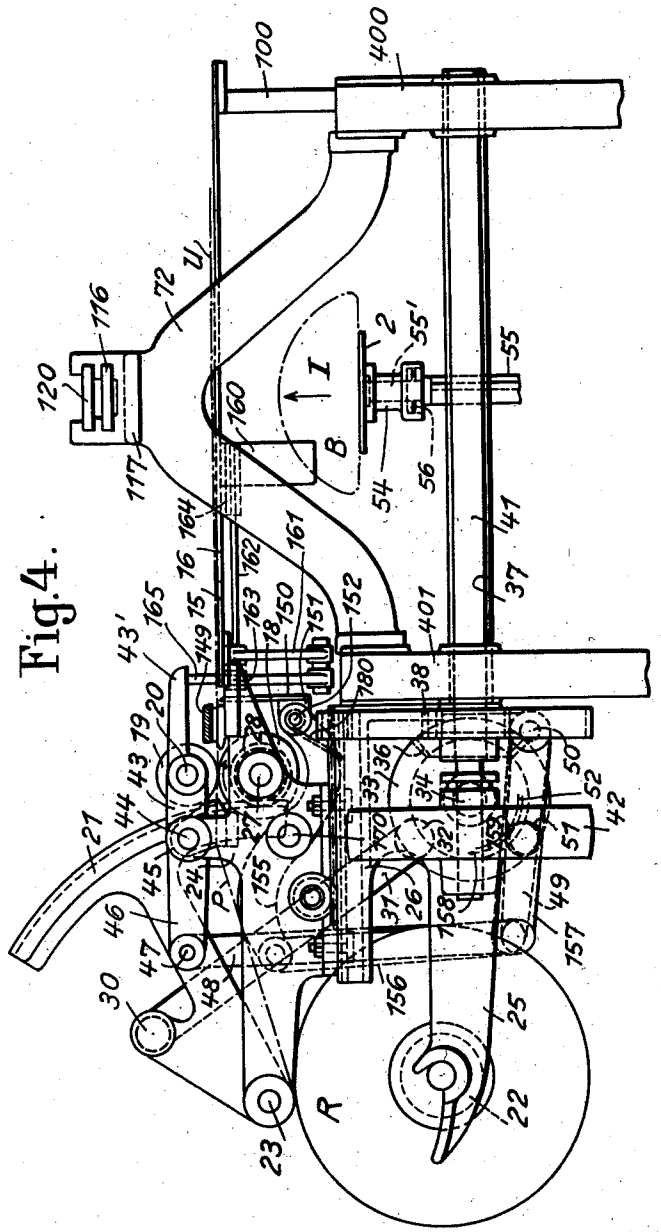
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MACHINE FOR WRAPPING LOAVES OF BREAD

Filed July 19, 1927 4 Sheets-Sheet 4

Fig.4.



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UNITED STATES PATENT OFFICE.

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MACHINE FOR WRAPPING LOAVES OF BREAD.

Application filed July 19, 1927, Serial No. 206,838, and in Germany March 21, 1927.

My invention relates to a wrapping machine for round loaves of bread and similarly shaped articles, and more particularly to that type of such machines in which the article together with the wrapper is conveyed from a lower supply position into an upper folding position.

In the known machines of this type the paper wrapping is introduced into the machine in such a way, for instance cut off from a reel of paper located with its axis parallel to the main shaft of the machine, that it is situated in a position at right angles to the folding mechanism above the article to be wrapped. In this design of the machine a comparatively complicated driving mechanism is required for the folding device effecting the wrapping.

The object of my invention is to simplify the wrapping process and in particular the entire operating gear for the folding device effecting the wrapping.

An essential new feature of my invention is the provision of a device which when the article is elevated engages the wrapper carried along by the article or the wrapper and the article and performs such an angular movement that the wrapper is brought from the original position at right angles to the folding mechanism into a diagonal position to said mechanism, whereby the now following folding of the depending flaps of the wrapper against the bottom of the article by the folding device is greatly simplified.

Further novel features of my invention will appear as the description proceeds.

An embodiment of my invention is illustrated in the drawings affixed hereto, the example shown being a machine for wrapping round loaves of bread. In the drawings is:

Fig. 1, a side elevation of the machine,

Fig. 2, a plan of the main portion of the machine, parts being omitted for the sake of clearance,

Fig. 3, a plan of a portion of the machine which serves for feeding the wrapping sheets into the machine,

Fig. 4, a front elevation of the latter device and a portion of Fig. 2, and

Fig. 5, an inverted plan of the brushing device shown in elevation in Fig. 1.

Like parts are indicated by like numerals of reference throughout all the figures of the drawings.

Referring to the drawings, it will be observed that the framework of the machine consists substantially of upright side frames 400, 401 connected with each other by suitable transverse rods.

In suitable bearings of the said side frames is journaled the main driving shaft 41 which is continuously rotated from a suitable prime mover by means of a pulley 42. The rotation of the shaft 41 is transmitted to a shaft 37 likewise journaled in bearings of the side frames, by means of spur wheels 38, 39 and 40. Upon this shaft 37 are mounted suitable eccentrics for operating various constituent parts of the machine hereinafter described.

The introduction of the loaves B to be wrapped into the machine takes place by a plurality of conveyer belts 1 which in a similar manner as the belts 120 described hereinafter and illustrated in Fig. 2, run over pulleys or rollers a series of which is shown at 404 in Fig. 1. The drive of the rollers 404 is effected by means of a toothed wheel 406 rotatable upon the shaft 405 of these rollers by the aid of a toothed quadrant 407 pivoted upon a stud 408 upon the side frame 400 and operated by means of its extended arm 409 by a joint 410 from the arm 411 of a bell-crank lever. This lever is mounted upon a shaft 413 fixed in the side frames and is kept in engagement with a suitable eccentric of the shaft 37 by an anti-friction bowl 414 mounted upon the other arm 411′ and controlled by a spring not shown in the drawings. The spur wheel 406 does not operate the shaft 405 directly, but through the agency of a suitable well-known free wheel mechanism in such a manner that the shaft 405 is rotated during the downward stroke of the quadrant 407 only.

At the leading end of the conveyor belt 1, the bread reaches the position I of an elevating plunger 2 adapted to reciprocate vertically in such a manner that the bread is conveyed from the lower position I into the upper wrapping position II. This elevating plunger is mounted upon a sleeve or bushing 54 which is journaled upon the stud 55′ of a rod or rail 55 which is guided in a sliding track 57 fixed to the machine frame,

by means of a ball-bearing 56, so that the plate 2 is able to rotate freely. For the purpose of reciprocating the rod 55 vertically an eye 58 of the said rod is engaged by means of a joint 59 by one arm 60 of a double-armed lever capable of rocking upon the shaft 413. The other arm 61 of the said lever is engaged by a rod not illustrated in the drawing, which is driven in well-known manner from an eccentric upon the shaft 37. The lower feed of the loaf B is limited by a stop 62 which is adjustably mounted on a pedestal-like extension 63 of the guide 57.

Above the bread B located in the position I, there is provided a plate 15 with an opening 16 for the bread B which is mounted upon pillars 100 and upon which is placed the wrapper U for enveloping the bread.

The wrapper U may be withdrawn from a pile and be pulled or pushed upon the said plate 15 by grippers or the like means. In the case illustrated, the wrapper U is cut off from a web of paper P which is pulled off a paper reel R, see Figs. 3 and 4. The core 22 of said reel is journaled in arms 25 of pedestals 26 mounted upon the machine framing. For unwinding the web from the said reel, I employ a feed roller 18 in conjunction with feed rollers 19 which are mounted upon a shaft 20. The feed roller 18 is intermittently driven, while the rollers 19 are loosely rotatable journaled by means of the shaft 20. The drive of the feed roller 18 is effected by means of a toothed quadrant 21 journaled upon the stud 23 which is fixed upon the pedestal 24. The quadrant acts by means of a spur wheel 28 mounted upon the shaft 27 of the roller 18 upon a suitable free-wheel mechanism of well-known design in such a manner that a rotation of the feed roller 18 in the direction of the arrow is effected during the upward oscillation of the quadrant 21 only, and on the other hand no rotation of the roller 18 takes place during the downward swing of the quadrant 21. The drive of the quadrant 21 takes place by a connecting rod 31 engaging the quadrant at 30 from the crank pin 32 of a crank disc 33, which is keyed to the shaft 34 journaled in the standards 26. The shaft 34 is continuously rotated by the bevel wheels 35, 36, see in particular Fig. 3 of the drawings, of which the latter is keyed to the shaft 37 mentioned above.

The shaft 20 of the feed rollers 19 is journaled in arms 43 which in their turn are journaled upon a rod 44 journaled in eyes 45 of the standards 24. The right-hand side arm 43 in Fig. 3 of the drawing is provided with an extension 46 which is at 47 engaged by a connecting rod 48 the other end of which is pivoted to a connecting rod 49. The latter is pivoted to the standard 26 at 50 and is kept by a bowl 51 in engagement with a suitable cam disc indicated at 52 upon the shaft 34 under the control of a spring not shown in the drawings in such a manner that the feed rollers 19 are raised by means of the arms 43 around the shaft 44 by the cam of the cam disc off the feed roller 18 and are pressed against the feed roller 18 by the spring when the anti-friction bowl is at the narrowest place of the cam disc. The control arrangement is such that the feed rollers 19 are pressed down when the feed drum 18 is turned in the direction of the arrow and that the feed rollers 19 are raised off the drum 18 when the latter is stationary. The feed device described is so set that during each rotation of the feed drum 18 the paper web P is fed forward by the drum in cooperation with feed rollers 19 by a piece corresponding with the desired length of the wrapper upon the plate 15 whereupon the wrapper U is cut off the paper web P when the feed drum 18 has come to rest, by means of a suitable cutting device.

The cutting device operating in the manner of shears consists of a stationary upper knife 149 and a vertically reciprocatable and simultaneously in its bearings rotatable lower knife 150 which is bolted to the transverse beam 151 and is rotatable in the arms 153 and 153′ around the pivots 152. Upon the extended pin 154 there are placed torsion springs 180 with adjusting rings in such a manner that they force the movable lower knife 150 against the stationary upper knife 149. The arms 153 and 153′ are keyed to the shaft 170. The arm 153 is extended towards the other side by the arm 155 and this latter arm is by a connecting rod 156 connected with the driving lever 157 by pins and is operated by an eccentric 158 fixed upon the shaft 34 and roller 159.

On referring to Figs. 1 and 4 of the drawings, it will be noticed that the loaf of bread introduced into the machine upon the lower feed track 1 encounters a flap 160 which by the shaft 162 is journaled in the pedestals or standards 163 and 164 secured to the plate 15. When the loaf B forces the flap 160 upwards, as in Fig. 1, the lever 167 rotatable in the standard 166 is turned towards the left and the upper arm 165 towards the right by the lever 161 mounted upon the shaft 162 by means of the draw bar 168. This releases the nose 43′ of the arm 43, so that the upper feed rollers 19 are able to come in contact with the lower feed drum at the proper moment and the paper required for the loaf B is pushed forward and cut off the web. If on the other hand, no loaf arrives, the flap 160 descends, the lever 165 moves towards the left and prevents by the locking operation of the nose 43′, the upper rollers 19 from being forced against the lower feed roller 18. No paper is unwound from the reel in this case.

Above the station I, there is provided a device by means of which the paper wrapper cut off in the position *a*, Fig. 2, is turned into the diagonal position (*a*) indicated in broken lines in Fig. 2. This device consists in the case illustrated of a counter holder 64 which is adapted to carry out an up and down motion as well as a positive partial rotary motion. For this purpose, the holder 64 is mounted, for instance, upon a rod 65 consisting of a steel tube which is guided vertically in stationary bushings 66 and 67. The bushing 67 is attached to a head piece 68 fixed upon a rod 69 which in its turn is fixed in an eye 70. This eye carries the said bushing 66 and is mounted on a standard 71 which is fixed to a slide track 117, see also Fig. 4. The slide track 117 is mounted on a bifurcated pedestal 72 which is attached to the side frames 400, 401 in the manner illustrated in Fig. 4.

The up and down motion of the rod 65 and thus of the back holder 64 is effected by means of the levers 73 and 74 fixed upon a stud 77 journaled in a bearing 75 of the standard or pedestal 71 and which engage studs 80 and 81 of an eye 83 by means of hinged rods 78, 79. The vertical rocking motion of the arms 73, 74 is effected by means of a rod 84 which engages an extended arm 74′ of the arm 74 and is pivoted to one arm of a bell-crank lever 851. This bell-crank lever is adapted to rock upon the shaft 413, and its other arm 85′ is engaged by a suitable rod not shown, which is driven by an eccentric upon the shaft 37.

The rod 65 is freely rotatable journaled in the said eye 83. For this purpose the eye 83 is rotatably mounted upon the tube 65 between two collars 86′, 86″ which are rigidly fixed upon the tube 65. To secure the eye 83 against lateral displacement an arm 83′ of the eye embraces the guide rod 69 by means of a semi-circular fork 83″.

For the purpose of bringing about the positive partial rotation of the rod or tube 65 together with the counter or back holder 64 during its up and down motion, a helical groove 84 is provided in the rod 65 which is engaged by a pin 85 fixed upon the eye 66, the groove 84 being so designed that the tube 65 with the holder 64 performs an angular motion of about 45° during the up and down motion.

Below the upper wrapping position of the bread indicated by II in Fig. 1, there is provided a device by which when the bread is raised from the position I into the said position II, the wrapper U is folded around the bread from the top downwards. This is effected in the machine illustrated by a ring-shaped brush which preferably has a smaller diameter than the diameter of the loaf B.

The said annular brush is mounted upon a ring 89 provided with a passage opening 89′ and attached on the one hand to the standard 117 and on the other hand to the upper conveyor track 121 by means of lateral flaps 89″. In the design illustrated in the drawings, the annular brush consists of a plurality of individual brushes suitably spaced upon the ring 89. Preferably the brushes taper from the top downwards which result may be obtained in a simple manner by providing below the ring 89 brushes 88′, which are shorter and do not project so far into the opening 89′ as the brushes 88 mounted upon the ring 89, see Figs. 1 and 5. In this way, the wrapping is smoothly folded around the article, such as a loaf of bread, when it ascends which action may be assisted by guide plates 500 of sheet iron attached to the ring 89 between the sections of the brush and extending downwards and backwards and which guide the corners of the wrapping, sheet U into the lower annular brush 88′ when the bread ascends.

The machine described hitherto functions in the following manner:

When the elevating plunger 2, after it has raised a loaf, has been again returned into the lower position shown in Fig. 1 by its operating mechanism described, the conveyor belts 1 are by their operating mechanism advanced by such a distance that the next loaf of bread B is conveyed upon the plate 2 of the elevating plunger. Simultaneously the front end of the paper web P has been pushed forward and on to the table 15 by the feed rollers 18 and 19 functioning as described, and the cutting device 149, 150 has cut off a wrapper U from the paper web P which now occupies the position indicated by the letter *a* in Fig. 2 upon the plate 15. Meanwhile the counter-holder 64 has by means of its operating mechanism described been lowered from its upper inoperative position, not shown, into its lower operative position shown in Fig. 1, above the cut off wrapper U, the counter holder having simultaneously performed a rotation of 45° due to the described cooperation of the helical groove 84 with the pin 85. Now the bread B is raised by the plunger from the position I into the position II. The bread B carries the wrapper U along and encounters the lower annularly recessed face of the back holder 64. As soon as this has occurred, the back holder 64 is also moved upwards by its operating mechanism described so however that it remains in good contact with wrapper and bread. Since during the elevating motion of the back holder 64 due to the cooperation of helical nut 84 and pin 85 the back holder 64 is turned back through an angle of 45° and the plate 2 of the elevating plunger is easily rotatable upon the rod 55, the angular ro-

tation of the back holder 64 also effects a rotation of the bread and the wrapper by 45° into the diagonal position indicated by (*a*) in Fig. 2.

During its ascent, the bread B passes together with the wrapping U first into the wider lower annular brush 88′ and then into the narrower upper annular brush 88, whereby the wrapping is folded around the bread in the manner shown in position II, the guide plates 500 smoothing down the flaps of the wrapping, so that it is now only necessary to fold the lower edge U′ of the wrapping, which owing to the diagonal position of the wrapper may be carried out far more easily by the simple folding members hereafter described, than if the wrapper had maintained its original square position.

The folding over of the side flaps is effected by oscillating folding slides 101 and 101′ which are mounted on levers 102, 102′ which in their turn are journaled upon bolts 103, 103′. The bolts are fixed upon the standard 117. Cranked arms 107, 107′ of the levers 102, 102′ are engaged by rods 109, 109′ by means of universal joints 108, and these rods are coupled with levers 111, 111′ by means of universal joints 110. The latter levers are adapted to rotate upon the shaft 413 and are kept in engagement with suitable eccentrics of the shaft 37 by means of antifriction bowls and springs. The eccentrics control and drive the levers 111 and 111′ in such a way that after the bread has been elevated, the folders 101, 101′ are moved from their outer inoperative position into the inner folding position shown in Fig. 2. As soon as the folding slides 101, 101′ support the bread sufficiently, the lifting plunger 2 returns from its upper into its lower position.

In order to hold the bread securely in the wrapping position II, lateral pressing or gripping members are preferably provided which grip and hold the bread at its sides when it has reached the upper position II. In the design illustrated by way of example, they consist of jaws 501 preferably constructed of resilient material which are mounted on arms 503 by angle irons 502. These arms are freely rotatable journaled upon the studs 103, 103′ of the folding levers 102, 102′ and are connected by a spring 504 extending between downwardly directed angular projections 505 of the said arms together. In the event that no loaf has reached the wrapping position this inwards motion of the jaws 501 is limited by set screws 506 which are adjustably screwed into the said angular extensions 505 and which come in contact with the sides of the standard 117 when the jaws 501 move too far inwards. Beyond the fulcrums 103 and 103′, the arms 503 are furnished with segment-shaped extensions 508 provided with curved slots 509 in either of which a stop pin 510 may be fixed in various positions. The adjustment of the stop pins 510 in relation to the arms 107, 107′ is effected in such a manner that after the folding slides 101, 101′ have been moved by a certain distance out of their position shown in Fig. 2 of the drawings, the arms 107, 107′ encounter the pins 510 and the jaws 501 are displaced outwards and set the bread free. During the next, inward motion of the folding slides 101, 101′, the jaws 501 follow this inward motion under the action of the spring 504 until they come in contact with the bread. During the further inwards motion of the folding slides 101, 101′, the arms 107, 107′ then move away from the pins 510.

For folding over the rear flap of the wrapper projecting downwards, a folding slide 115 is provided which is mounted upon a rail 116 which is adapted to slide horizontally in the standard 117. The rail 116 is engaged by a lever 432 by means of a standard 430 and joint 431. The lever 432 is journaled upon the shaft 413 and is kept in contact with an eccentric upon the shaft 37 by means of an anti-friction bowl 433 and a spring not shown in the drawing. During the return motion of the folding slides 101, 101′ into their inoperative enter position, the folding slide 115 is moved forward by its operating mechanism described, whereby it folds the depending back flap of the wrapper U′ against the bottom and simultaneously supports the bread. The folding slide 115 remains in this position, until the bread B has been advanced from the position II into the position III on the upper conveyor track 121.

At the station II, there is also provided an arresting device for the purpose of retaining the bread during the folding process described in the position II. This device consists of a flap door 450 rotatable at 451 in a hinge 452 and maintained in the position shown in Fig. 1 by a spring not shown, but adapted to be swung towards the right by the advancing bread. The said hinge 452 is adjustably mounted upon an angle 453 which in its turn is adjustably fixed at the eye 66.

The folding over of the front flap still projecting downwards of the wrapping U′ takes place during the advance of the bread by means of a slide 118. This slide is by means of an angular piece 119 mounted upon a rail 120 which is adapted to slide longitudinally in the standard 117. This rail is by means of an eye 434 fixed upon it and a joint 435 engaged by a lever 436 adapted to rock upon the shaft 413 and kept in engagement with a cam upon the shaft 37 by means of an anti-friction bowl 437 and a spring not shown in the drawing. When the slide 118 is pushed by its operating mechanism described towards the right, it moves the bread

B into the position III, whereby the front flap of the wrapper is folded against the bottom of the bread by means of the front edge of the upper discharge track 121. Preferably a freely rotatable roller 502[a] journaled in eyes 501[a] mounted on the conveyor track 121 is provided in front of the inlet edge of the said conveyor track which effects a smooth folding over of the lower flap of the wrapping.

Below the position III, there may be provided electric heating members 128 of any suitable design in the event of paper impregnated with wax or paraffin being used as wrapping for the article. When the wrapped up loaf or the like has reached the position III, the wax or paraffin is then melted by the electric heaters 128. During the further progress, the impregnating medium becomes solid again and thus effectively seals the package. At both sides of the upper discharge track 121, there are provided rails 123 which serve for the lateral guidance of the bread. The further advance of the loaves upon the track 121 takes place by the loaves following.

From the track 121 the wrapped up articles pass on to the conveyor belts 130 guided upon rotatable rollers, the series of rollers adjoining the track 121 being indicated by the reference numeral 131. The rollers rotate loosely upon the shaft 439 fixed in the standards 438, 438'. The standards 438, 438' are mounted upon the side frames 400 and 401 of the machine framing.

In order to force the bread at station IV with the lower closure softened by the heating elements 128 against the upper conveyor track 121 and thus to obtain a satisfactory seal, a special pressing device may also be provided at this station. This device consists in the embodiment illustrated of a plate 444 fixed upon a bolt 440 journaled in the standards 438, 438' mounted upon the standards 441, 441'. Upon the plate 444 is fixed an arm 442 pulled downwards by a spring 443, so that the plate or flap door 444 also exerts a yielding pressure upon the top of the bread at station IV.

Since certain changes may be made in the above design of the machine without departing from the spirit of my invention, it is intended that all matters contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

I claim as my invention:

1. In a wrapping machine of the type specified, a lower feed track for the introduction of an article to be wrapped, an upper conveyor track for discharging the wrapped up articles from the machine, a device for raising the individual articles from said lower feed track to the level of said upper discharge track, means for placing the wrapping above the article located upon the said raising device, means for folding the wrapping around the article downwards during the raising from the lower into the upper position, means for turning the wrapping during the raising process through an angle of about 45 degrees, means for folding the downwardly projecting edge of the wrapping against the bottom of the article located in the upper position, and means for advancing the article on to the upper discharge track.

2. In a wrapping machine of the type specified, a lower feed track for introducing an article to be wrapped, an upper conveyor track for discharging the wrapped up articles from the machine, a device for elevating the individual articles from said lower feed track to the level of said upper discharge track, means for depositing the wrapping above the article located upon the said elevating device, means for folding the wrapping around the article downwards during the ascent of the article from the lower into the upper position, and means for turning the wrapping deposited at right angles to said feed track during the ascent diagonally to said feed track, comprising an abutment adapted to be lowered on to the wrapping deposited above the article during the ascent of the article and to be raised by the article, and a mechanism for turning said abutment through an angle of 45° during its ascent.

3. In a wrapping machine of the type specified, a lower feed track for introducing an article to be wrapped, an upper conveyor track for discharging the wrapped articles from the machine, a device for pushing the individual articles from the lower feed track to the level of the upper conveyor track, means for depositing the wrapping above the article located upon said pushing device, means for folding the wrapping around the article downwards during the ascent of the article from the lower into the upper position, and means for turning the wrapping deposited at right angles to the feed track diagonally to it during the ascent, comprising an abutment with a guide rod adapted to be vertically reciprocated and rotated, said rod being provided with a longitudinal groove in the shape of a helix the straight legs of which are displaced in relation to each other by an angle of about 45 degrees, a stationary pin in engagement with said groove, means for lowering said abutment on to the wrapping deposited above the article and for allowing the raising of the abutment by the ascent of the article, said abutment being adapted to be turned in opposite direction through an angle of about 45 degrees by the cooperation of said guide groove and said guide pin when said abutment is lowered and raised.

4. In a wrapping machine of the type specified, a lower track for feeding an article to be wrapped into the machine, an upper conveyor track for discharging the wrapped articles from the machine, a device for pushing the individual articles from the lower track to the level of the upper track, means for depositing the wrapping above the articles located upon the elevating device, means for folding said wrapping around the article from the top during its ascent from the lower into the upper position, and means for turning the wrapping deposited at right angles to the track diagonally to said track during the ascent of the article, comprising a rotatable abutment adapted to be lowered on to the wrapping upon the article, the member of the elevating device upon which the article rests being so designed that the article is able to follow the rotary motion of said abutment during its ascent.

5. In a wrapping machine of the type specified, a lower track for feeding an article to be wrapped into the machine, an upper track for discharging the wrapped articles from the machine, a device for pushing the individual articles from the lower track to the level of the upper track, means for depositing the wrapping above the article located upon said elevating device, means for folding said wrapping around the article from the top during its ascent from the lower into the upper position, a rotatable abutment adapted to be lowered on to the wrapping upon the article, means for rotating the wrapping diagonally to the feed track during its ascent, the supporting member of the article on the elevating device being arranged rotatably to permit a rotation of the article during its ascent together with said abutment and said wrapping.

6. In a wrapping machine of the type specified, a lower track for feeding an article to be wrapped into the machine, an upper conveyor track for discharging the wrapped articles from the machine, a device for pushing the article from said lower track up to the level of said upper track, means for depositing the wrapping above the article located upon said elevating device, means for rotating the wrapping deposited at right angles to the track diagonally to said track during the ascent, and means comprising an annular brush for folding the wrapping around the article from the top downwards during the ascent of the article.

7. In a wrapping machine of the type specified, a lower track for feeding an article into the machine, an upper track for discharging the wrapped article from the machine, a device for pushing the individual articles from said lower track up to the level of said upper track, means for depositing the wrapping above the article located upon said elevating device, means for rotating the wrapping deposited at right angles to the track diagonally to said track, and means comprising an annular brush tapering in the direction of the ascent of the article for folding the wrapping around the article from the top downwards during the ascent of the article.

8. In a wrapping machine of the type specified, a lower track for feeding an article to be wrapped into the machine, an upper track for discharging the wrapped articles from the machine, a device for pushing the articles from the lower track up to the level of the upper track, means for depositing the wrapping above the article located upon said elevating device, means for turning the wrapping deposited at right angles to the track diagonally to it during the ascent of the article, and a device consisting of two superimposed annular brushes located between said lower and said upper track for folding the wrapping around the article during its ascent, the inner diameter of the upper ring of brushes being smaller than the inner diameter of the lower ring of brushes.

9. In a wrapping machine of the type specified, a lower track for feeding an article to be wrapped into the machine, an upper track for discharging the wrapped articles from the machine, a device for pushing the individual articles from said lower track up to the level of said upper track, means for depositing the wrapping above the article located upon said elevating device, means for turning the wrapping deposited at right angles to the track diagonally to it during the ascent of the article from its lower into its upper position, a ring of individual brushes located in the path of the elevating device between the lower and the upper track and above the deposited wrapping, and guide plates extending between said brushes downwards and outwards and adapted to guide the corners of the wrapping into said annular brushes.

10. In a wrapping machine of the type specified, a lower track for feeding an article to be wrapped into the machine, an upper track for discharging the wrapped articles from the machine, a device for pushing the individual articles from the lower track up to the level of the upper track, means for depositing the wrapping above the article located on said elevating device, means for folding the said wrapping around the article from the top downwards during the ascent of the article from the lower into the upper position, means for turning the wrapping deposited at right angles to the track diagonally to it during the ascent of the article, means for detaining the article in the upper position comprising two holders movable laterally to the article, and

means for moving said holders against the sides of said article after the article has been elevated and to press them against it and to move them out of the way again prior to the article being moved on to the discharge track.

11. In a wrapping machine of the type specified, a lower conveyor track for feeding an article to be wrapped into the machine, an upper conveyor track for discharging the wrapped articles from the machine, a device for pushing the individual articles from said lower track up to the level of said upper track, means for depositing the wrapping above the article located upon said elevating device, means for folding the wrapping around the article from the top downwards during the ascent of the article from the lower into the upper position, means for turning the wrapping during the ascent through an angle of about 45 degrees, means for folding in the upper position of the article the edge of the wrapping projecting downwards against the bottom of the article, means for moving the article on to the upper conveyor track, and a rotatable roller located in front of the inlet edge of the upper conveyor track.

12. In a wrapping machine of the type specified, a lower conveyor track for feeding an article to be wrapped into the machine, an upper conveyor track for discharging the wrapped articles from the machine, a device for pushing the individual articles from said lower conveyor track up to the level of said upper track, means for depositing the wrapping above the article located upon said elevating device, means for folding the wrapping around the article from the top during its ascent from the lower into the upper position, means for turning the wrapping during its ascent through an angle of substantially 45 degrees, two folding slides movable laterally to the upper track below the bottom of the article and adapted to fold the bottom flaps over, a folding slide adapted to be moved in the direction of the upper track and to fold the bottom flap located in the rear, and a slide adapted to push the article across the last named folding slide occupying its operative position on to the upper track.

13. In a wrapping machine of the type specified, a lower conveyor track for feeding an article to be wrapped into the machine, an upper conveyor track for discharging the wrapped articles from the machine, a device for pushing the individual articles from the lower conveyor track up to the level of the upper conveyor track, means for depositing the wrapping above the article located on the elevating device, means for folding the wrapping around the article from the top downwards during its ascent from the lower into the upper position, means for turning the wrapping during its ascent through an angle of substantially 45 degrees, two folding slides movable laterally to the upper track below the bottom of the article and adapted to fold the side bottom flaps of the wrapping, a folding slide movable in the direction of the upper track and adapted to fold the rear bottom flap of the wrapping, a slide adapted to push the article on to the upper track across the last folding slide occupying its operative position, a stop above the inlet edge of the upper track in the form of a spring-controlled rotatable finger which in the upper wrapping position of the article is pressed against the front of the article by said spring and which is adapted to be swung sideways against the resistance of said spring when the article is pushed by said slide on to the upper conveyor track.

14. In a wrapping machine of the type specified, a lower conveyor track for feeding an article to be wrapped into the machine, an upper conveyor track for discharging the wrapped articles from the machine, a device for pushing the individual articles from the lower track to the level of the upper track, means for depositing the wrapping above the article located on said elevating device, means for folding the wrapping around the article from the top downwards during its ascent from the lower into the upper position, means for turning the wrapping through an angle of substantially 45 degrees during its ascent, two laterally movable bottom folding slides adapted to fold the side bottom flaps of the wrapping, means for moving said folding slides into and out of their folding position comprising rotatable driving levers, pressing members located above said folding slides the holding arms of said members being journaled upon the pivot pins of said driving levers, a spring for drawing said holding arms together and stop pins upon said arms and adapted to cooperate with said driving levers in such a manner that during the outward motion of the bottom folding slides said pressing members by the contact of the driving levers with the stop pins are moved outwards against the resistance of said spring and that during the inward motion of said folding slides the pressing members are forced against the sides of the article by said spring, means for folding the rear bottom flap of the wrapping against the bottom of the article, and means for pushing the article upon the said upper conveyor track.

In testimony whereof I have affixed my signature.

PAUL GANGLER.