March 26, 1940. J. A. NEUMAIR 2,195,222

CIGAR ENVELOPING MACHINE

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Fig. 1.

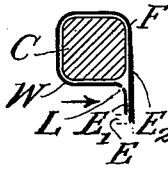


Fig. 2.

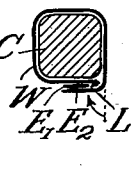


Fig. 3.

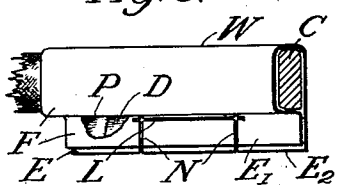


Fig. 4.

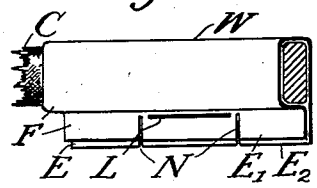


Fig. 5.

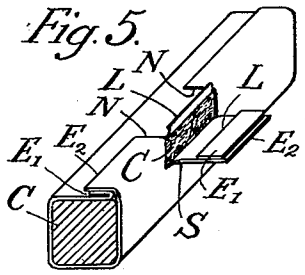


Fig. 6.

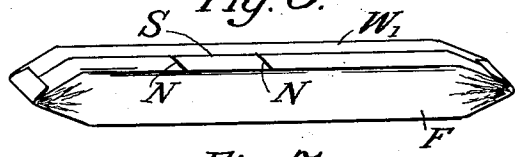


Fig. 7.

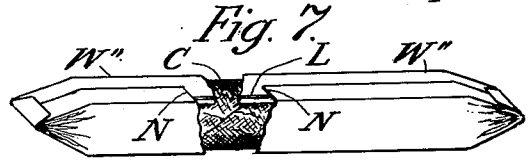


Fig. 8.

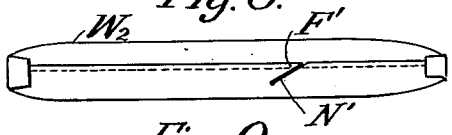


Fig. 9.

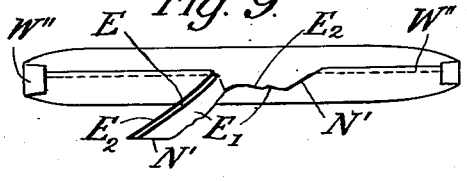


Fig. 10.

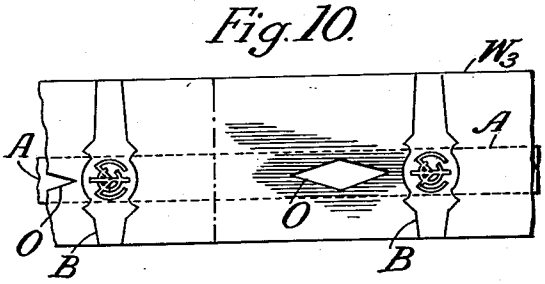


Fig. 11.

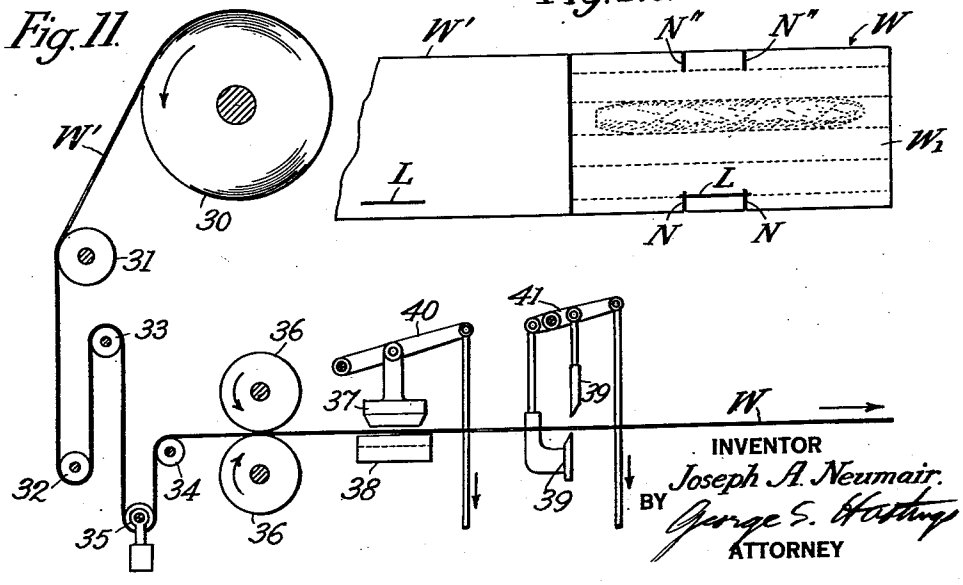


Fig. 12.

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Fig. 13.

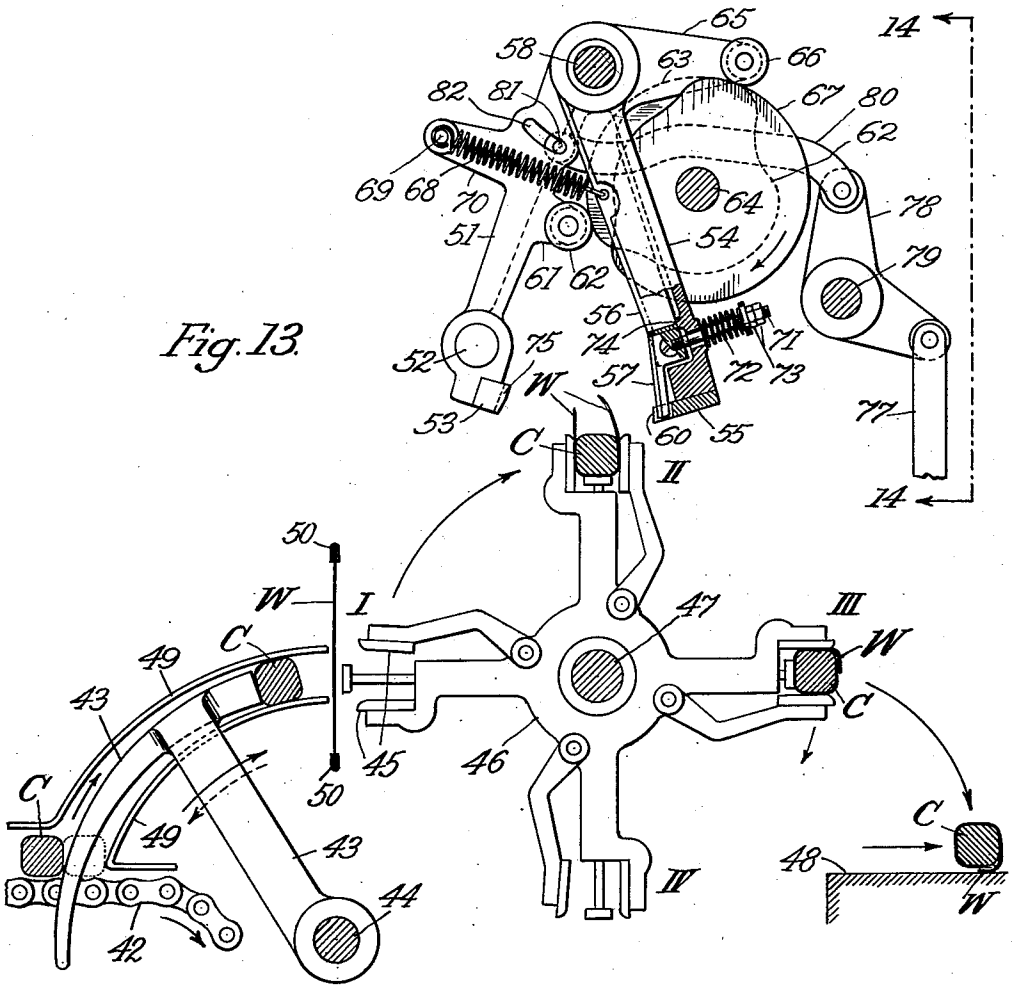


Fig. 15.

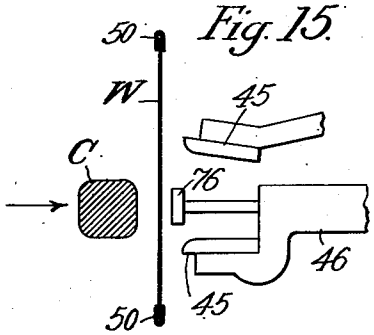
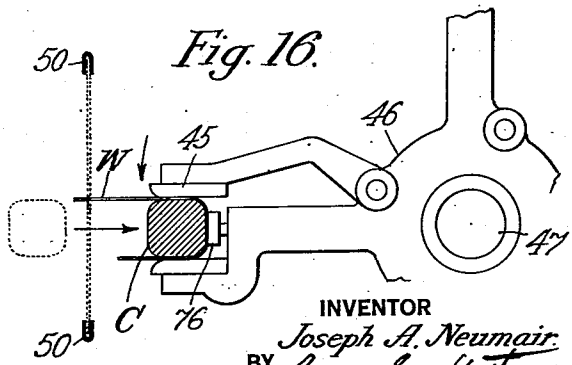


Fig. 16.



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Fig. 14.

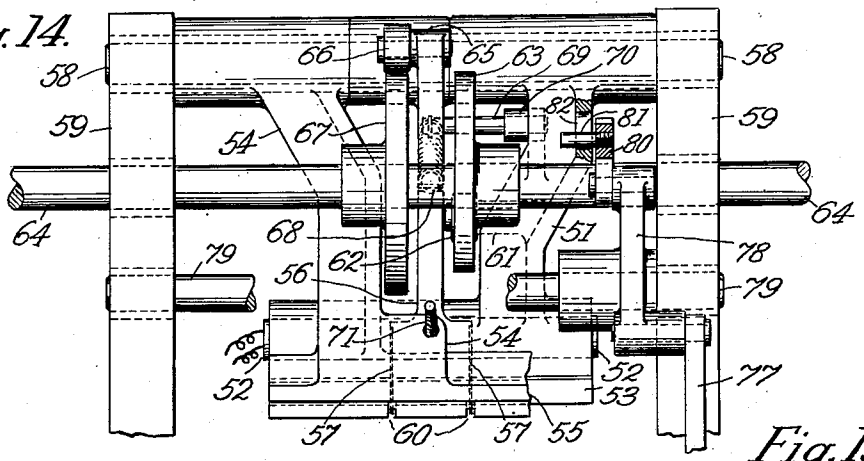
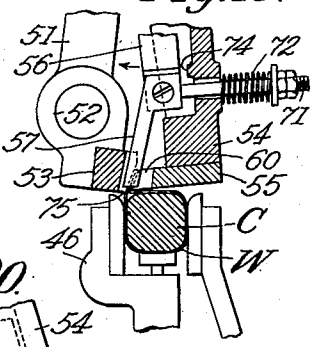


Fig. 19.



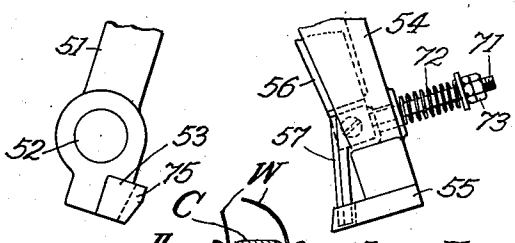


Fig. 17.

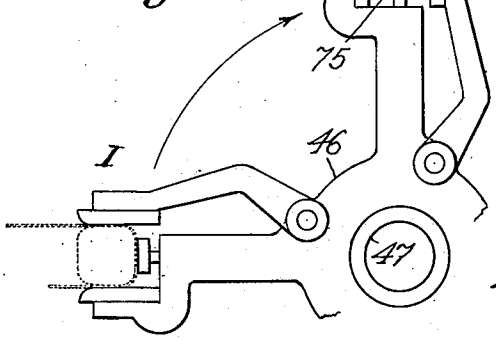


Fig. 20.

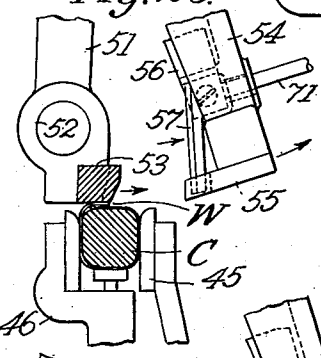


Fig. 21.

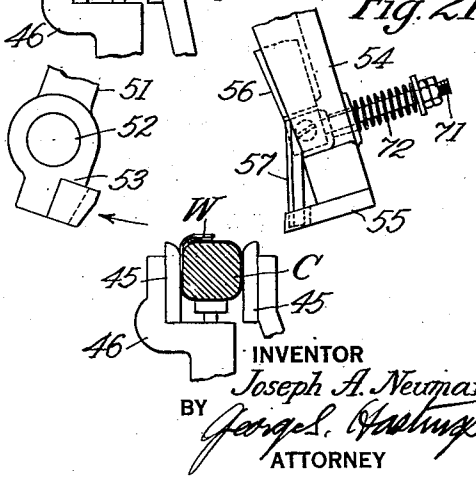
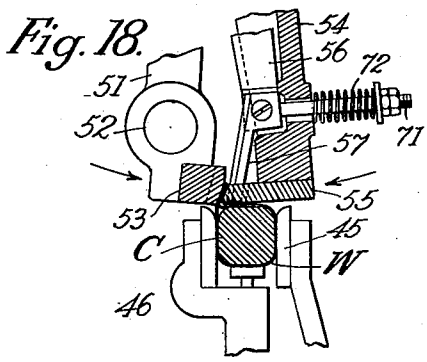


Fig. 18.



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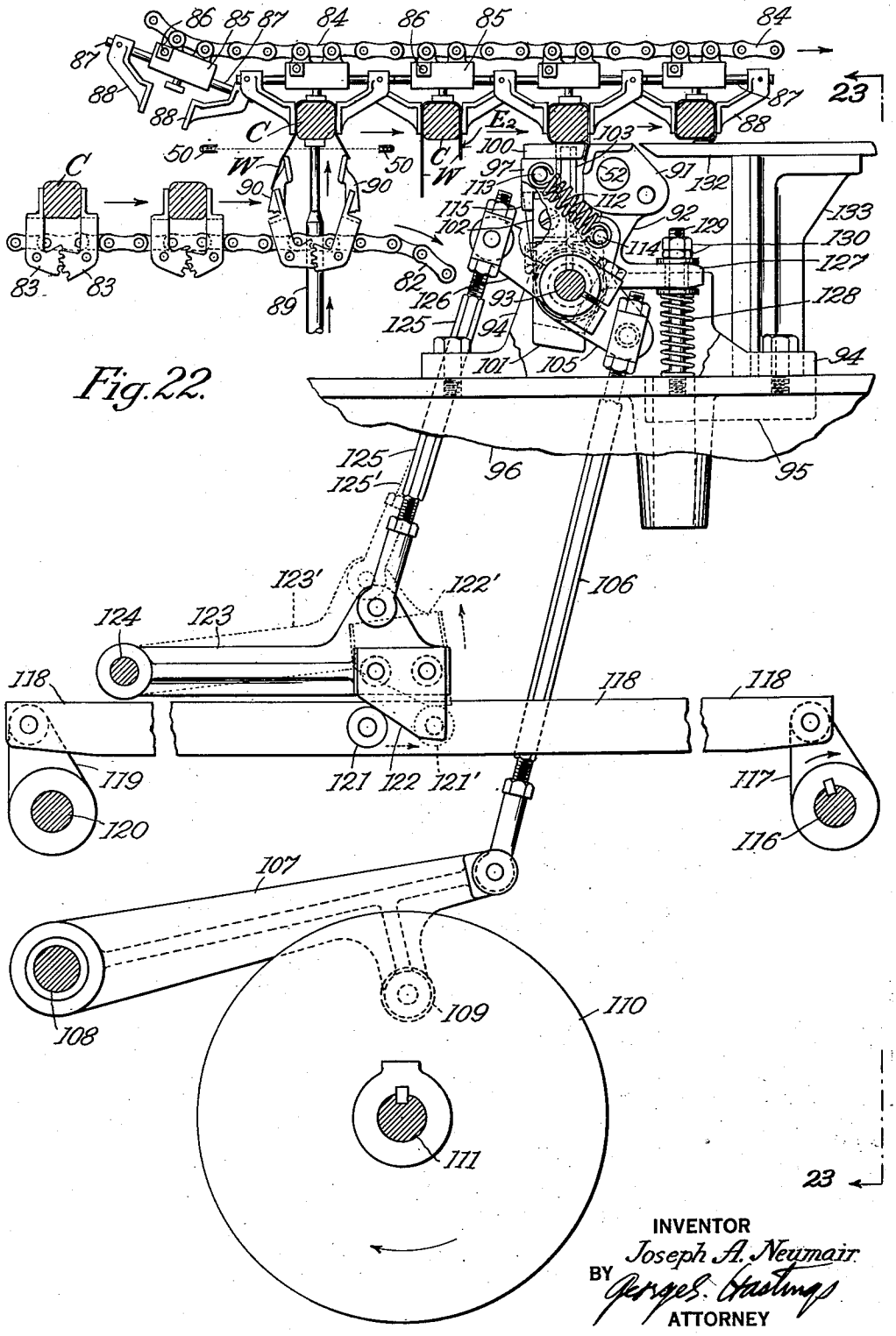


Fig. 22.

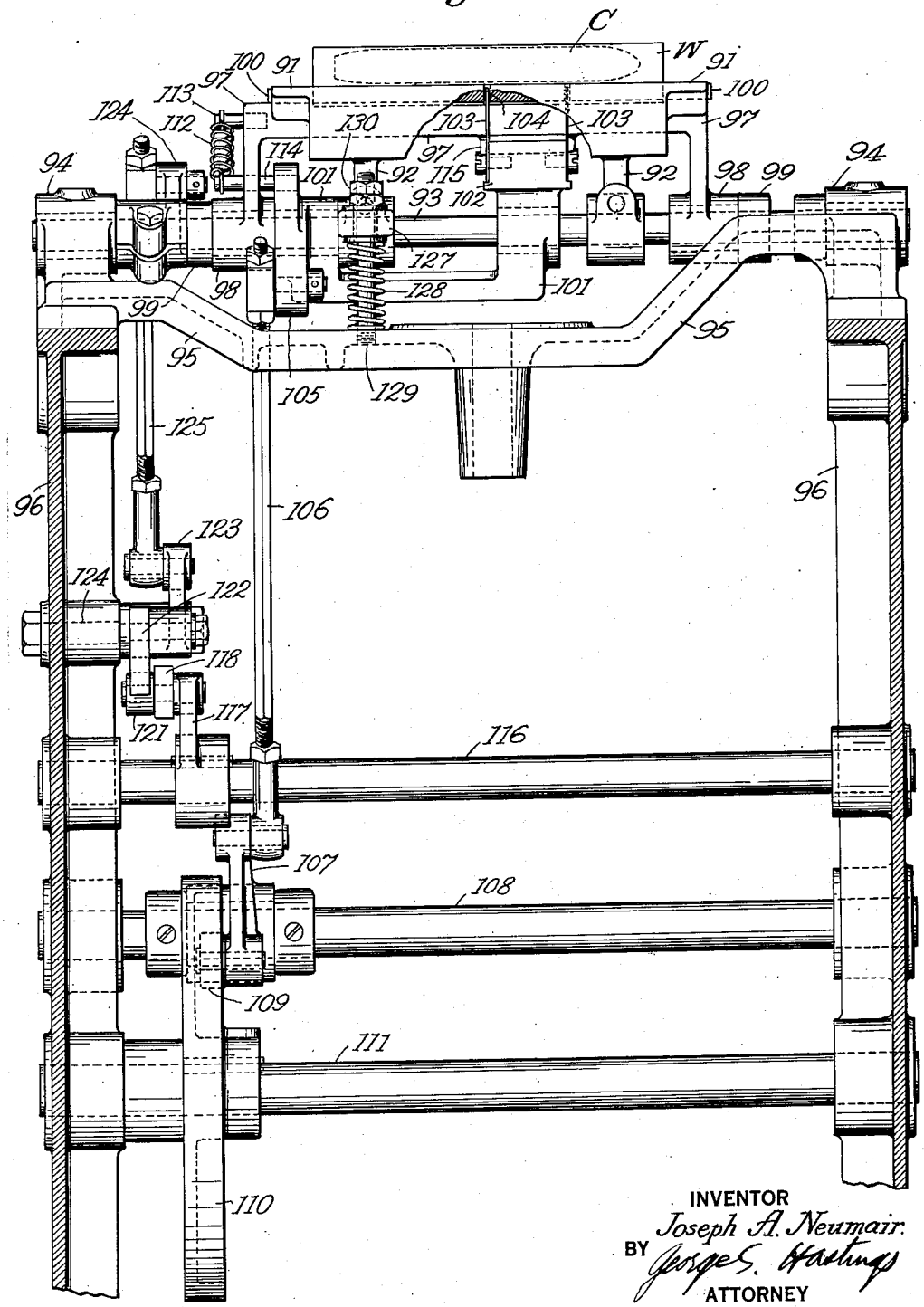
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Fig. 23.



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Fig. 24.

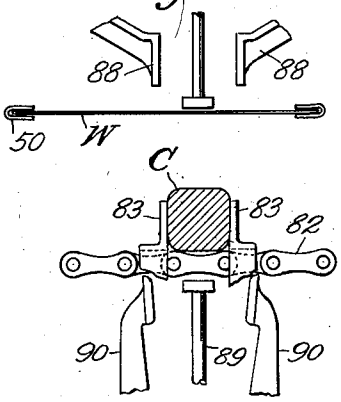


Fig. 25.

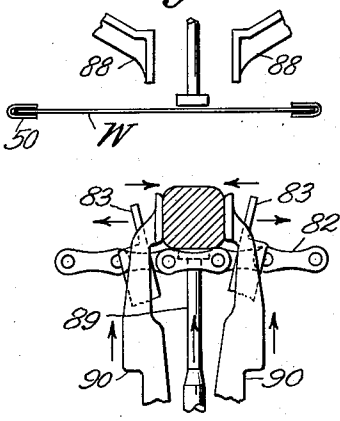


Fig. 26.

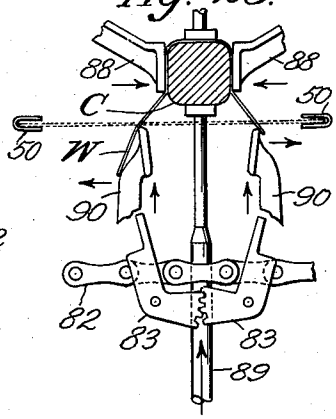


Fig. 27.

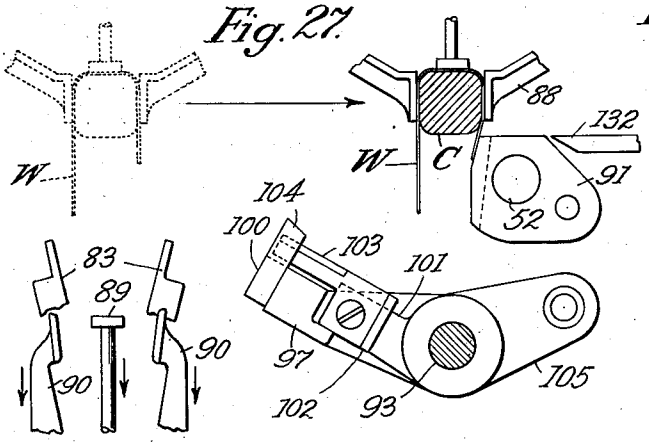


Fig. 28.

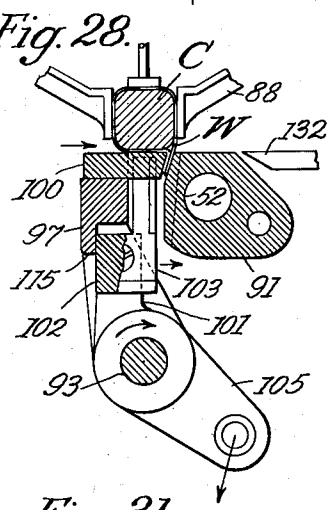


Fig. 29.

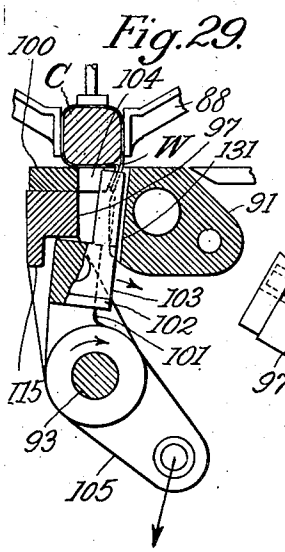


Fig. 30.

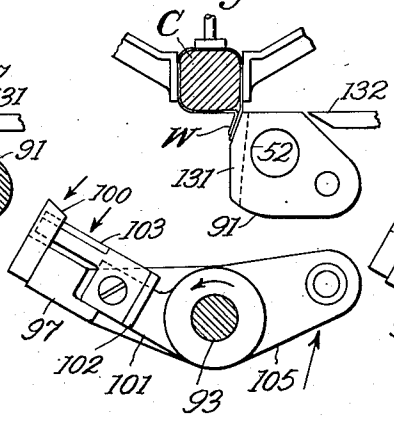
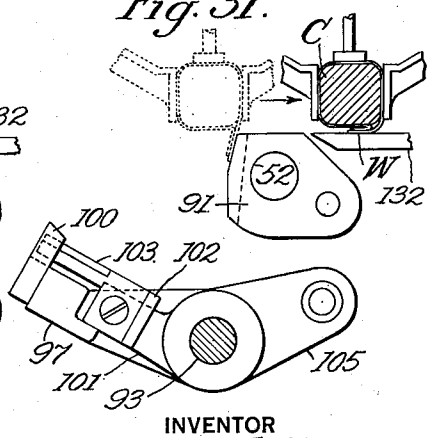


Fig. 31.



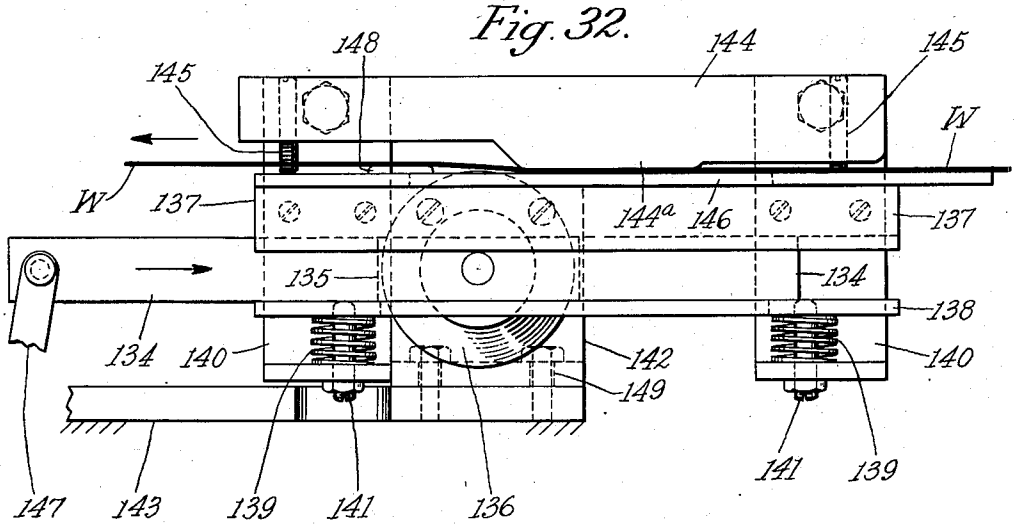
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Fig. 32.



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Patented Mar. 26, 1940 2,195,222

UNITED STATES PATENT OFFICE

2,195,222

CIGAR ENVELOPING MACHINE

Joseph A. Neumair, Hollis, N. Y., assignor to International Cigar Machinery Company, a corporation of New Jersey

Application June 8, 1937, Serial No. 147,003

37 Claims. (Cl. 93—2)

This invention relates to cigar packages, especially to the provision of cigars with individual wrappers, and more particularly to the provision of a cigar with a readily detachable envelope or sealed wrapper made of a bright material such as a polished metal foil backed with a cellulosic fabric coated with an elastic lacquer.

The use of metal foil wrappers backed with glassene paper coated with a thermoplastic material such as a suitable lacquer is known, and a cigar with a polished metal foil envelope constitutes an attractive package and a desirable marketable article, but such use is subject to certain disadvantages which have interfered with satisfying the present demand for a cigar thus packaged.

Among these disadvantages is the inconvenient necessity for tearing the metal foil, which is an operation difficult to initiate if the envelope be adequately sealed in order to preserve the cigar in fresh smokable condition, with its aroma unimpaired and its proper moisture content preserved.

Under these conditions, an object of the present invention is to provide, as a new article of manufacture, a cigar enfolded transversely by a readily detachable wrapper having a metal foil wrapping component formed with a lengthwise heat-sealed seam.

A cognate object is to provide such a metal foil wrapper in which the continuity of the edge of the metal foil component is interrupted to provide a tongue or like salient portion which may be readily pulled, thereby developing a tear along one or more lines, effective to rupture the wrapper suitably to accomplish the destruction of the wrapper, and to permit its complete removal by slipping it from the cigar, leaving the latter intact.

A further object is to provide an improved method of fabricating metal foil wrappers, each with a heat-sealed longitudinal seam formed in place upon the cigars, in order to produce the above described packages each including a cigar and its envelope.

Another object is to provide a metal-foil-wrapped cigar having a heat-sealed longitudinal seam concealed completely by the terminal free lengthwise edge of the polished foil wrapper, which accordingly presents a bright highly polished metallic finish throughout its superficies.

Ancillary objects are, to provide a machine of the class described with means for so cutting, nicking or scoring the wrapper at one or more regions, transversely to the length of the cigar, and/or slitting or scoring the wrapper lengthwise, before or during the sealing of its longitudinal seam in such fashion that the wrapper can be readily removed from the cigar without injuring the cigar; also to provide a machine which will operate satisfactorily on cigars of different sizes or shapes.

Other objects and features of the invention will appear as the description of the particular physical embodiment of the invention selected for disclosure herein progresses.

In the accompanying drawings, which form a part of this specification, and in which like characters of reference indicate the same or like parts:

Fig. 1 is a transverse sectional view of a diagrammatic character, illustrating a step in the method of providing a cigar with a wrapper in accordance with the present invention;

Fig. 2 is a similar view illustrating a further step in carrying out said method;

Fig. 3 is a fragmentary, detail view in sectional perspective, illustrating a cigar with a wrapper provided with a longitudinal seam having a lengthwise slit and transverse nicks, formed prior to folding the seam against the cigar;

Fig. 4 is a fragmentary, detail view similar to Fig. 3, in which the relative disposition of the transverse nicks and lengthwise slit is somewhat modified;

Fig. 5 is a fragmentary detail view in perspective illustrating the initial step of opening the package;

Fig. 6 is a full view in perspective of the completed package ready for the market;

Fig. 7 is a similar view illustrating the package with a medial part of the wrapper torn away by propagation of the rupture initiated as shown in Fig. 5;

Fig. 8 illustrates in perspective a package having a longitudinal heat-sealed seam provided with a modified interruption of the seam to facilitate rupture, and to permit ready removal of the wrapper;

Fig. 9 is a view of the package shown in Fig. 8, illustrating the mode of initiating and continuing the rupture of the wrapper;

Fig. 10 is a fragmentary detail view in plan of a foil wrapper with transparent windows;

Fig. 11 is a view of a schematic character illustrating various steps included in the method of preparing a continuous web of wrapping material for severance into individual wrappers, preliminary to fabrication of the packages, according to the present invention;

Fig. 12 is a fragmentary detail view in plan of a section of the web in course of its preparatory treatment as illustrated in Fig. 11;

Fig. 13 is a sectional elevation of a schematic character illustrating the characteristic elements of an improved form of wrapping machine devised for carrying into effect the method of the present invention, said machine being of the turret type;

Fig. 14 is a view in end elevation of the structure shown in Fig. 13;

Figs. 15 to 21 inclusive are views of a diagrammatic character in side elevation, partly in section, of a cigar and of the machine elements associated in performing the several wrapping and sealing steps which enter into the method of the present invention and which steps will be hereinafter described;

Fig. 22 is a view of a schematic character in sectional elevation which illustrates co-operating elements of a chain-operated machine for use in fabrication of the improved packages according to the method of the invention;

Fig. 23 is a similar view in end elevation of the folding mechanism shown in Fig. 22;

Figs. 24 to 31 inclusive are views of a diagrammatic character in side elevation, partly in section, of a cigar and of the machine elements associated therewith in performing the wrapping and sealing steps which enter into the method of the present invention, by means of the chain-operated machine illustrated in Figs. 22 and 23;

Fig. 32 is a fragmentary detail view of a device for scoring the web of wrapping material longitudinally, instead of slitting it, the device of this view being adapted for substitution in the arrangement shown in Fig. 11, where it may take the place of the elements 37 and 38.

In its broad, generic aspect, the initial step in fabrication of the article which constitutes an illustrative example of various products that may be similarly fabricated according to the present invention, is herein shown as accomplished by folding around the four sides of a cigar C a blank W of wrapping material in such a manner that the edges E1 and E2 of the blank meet at one corner of the cigar and project from that corner with their like faces facing one another, as shown in Fig. 1, it being understood that, for purposes of illustration, the wrapper blank is made of metal foil F, (see Figs. 1, 3 and 4), backed with glassene paper as at P, and coated with a suitable thermoplastic lacquer, as at D. This adhesive may take the form of any well-known lacquer on the market to-day, such for instance as a lacquer composed of nitrocellulose with a synthetic resin added to make the cellulose thermoplastic. It may also have an ingredient of elastic material, as for example, an addition of latex in suitable proportions. Preferably the foil will project slightly, as at E in Figs. 1, 3, 9, etc., so that where the free edge of the foil extends along the underlying wrapper it will have a thickness of only the one ply of metal foil, and thus makes an almost invisible joint. These protruding edges E1 and E2 are pressed together and sealed by heat, and the seam so formed is then folded back upon the cigar package as shown in Fig. 2.

Provision for removal of the wrapping in a manner which will preserve the cigar intact is achieved by forming in the overlapping seam two transverse cuts or nicks N, Figs. 3 and 4, and by forming in the inner edge E1 of the web, near the fold of the overlap, a longitudinal cut L, Figs. 1 and 2, extending across, Fig. 3 or between, Fig. 4, the transverse cuts N, so that the section S of the wrapper between the transverse cuts can be easily torn out, as shown in Fig. 7 leaving the residual parts of the wrapper free to be slipped off the ends of the cigar. The cut L is preferably made a little distance away from the cigar, so that, when the web is folded as shown in Fig. 2, there is a portion of the sealed lap between the cigar and the cut, thus sealing the cigar completely. The same object may also be achieved by only scoring instead of cutting the web longitudinally, so that there is no actual opening in the web even if the line L is made at the fold of edge E1 or between the fold and the cigar. The latter method however requires tearing of the web on the scored line L and thus makes the removal of the wrapper more difficult. If desired, the cut or score-line L may even be omitted entirely, in which case it is necessary to first tear across the edge E1 of the wrapper along the inner fold between the nicks N, and then to remove the strip S by pulling the edge E2 between the nicks away from the cigar as before. The transverse cuts N serve to define the width of the tear strip S and to start the tearing; the longitudinal cut L all but separates the sealed lap of the tear strip from the inside layer of the wrapper and thus makes it possible to tear across the fold of the inside layer almost unobstructedly, the sealed portion of the inside layer coming away practically without any tearing.

The longer longitudinal cut, across the transverse cuts, as in Fig. 3, is preferable from the standpoint of easy removal of the wrapping, because, with the shorter cut shown in Fig. 4, the material remaining between the ends of the longitudinal cut and the transverse cuts must be torn in removing the nicked section and therefore offers additional resistance.

The ends of the wrapping W, after the longitudinal seam has been sealed and nicked, are folded and sealed in the usual manner, the finished cigar package presenting the appearance shown in Fig. 6. Upon tearing out the nicked section S, the ends W'' of the wrapping are loose on the cigar C, Fig. 7, and can be readily slipped off endwise.

The improved package may be simplified by omitting the longitudinal cut L and by replacing the two transverse nicks N by a single oblique nick N', as in Fig. 8. The wrapping W may then be removed by pulling up the loose flap F^1 and tearing off a portion of the seam E1, E2 in the axial direction as shown in Fig. 9. This will expose the torn edge E1 of the inner fold, which can then be lifted up and torn transversely, thus freeing the ends W'' of the wrapper as before.

If desided, a window for the inspection of the cigar may be provided by cutting openings O in the tinfoil web W3 at package-length intervals and by attaching a strip A of Cellophane or other suitable transparent material to the back or inside of the web, as shown in Fig. 10, in which the wrapper also has a cigar band B printed on it.

The longitudinal cut L is made before sealing the axial seam, preferably outside of the folding unit of the enveloping machine, while the transverse cuts N or the oblique cut N' are most expediently made during the sealing period, immediately after pressing together the edges E1 and E2, although, in case of a short longitudinal cut Fig. 4, they may be made before folding, outside of the sealing unit. In Fig 11, an arrangement

for cutting the longitudinal slit L into the web is shown. The web W' is intermittently fed from a reel 30 over rollers 31, 32, 33 and 34, carrying a floating roller 35 in the loop between rollers 33 and 34, to take up any slack. The motion is imparted by feed rollers 36 or other known means. At the proper points, a knife blade 37 co-acting with a suitable ledger block 38, and a cut-off 39 are placed, the former being actuated by a cam-operated lever 40, and the latter by a cam-controlled lever 41. The nicked wrapper W is shown in Fig. 12, the cut panel being put back into place, the wrapper being shown as it would appear if opened up after folding and nicking. Thus, at one margin, as at N'', N'', the web is shown as only nicked, and not slitted. The various forms of packages exemplified in Figs 1–10 and 12 and the apparatus shown in Fig. 11 constitute the subject matter of my divisional application Serial No. 264,075, filed March 25, 1939.

The method of folding, sealing and nicking the wrapper may be, and preferably is, substantially the same for all types of cigar-enveloping machines, varying only in the different steps necessary to bring about the required results.

In a turret-operated machine, such as that disclosed in U. S. Patent 1,899,174 to H. H. Wheeler, the cigar C, fed by a chain 42, Fig. 13, is placed by a transfer arm 43, oscillating on a shaft 44, into the jaws 45 of the receiving pocket I of a turret 46 intermittently turning on a shaft 47, and is then advanced to the folding station II, and finally to the delivery station III, where it is taken from the turret pocket and deposited upon a conveyor 48 which carries it away to be boxed. In station IV the turret pocket is idle. When entering the turret pocket at station I, the cigar C which is supported by guides 49 carries with it a section of the wrapping web W which is fed across the turret in guides 50, the jaws 45 acting as folders, wrapping the web W around three sides of the cigar C

Above station II of the turret is mounted the folding and nicking mechanism, Figs. 13 and 14, which consists of a heater arm 51 which carries an electric heating cartridge 52 and a heater block 53, a webbed folder arm 54 carrying a folder plate 55, and a knife arm 56 to which the nicking cutters 57 are attached, all three arms being loosely mounted on a shaft 58 supported in side frames not shown. The cutters 57 extend when nicking the wrapper, from slots 60 provided in the working face of folding plate 55. The heater arm 51 on an extension 61 has a roller 62 engaging with a cam 63 on a shaft 64, and the knife arm 56 on an extension 65 has a roller 66 in engagement with a cam 67 on shaft 64. The knife arm is connected with the heater arm by a spring 68 attached to a post 69 carried by an extension 70 of the latter, this spring holding the rollers 62 and 66 on their respective cams. The knife arm has a pin 71 projecting through an extension of the folder arm web and carrying a spring 72 tensioned by nuts 73. This spring holds the knife arm against a stop 74 on the folder arm, so that, on the inward motion, both arms advance in unison in response to cam 67 until the folding plate 55 comes to rest against the heater block 53, whereupon the knife arm advances alone against the pressure of spring 72, being drawn by the stronger spring 68, and the cutters 57 then enter into slots 75 provided in block 53. It will be noted that the arm 54 derives its inward movement entirely from the bias of spring 68, communicated through arm 56, bolt 71, nuts 73 and spring 72, so that the arm 54 can be arrested by the cam 67 and yet permit the arm 56 to be advanced.

In the receiving position, Fig. 15, the turret jaws 45 are open and a tension plate 76, with which each pocket of the turret 46 is provided, is by a spring in the turret arm held in its outermost position close to the wrapping web W. As the cigar C is pushed into the turret pocket, Fig. 16, the wrapping web W is clamped between the cigar and the tension plate 76 and is folded around three sides of the cigar by the jaws 45 which close upon the cigar on entering the pocket. Upon receiving the cigar, the turret indexes, moving the pocket from the receiving station I to the folding station II with the open web edges now extending upwards between the heater block 53 and the folding plate 55, as shown in Fig. 17. In this position, the cams 63 and 67 permit the arms 51 and 54 to move towards each other, bringing the block 53 and the plate 55 into sealing position, Fig. 18, the arm 54 moving with arm 56 due to the spring connection of pin 71. As soon as the plate 55 has come to rest on the overlapping edges of wrapper W on block 53, Fig. 19, the arm 56 leaves the stop 74 of arm 54 by compressing the spring 72 on pin 71, thus causing the cutters 57 to pass through the seam of wrapper W and enter the slots 75 of block 53. The seam thus having been nicked as shown at N in Figs. 3 and 4, the continued motion of cam 67 causes the arm 56 to move back, Fig. 20, thereby first restoring the cutters 57 to their neutral position against stop 74, and then returning the arm 54 and plate 55 to their starting position. At the same time, the cam 63 compels the arm 51 to move to its inmost position, thereby causing the block 53 to fold the now sealed and nicked seam of the wrapper W over against the cigar C, thus completing the wrapping operation as far as the lengthwise seam is concerned. The mechanism for folding the ends of the cigar package, which operation is performed at the same station II of the turret after the seam has been turned, is omitted from Figs. 13 and 14, as it does not affect the present invention. Upon turning the seam, the arm 51 moves back, Fig. 21, thus restoring the folding mechanism to its starting position, ready for the admittance of the next cigar package.

When stopping the machine during operation, the action of disengaging the driving clutch raises a connecting rod 77, Figs. 13 and 14, connected to a bell crank 78 on a shaft 79, thereby moving a link 80 carrying a pin 81 engaging in a slot 82 provided in the web of heater arm 51. The slot 82 is just long enough to permit the free motion of arm 51 due to cam 63, the pin 81 being at the inner end of the slot in the outermost position of arm 51 and at the outer end of the slot in its innermost position. Thus, when the link 80 is moved by stopping the machine, the pin 81 pushes the arm 51 outward if the heater block 53 is in contact with the web W at that moment thereby preventing possible scorching of the wrapper. If arm 51 is already at a safe distance on stopping the machine, the pin 81 will move freely in slot 82 without disturbing the position of the heater block.

When the present invention is to be embodied in a chain-operated machine with straight-line propagation between working stations, such as the wrapping and banding machine described in my United States Letters Patent No. 2,077,431, issued April 20, 1937, the cigar C fed by the chain

82, on which it is held by jaws 83, Fig. 22, is raised from a lower to a higher level, during which transfer it picks up its section of the web W, which is fed horizontally between the two levels.

On the upper chain 84 are gear boxes 85 operated by cross-shafts 86 which actuate members 87 carrying jaws 88 for receiving the cigars to be wrapped. The cigars are transferred from the lower to the upper level by a lifting rod 89 and clamp arms 90 which insert the cigar into the jaws 88 with the web W folded around three sides of the cigar. The intermittently moving chain 84 then takes the cigar C with the wrapper W to the folding station of the machine, Figs. 22 and 23, in which the forward edge E2 of the wrapper W lies against the face of a heater block 91. The latter has hubbed arms 92 by which it is fixedly mounted on a shaft 93 supported by bearings 94 connected by a bracket 95 and attached to the side frames 96 of the machine.

The shaft 93 supports a frame 97 swinging loosely on hubs 98 (see Fig. 23), positioned by collars 99 and carrying a folder plate 100. On shaft 93 is also swingably mounted a frame 101 carrying a block 102 to which the nicker blades 103 are affixed, the latter extending into slots 104 provided in the face of the folder plate 100. The frame 101 has an arm 105 in which is pivoted a connecting rod 106 attached to a cam lever 107 fulcrumed on a shaft 108 supported in frames 96. The lever 107 carries a roller 109 engaging with a cam 110 on a shaft 111, this cam thus controlling the movement of nicker frame 101. A spring 112 from a pin 113 in frame 97 to a pin 114 in arm 105 of frame 101 holds a projecting ledge 115 of frame 97 against the back of block 102 so that the folder frame 97 follows the movement of nicker frame 101 as long as there is no obstruction in the path of folder plate 100.

When the machine is to be stopped, the stop is effected by disengaging the main clutch of the machine by turning the control lever shaft 116, and a crank lever 117 moves a horizontal bar 118 supported on an arm 119 (see Fig. 22), swinging on a shaft 120, so that a roller 121 mounted on said bar moves to a position 121' and engages with a cam piece 122, thereby lifting a lever 123 fulcrumed on a horizontal stud 124 into position 123'. The lever 123 is connected by a rod 125 to a crank arm 126 fast on shaft 93, thus turning this shaft and, with it, the arms 92 carrying the heater block 91, thus throwing the latter out of engagement with the wrapping web W in case the machine is stopped during the sealing period. One of the arms 92 has a horizontal extension 127 which is biased away from bracket 95 by a spring 128 on a stud 129 passing through extension 127 and having adjusting screws 130, to limit the foremost position to which the heating member 91 can be advanced yieldingly by the spring 128.

As the cigar C enters the transfer station, Fig. 24, the lifter rod 89 and the transfer arms 90 are below the chain 82 in an open position. After the chain has come to rest, Fig. 25, the jaws 83 open, the rod 89 with the arms 90 rises, and the arms 90 close on the cigar. The rod 89 and the arms 90 then continue to ascend, Fig. 26, inserting the cigar C into the holding jaws 88 of chain 84 which then close upon the cigar while the arms 90 open. While the jaws 88 then move forward, Fig. 27, the lifter 89 and the arms 90 descend to their starting position below the jaws 83, the chain 84 stopping when the cigar C is in sealing position above shaft 93 of the folding mechanism which until this time is in its neutral position. Upon the arrival of the cigar in the sealing position, Fig. 28, the arm 105 is actuated by cam 110, (see Fig. 23), causing the frame 101 to turn in the direction of the arrow, (Fig. 28), thereby, owing to the spring connection 112 of frame 97, (Fig. 22), closing the folder plate 100 against the heater block 91 (Fig. 28) with the edges of wrapper W clamped between them, thus sealing the same. As the arm 105 then continues to turn, Fig. 29, the block 102 leaves the ledge 115 of frame 97 which can no longer follow the movement, and the knives 103 pass through the seam of wrapper W into slots 131 provided in the face of heater block 91, thus producing the nicks N (see Fig. 12). The arm 105 then turns the frame 101 in the opposite direction, Fig. 30, thereby returning the cutters 103 and the folder plate 100 to their starting position. As the chain 84 then advances, Fig. 31, the sealed cigar package passes from the heater block 91 onto a plate 132 supported by a bracket 133, Fig. 22, the nicked seam W being conformed by heat and light pressure toward the cigar C during its passage over the top of block 91. The seam folding mechanism remains in its neutral position until the next cigar package arrives in sealing position.

Fig. 32 illustrates a now-preferred form of device for scoring the wrapping web, this device when employed being substituted in the position occupied by the cutting members 37 and 38, Fig. 11. A slide 134 is provided with a slot 135 in which is journaled the scoring member 136, said slide being guided in a slideway 137 and retained in position by a bottom plate 138. Plate 138 is held in position by compression springs 139 disposed between said plate and the base of hanging brackets 140. Studs 141 supported in each of the brackets 140 at their lower end, fit loosely into openings provided near the ends of plate 138 preventing said plate from shifting in a lengthwise direction. A bracket 142, adjustably mounted on a bar 143 of the machine carries the slideway 137. The brackets 140 depend from the member 137 and at their upper ends carry a cutting bar 144 equipped with adjusting screws 145 providing finely adjustable means for maintaining the desired clearance between the scoring disc 136 and the portion 144a of bar 144. The web W, fed in the same manner as previously described, passes over a table 146 carried by slideway 137 and under bar 144. When the forward feeding of the web is stopped, a lever 147 actuated by a cam, not shown, moves the slide 134 causing member 136 to engage the portion of the web W resting against section 144a, thereby scoring the web. The movement of the slide is so timed that the scoring of the web is done at desired spaced intervals. When the scoring operation is completed, the slide retreats, returning member 136 to its starting position before advancement of the web. A cross strip 148 of table 146, over which strip the web W passes, raises the same sufficiently to clear member 136. The bracket 142 is provided with elongated slots 149 permitting lateral adjustment of the device to care for different widths of wrapping webs.

From the foregoing disclosure, it will be understood readily that provision is made for avoiding substantially the inconveniences heretofore encountered in removing heat-sealed wrappers each embodying a metal foil wrapper component from individual cigar packages, and so this desirably bright and attractive polished metal finish

is made more available, without detracting from the preservation of the cigar, intact as to structure and aroma.

It is also apparent that this desirable result has been attained by the novel method of slitting the wrapper herein pointed out; and that improved apparatus of both turret type and chain type has been provided to carry the aforesaid method into effect.

It is to be understood that while I have disclosed what I believe to be the best embodiments of the present invention now known to me, nevertheless the particular physical embodiments herein illustrated and described are not to be considered as exhausting the possible embodiments of the basic idea of means underlying the invention.

What is claimed is:

1. The method of providing cigars successively with readily detachable individual wrappers, each having a longitudinal hermetically sealed seam, said method comprising the step of advancing a web of wrapping material, and slitting or scoring said web near at least one marginal edge to weaken the web locally at intervals along its length; the step of severing said web transversely at regions intermediate said weakened regions, thus forming individual wrappers each having a weakened region adjacent to at least one edge, and the step of folding each wrapper around a cigar transversely of its length with said weakened edge or margin adjoining the margin of the opposite long side of the wrapper; the step of sealing said adjoining margins together hermetically along their mutually contiguous longitudinal edge zones to form a lengthwise seam from end to end of the wrapper; and the step of slitting or scoring said duplex seam structure transversely inward from its outer edge to define in each wrapper a duplex tongue bounded by said lengthwise and transverse weakenings, and adapted, when pulled, to propagate lines of rupture effective to separate from the body of the wrapper a strip designed, by being thus torn away, to destroy the wrapper and permit ready removal of its residue from the cigar while preserving the cigar intact.

2. The method of providing cigars successively with readily detachable individual wrappers, each having a longitudinal hermetically sealed seam, said method comprising the step of advancing a web of wrapping material and scoring said web at suitably spaced regions, alongside at least one marginal edge, to weaken the web locally at such intervals along its length; the step of severing said web transversely at regions intermediate said weakened regions, thus forming individual wrappers each having a weakened region adjacent to at least one edge; and the step of folding each wrapper around a cigar transversely of its length with said weakened marginal zone adjoining the margin of the opposite long side of the wrapper; the step of sealing said adjoining margins together hermetically along their mutually contiguous longitudinal edge zones to form a lengthwise seam from end to end of the wrapper; and the step of slitting or scoring said duplex seam structure transversely inward from its outer edge to define in each wrapper a duplex tongue bounded by said lengthwise scoring and transverse slits or scorings, and adapted, when pulled, to separate from the body of the wrapper a strip designed to destroy the wrapper and permit ready removal of its residue from the cigar, while preserving the cigar intact.

3. The method of providing cigars successively with readily detachably individual wrappers each having a longitudinal seam, said method comprising the step of advancing a web of metal foil backed with a sealing component including a ply of cellulosic fabric coated with an elastic lacquer adapted to be rendered adhesive by heat; the step of scoring said foil at suitably spaced regions, alongside of at least one marginal edge, to weaken the foil component of said web locally at such intervals along its length, while preserving the sealing component intact; the step of severing said web transversely at regions intermediate said weakened regions, thus forming individual wrappers each having a marginal weakened region; the step of folding each wrapper around a cigar transversely of its length with said weakened zone adjoining the margin of the opposite long side of the wrapper; the step of heat-sealing said adjoining margins together along their mutually contiguous longitudinal edge zones to form a lengthwise seam from end to end of the wrapper, including in said seam said lengthwise weakened region; and the step of slitting or scoring said duplex seam structure transversely inward from its outer edge to define in each wrapper a sealed tongue bounded by said lengthwise scoring and transverse slits or scorings, and adapted, when pulled, to rupture said seal and to separate from the body of the wrapper a strip designed to destroy the wrapper by propagating said rupture, and thus to promote removal readily of the residue of said wrapper from the cigar, while preserving the cigar intact.

4. The method of providing cigars successively with readily detachable individual wrappers, said method including the steps claimed in claim 3, in which said web is fabricated of metal foil backed with a sealing component including a ply of glassene paper coated with a latex lacquer, and in which said margins are cohered under pressure.

5. The method of providing cigars successively with readily detachable individual wrappers, said method comprising the step of weakening wrapper-blank parts locally to form tongues by which rupture of each blank may be initiated and propagated; the step of heat-sealing contiguous margins of each wrapper to form a seam from end to end of the wrapper; and the step of folding over the seamed ends of said wrapper with the ends of the seam enfolded.

6. The method of providing a cigar with a readily detachable individual wrapper having a lengthwise enfolded seam, said method comprising the step of supplying a wrapper blank of metal foil backed with a sealing component including a ply of cellulosic fabric coated with a self-adhesive lacquer; the step of folding said wrapper transversely around the cigar; the step of approaching together the coated margins at opposite margins of the wrapper blank and adhering together their contiguous adhesive zones; the step of bending over said adhered margins to revert one edge of the seam into juxtaposition with the underlying body zone of the wrapper, and to lay the edge of said metal foil in outwardly exposed disposition covering the seam; and the step of weakening said seamed structure prior to said folding step, to provide a pulling tongue by which rupture of the wrapper body can be initiated and propagated.

7. The method of providing a cigar with a wrapper having a lengthwise enfolded heat-sealed seam, said method comprising the step of supplying a wrapper blank having one surface coated

with heat-softening adhesive; the step of folding said wrapper around the cigar and bringing into contiguous relation the coated marginal surfaces of the initially remote edges; the step of seaming said mutually contiguous areas by heat and pressure applied while the edges are extended away from the cigar; and the step of wiping said seamed edges against the cigar while applying heat exclusively to the outer face of the underlying triplex seam-and-body structure.

8. The method of providing a cigar with a wrapper having a lengthwise enfolded heat-sealed seam, said method comprising the steps claimed in claim 7, in which said wrapper blank is supplied with a body ply of polished metal foil whereby upon performance of said step of wiping said enfolded seam structure with pressure and heat, the pressure is cushioned and the heating action moderated by the existence, between the heating member and the cigar, of three triplex layers each including metal foil, cellulose fabric and elastic lacquer, a polished metal foil component receiving the incidence of the heating member.

9. Apparatus for providing cigars successively with readily detachable individual wrappers each having a longitudinal hermetically sealed seam, said apparatus comprising means for advancing a web of wrapping material; means for slitting or scoring said web lengthwise near at least one marginal edge, at regions spaced apart lengthwise, to weaken the web locally at said regions; and means to sever said web transversely intermediate said regions to provide individual cigar-wrappers each with a scored, weakened marginal portion substantially parallel with one lengthwise edge.

10. An apparatus of the class described, in which means are provided to receive a marginally weakened wrapper as advanced from a source of said wrappers, such as an apparatus having the features claimed in claim 9; means to assemble said wrapper in enfolding relation with a cigar, presenting the slitted, weakened margin side by side with the opposite margin; means to press said marginal portions into surface contact; and means to heat their mutually contiguous zones to form a seam double edge extending away from the cigar.

11. An apparatus of the class described, in which means are provided to receive a marginally weakened wrapper as advanced from a source of said wrappers, such as an apparatus having the features claimed in claim 9; means to assemble said wrapper in enfolding relation with a cigar, presenting the slitted, weakened margin side by side with the opposite margin; means to press said marginal portions into surface contact; means to heat their mutually contiguous zones to form a seam double edge extending away from the cigar; and means to bend said seamed margins circumferentially around said cigar while applying heat exclusively to the exterior of the multi-ply wrapper structure, said structure including an underlying ply of the body of said wrapper and also the reverted seam-ply, and the overlying seam-ply first named.

12. An apparatus of the class described, in which means are provided to receive a marginally weakened wrapper as advanced from a source of said wrappers, such as an apparatus having the features claimed in claim 9; means to assemble said wrapper in enfolding relation with a cigar, presenting the slitted, weakened margin side by side with the opposite margin; means to press said marginal portions into surface contact; means to heat their mutually contiguous zones to form a seam double edge extending away from the cigar; and devices movable toward each other to bend said seamed margins circumferentially around and adjacent the already wrapped periphery of said cigar, and to thereafter apply heat thereto, said bending device being movable from the path of said heating device, and said heating device being constructed and arranged to apply heat exclusively to the exterior surface of the multi-ply wrapper structure constituted by said bent-over seam.

13. Apparatus of the class described, comprising, in combination, a movable support adapted to present at a wrapping station a cigar having a wrapper enfolding a moiety of its periphery, with the opposite margins of said wrapper presented side by side toward said station; and devices movable toward each other to press said marginal portions into sealing contact to form a seam extending away from the cigar; one of said complemental pressing devices being provided with a means to form a weakened portion in at least one of said extended seam-component margins, substantially in the manner and for the purpose set forth.

14. Apparatus of the class described, said apparatus having the features claimed in claim 13, in which the slitting device is adapted to move relatively to the pressing device during the slitting operation.

15. Apparatus of the class described, said apparatus having the features claimed in claim 13, in which the slitting device is adapted to move relatively to the pressing device during the slitting operation while the pressing device confines the seam.

16. Apparatus of the class described having the features claimed in claim 13, in which a turret mechanism provided with several cigar-receiving sockets is adapted to be indexed to stations including a first station provided with a means to insert a cigar into a turret socket, and a means to support a wrapper blank which is draped upon the cigar as it enters said last-named socket; then to a second station provided with folding, pressing and sealing devices; then to a discharge station provided with a conveyor means to dispose of each packaged cigar as ejected from the said turret socket.

17. A wrapping and sealing mechanism of the class described, having the features claimed in claim 13, in which said complemental pressing device, heating device, and wrapper-weakening device are swung from a common axis, means to bias said pressing devices yieldingly into cooperative relation, and means acting positively at timed intervals to swing said pressing devices apart.

18. A wrapping and sealing mechanism of the class described, said mechanism comprising a pair of complemental pressing devices carried by arms of levers swung from a common axis; and characterized by having an intermediate arm associated with one of said presser arms and connected therewith by a spring under compression, said intermediate arm being connected with the complemental presser arm by a tension spring of higher value than said compression spring; and means to incapacitate said presser devices at predetermined intervals.

19. A wrapping and sealing mechanism of the class described, said mechanism having the features claimed in claim 18, in which said presser devices are adapted to operate upon a wrapper

seam, and in which said intermediate arm is provided with a nicking or scoring device, said last-named device being arranged to be drawn into nicking engagement with said seam by prolonged action of said tension spring when said presser devices are mutually engaged.

20. A wrapping and sealing mechanism of the class described, said mechanism having the features claimed in claim 18, in which said presser devices are adapted to operate upon a wrapper seam, and in which said intermediate arm is provided with a nicking or scoring device; and in which said complemental presser device is provided with a face recess adapted to permit movement thereinto by said nicking device beyond the limit defined by abutting pressure engagement of the complemental pressing devices.

21. A wrapping and sealing mechanism of the class described, said mechanism having the features claimed in claim 18, in which said presser devices are adapted to operate upon a wrapper seam, and in which said intermediate arm is provided with a nicking or scoring device; and in which said complemental presser device is provided with a face recess adapted to permit movement thereinto by said nicking device intersecting the plane in which the wrapper seam lies between the pressing devices.

22. A wrapping and sealing mechanism of the class described, having the features claimed in claim 18, in which said means to incapacitate the pressing devices includes a plurality of cams acting respectively to separate said lever arms rotatively around said axis against the bias of said tension spring, said cam action being timed to rehabilitate the complemental devices by permitting the tension spring to become effective in the first place to apply the presser-heater device to an outstanding seam component, then to advance the complemental presser device with a wiping stroke against the other outstanding seam component, sweeping it into contact with the first-named seam component and holding it under pressure while heat is applied, then to advance the nicking device beyond its associated presser device while the complemental devices hold the seam under pressure, then to advance the heater-presser device to wipe the seam over and against the enwrapped cigar, while positively retracting the complemental presser device from action and also retiring the nicking arm positively, thereby placing the compression spring under compression and placing the tension spring under initial tension, and thereafter withdrawing said heater-presser device completely and storing normal energy in the tension spring.

23. The combination with upper and lower endless conveyor systems provided with cigar grippers, means for transferring the cigars from one system to the other system, and means spaced along said systems for wrapping said cigars and forming heat-sealed lengthwise seams while said cigars are held by said conveyor systems.

24. In a wrapping machine of the class described, in combination, an endless conveyor having a series of grippers adapted to advance with its top face uppermost in a substantially straight run a series of cigars or the like each enfolded on three sides by a wrapper draped thereon with depending edges; and a pair of complemental pressing devices adapted to be engaged with said depending edges for folding them together into an outstanding seam and heat-sealing said seam, one of said devices acting to wipe the seam down over the bottom of the cigar during the further movement of said conveyor.

25. A wrapping machine having the features claimed in claim 24, in which one of said presser devices has a heating element and occupies a substantially fixed position intersecting the path of advancement of said depending edges, and said complemental presser device is mounted to swing in an arcuate path also intersecting said path of advancement, acting to fold the trailing rear edge around the fourth side of the article into heat-sealing contact with said other edge.

26. A wrapping machine having the features claimed in claim 24, in which one of said presser devices has a heating element and occupies a substantially fixed position intersecting the path of advancement of said depending edges, and said complemental presser device is mounted to swing in an arcuate path also intersecting said path of advancement, acting to fold the trailing rear edge around the fourth side of the article into heat-sealing contact with said other edge, and in which advancement of said conveyor is suspended while said heat sealing is effected, with the seam components projecting from the body of the cigar.

27. A wrapping machine having the features claimed in claim 24, in which one of said presser devices has a heating element and occupies a substantially fixed position intersecting the path of advancement of said depending edges, and said complemental presser device is mounted to swing in an arcuate path also intersecting said path of advancement, acting to fold the trailing rear edge around the fourth side of the article into heat-sealing contact with said other edge, and in which further advancement of the cigar with said heat-sealed seam trailing, wipes said seam rearwardly against the body side of the wrapper just enfolded, reverting the inner edge of the seam, and ironing the free edge of the seam smoothly over the seam, by virtue simply of said advancing movement over the heated presser device against the yielding pressure opposed by the substantially elastic cigar structure with its envelope.

28. A wrapping machine having the features claimed in claim 24, in which one of said presser devices has a heating element and occupies a substantially fixed position intersecting the path of advancement of said depending edges, and said complemental presser device is mounted to swing in an arcuate path also intersecting said path of advancement, acting to fold the trailing rear edge around the fourth side of the article into heat-sealing contact with said other edge, and in which further advancement of the cigar with said heat-sealed seam trailing, wipes said seam rearwardly against the body side of the wrapper just enfolded, reverting the inner edge of the seam, and ironing the free edge of the seam smoothly over the seam, by virtue simply of said advancing movement over the heated presser device against the yielding pressure opposed by the substantially elastic cigar structure with its envelope; and connections to the general stopping devices of the machine, whereby, when such a stopping device operates, the heater-presser device is moved out of intersection with the path of the advancing cigar wrapper, thus incapacitating the heater presser from exerting a harmful heating effect upon the cigar and/or the wrapper.

29. A wrapping machine having the features

claimed in claim 24, in which one of said presser devices has a heating element and occupies a substantially fixed position intersecting the path of advancement of said depending edges, and said complemental presser device is mounted to swing in an arcuate path also intersecting said path of advancement, acting to fold the trailing rear edge around the fourth side of the article into heat-sealing contact with said other edge, and in which further advancement of the cigar with said heat-sealed seam trailing, wipes said seam rearwardly against the body side of the wrapper just enfolded, reverting the inner edge of the seam and ironing the free edge of the seam smoothly over the seam, by virtue simply of said advancing movement over the heated presser device against the yielding pressure opposed by the substantially elastic cigar structure with its envelope; and connections to the general stopping devices of the machine, whereby, when such a stopping device operates, the heater-presser device is moved out of intersection with the path of the advancing cigar wrapper, thus incapacitating the heater presser from exerting a harmful heating effect upon the cigar and/or the wrapper, said heater being rehabilitated automatically when the machine is started.

30. A wrapping machine having the features claimed in claim 24, in which one of said presser devices occupies a substantially fixed position intersecting the path of advancement of said depending edges, and in which an intermediate nicker or scoring device moves to and fro in an arcuate path with said complemental device, acting to intersect the completed seam structure, in order to weaken it locally.

31. A wrapping machine having the features claimed in claim 24, in which one of said presser devices occupies a substantially fixed position intersecting the path of advancement of said depending edges, and in which an intermediate nicker or scoring device moves to and fro in an arcuate path with said complemental device, acting to intersect the completed seam structure, in order to weaken it locally, and means to move said nicking device relatively to said last-named complemental device and into engagement with said heater-presser device while said seam is under pressure as aforesaid.

32. A wrapping and sealing mechanism having the features claimed in claim 24, in which said heater-presser component is mounted loosely upon a shaft and provided with means to define the angular position of said member relatively to the shaft.

33. A wrapping and sealing mechanism having the features claimed in claim 24, in which said heater-presser component is mounted loosely upon a shaft and provided with means to define the angular position of said member relatively to the shaft, said means including a coil spring under compression acting to bias said component yieldingly toward the path of the wrapper, and an adjustable abutment to limit said bias.

34. A wrapping and sealing mechanism having the features claimed in claim 24, in which said heater-presser component is mounted loosely upon a shaft and provided with means to define the angular position of said member relatively to the shaft, said means including a coil spring under compression acting to bias said component yieldingly toward the path of the wrapper, and an adjustable abutment to limit said bias, said parts cooperating to constitute a resilient presser abutment against which said complemental presser device completes the sealing operation upon a package seam.

35. A wrapping and sealing mechanism as claimed in claim 24, in which said complemental presser device is operated by a lever arm actuated by a connecting rod forming part of a toggle, the joint of said toggle being provided with a cam, and a reciprocating link mounted to oscillate with said cam, and thereby to move said presser device toward the fixed presser device.

36. A wrapping and sealing mechanism as claimed in claim 24, in which said complemental presser device is operated by a lever arm actuated by a connecting rod forming part of a toggle, the joint of said toggle being provided with a cam, and a reciprocating link mounted to oscillate with said cam, and thereby to move said presser device toward the fixed presser device, and a tension spring interposed between said lever arm and said presser device, serving to communicate to the latter an exclusively yielding pressure.

37. In a wrapping machine of the class described, in combination, an endless conveyor having a series of grippers adapted to advance with its top face uppermost in a substantially straight run a series of cigars or the like each enfolded on three sides by a wrapper draped thereon with depending edges, and a pair of complemental pressing devices adapted to be engaged with said depending edges for folding them together into an outstanding seam and heat-sealing said seam, one of said devices acting to wipe down the seam over the bottom of the cigar during the further movement of said conveyor and being heated to fuse the seam to the wrapper at said side.

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