Nov. 24, 1964 J. A. DREHER 3,158,522

CONFIGURED WEB-CUTTING APPARATUS

Filed Oct. 12, 1961 3 Sheets-Sheet 1

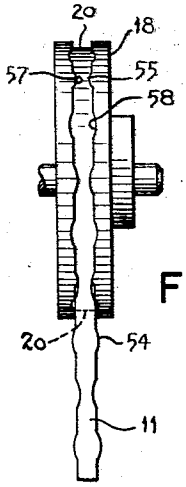
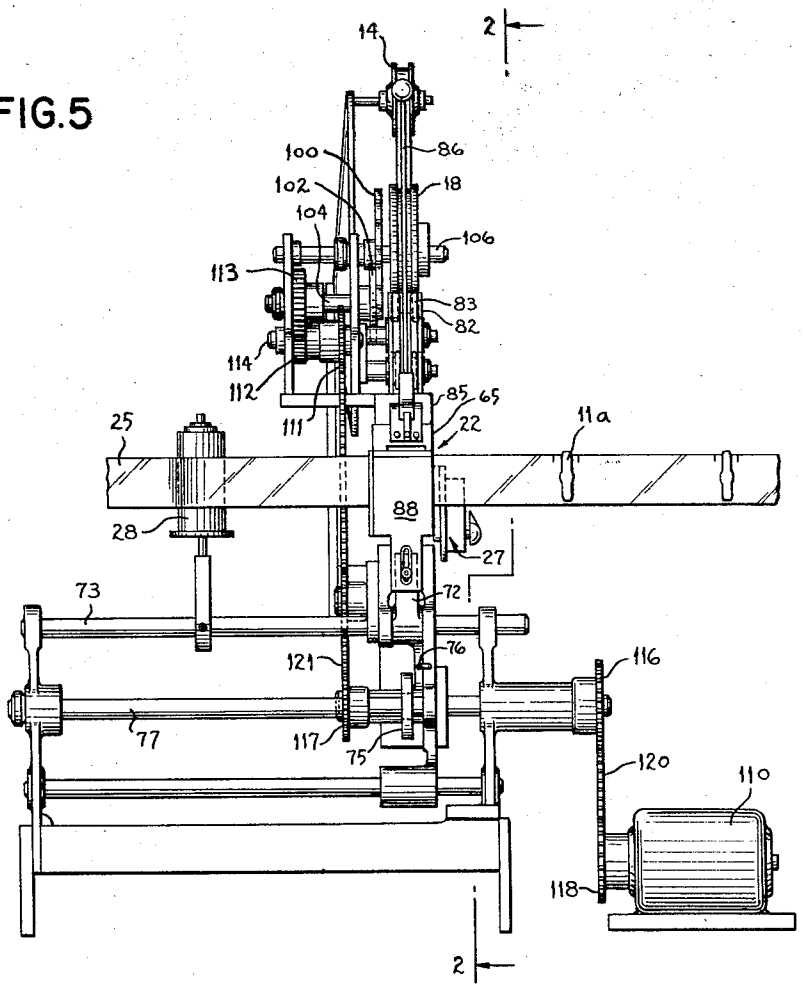


FIG.5

FIG. 1



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CONFIGURED WEB-CUTTING APPARATUS

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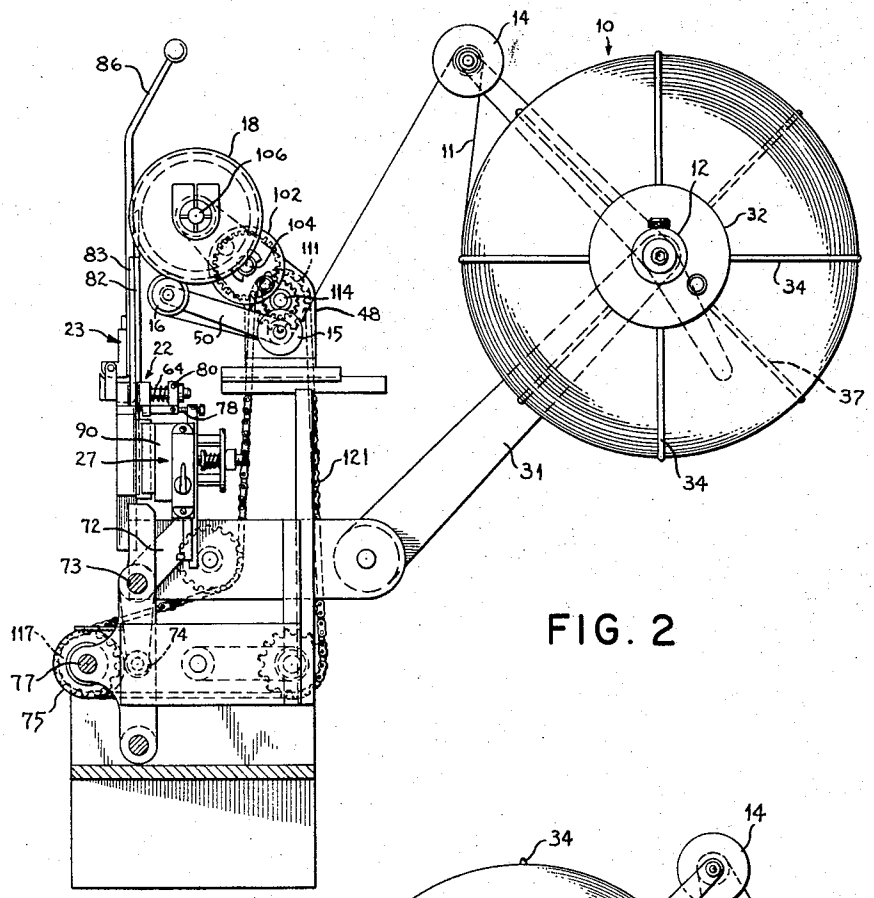


FIG. 2

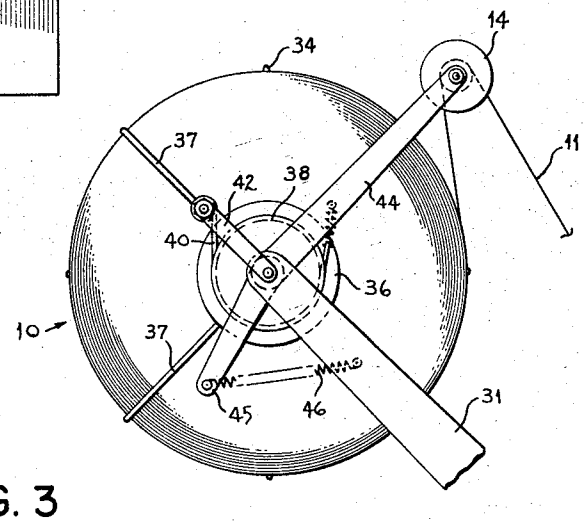


FIG. 3

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CONFIGURED WEB-CUTTING APPARATUS

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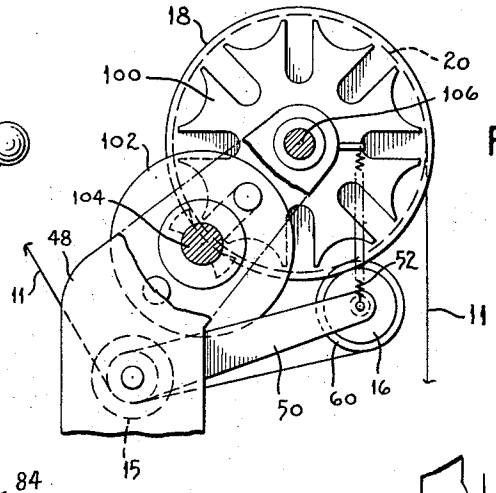


FIG. 4

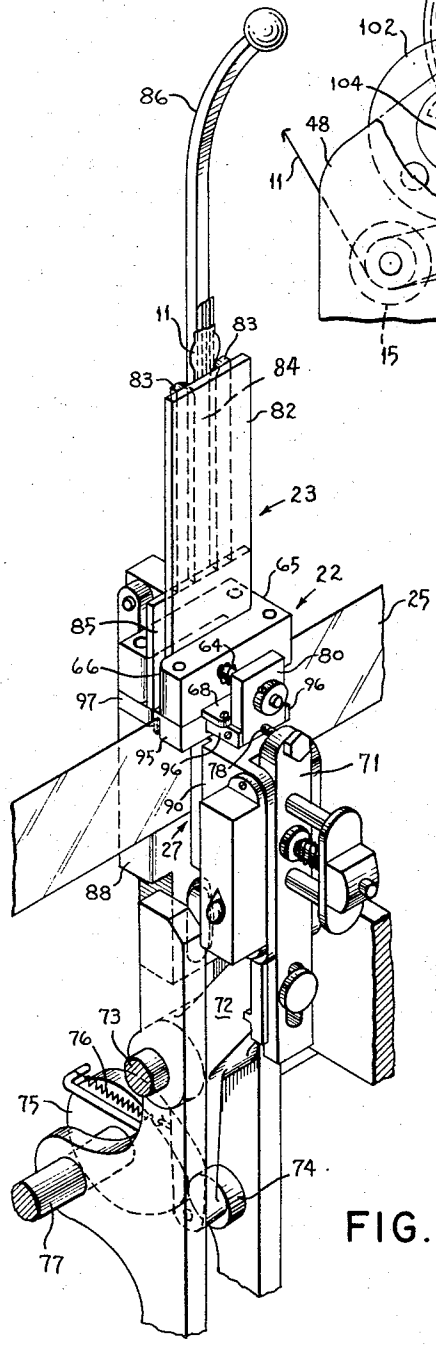


FIG. 6

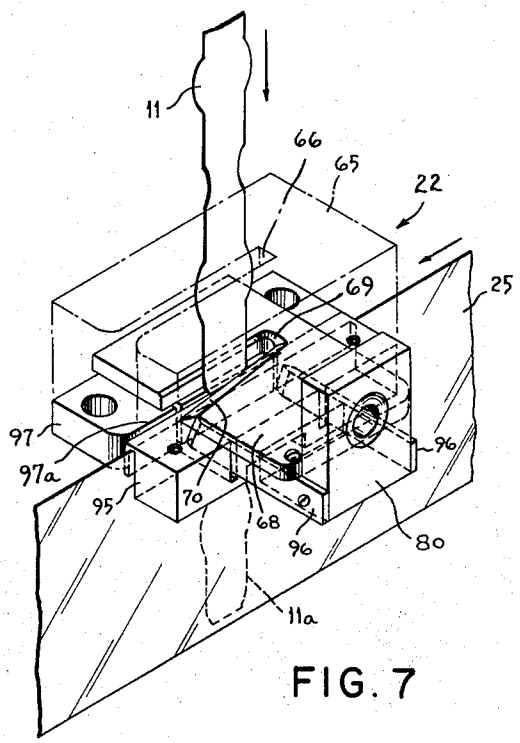


FIG. 7

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United States Patent Office 3,158,522 Patented Nov. 24, 1964

3,158,522

CONFIGURED WEB-CUTTING APPARATUS

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Filed Oct. 12, 1961, Ser. No. 144,782
6 Claims. (Cl. 156—519)

This invention relates to web feeding and is more particularly concerned with the feeding of webs having repeating or recurrent designs or indicia imprinted thereon and adapted to be severed into a plurality of labels, wrappers, bands or the like. While not necessarily limited thereto, the invention is more specifically concerned with a method and an apparatus for feeding a continuous web of the character indicated which is adapted to be severed into bands of predetermined length for application to cigars and the like.

In many packaging operations, such as wrapping or labeling, it is generally desirable to feed sheet material in the form of a web or strip withdrawn from a source of supply, such as a roll. However, it has long been a problem to obtain positive or proper registry of the strip or web so that the individual wrappers or labels will be of uniform length and will contain the same pattern of printed matter at substantially the same location on each individual wrapper or label element. In some present day commercial practices, units of food-stuffs, such as butter or bread, are enclosed in wrappers which are fed from a roll or web on which the printed matter has been placed in a so-called repetitive or hit-or-miss pattern, so that, regardless of the length of the wrappers severed from the web, the printed matter will appear completely at least once on each wrapper, but not necessarily at the same location on the wrapper. This practice is followed because, in the usual feeding and severing methods commonly employed, it has not been found practicable to sever and apply individual wrapper lengths which are uniform and which are so controlled that they may be uniformly applied to the objects to be wrapped. Overrunning or underrunning of the web sections with respect to the cut-off device is an ever-present problem. The change in position between the line of severance and the printed matter may be due to many reasons, of which perhaps the most important are shrinkage or expansion of the paper due to climatic conditions, change of tension in the sheet, differences in paper surface smoothness, and similar factors, all of which may cause a considerable variation in the rate of paper feed.

While the individual error over a short length of the strip will be minute and therefore negligible, the build-up of this error as the roll is used will destroy the initial registry of the indicia at the cutting station and the accumulated error will become very substantial, amounting at times to a 100% error.

While such operations can be tolerated in the case of some articles, particularly when they are of relatively large size, so that the pattern is repeatedly present on each article, the problem is particularly serious in the case of the cutting of cigar bands, or the like, from a continuous web where the recurrent pattern is usually present only once in each severed band. If this pattern is not centered on the band, the article to which it is applied is unattractive, giving the entire product a poor appearance, with decreased sales appeal, and the intended purpose of the band is actually defeated.

As a result, elaborate procedures and devices, generally involving photoelectric cells and complex electronic circuits, have been proposed and used in an effort to feed such webs uniformly to the cutting operation so that the cut is made at the desired point each time and each severed piece contains the same design or indicia as all other severed pieces. Thus, it has been proposed to utilize a photoelectric system which varies the rate of paper feed in a degree dependent upon the amount a spot on the paper becomes out of register with the light beam of the photoelectric control system. This variation in the paper feed velocity is effected by changing the speed of the feed rolls. Some of these arrangements have operated satisfactorily, but, in general, they involve very complicated apparatus assemblies, including switches, control mechanisms, and the like, which tend to detract from their dependability of operation apart from necessitating a high installation cost. As an example of the complexities involved, it has been proposed in the photoelectric control unit referred to above to employ a vacuum tube amplifier between the photoelectric tube and the grid controlled rectifier. It has also been proposed to energize the rectifier with direct current and to insert in the plate circuit of the rectifier a time relay or other form of switch to open circuit the rectifier after correction of the feed roll speed has been attained. In an effort to insure maximum accuracy, such systems have been made more and more complex. However, even such complex and expensive systems are far from foolproof, and failure of a component, or interruption in the current actuating the synchronizing system, or other mishap, can cause complete failure of synchronization and, unless the entire machine is immediately stopped and the difficulty corrected, the desired synchronization will soon be lost and the undesired uneven cutting of the web will take place. Stopping the machine and repairing the synchronization system not only obviously involves loss in production time but it interrupts related operations in the production of the article being wrapped or labeled, as well as any subsequent packaging operations. There is, therefore, an important need for a web-feeding and cutting synchronization system which is accurate and effective, which is essentially foolproof, and which avoids the complexities of systems which have heretofore been proposed for this purpose.

It is, accordingly, an object of the present invention to provide a method for feeding a web carrying designs or other indicia thereon to a cutting device which insures that the web will be severed at the same point in relation to the design or indicia at each cutting operation.

It is another object of the invention to provide an apparatus which will feed a web of the character indicated in accurate synchronization with a cutting device to insure repeated cutting of the web at the same point in relation to the recurrent design or indicia carried by the web.

It is a further object of the invention to provide an apparatus of the character described which does not rely upon electronic systems for its operation and which is free from the complexities of prior synchronization devices for web feeding.

Another important object of the present invention is to provide an improved, relatively simple, highly efficient method and means to control the feeding of a web for the delivery of substantially uniform, predetermined sections of the web to a point where the web sections are acted upon for severance from the web.

A still further object of the invention is to provide an improved web feed control unit which can be conveniently installed for use with an existing machine, such as a cigar wrapping machine.

In accordance with the present invention, the web to be fed is formed with uniformly recurrent lateral irregularities, which may take the form of indentations or projections, or both, and the web is fed to rotatable means which his a circumferentially extending recess in its periphery having a configuration conforming to the lateral or transverse configuration of the web, the web

being fed so that a plurality of the web units to be severed are simultaneously engaged with the rotatable means. The web leaving the rotatable means is fed to a severing device and the severed portion of the web is moved to the operation in which it is to be used, e.g., a wrapping operation. The rotatable means and the severing device are driven in mechanically synchronized relationship, suitably from a common power source, and both have imparted to them intermittent motion of the desired extent, each intermittent movement of the rotatable means corresponding to the feeding of a length of the web equal to the length of the unit to be severed from the web.

The apparatus of the invention thus comprises the combination of a web supply means, a rotatable web guiding and feeding means having a periphery formed with a circumferentially extending recess having a lateral or transverse configuration corresponding to the lateral or transverse configuration of the web, meshing means for maintaining in engagement with the rotatable means a portion of the web equal to a plurality of web units to be severed, severing means downstream of the web-guiding and feeding means, and mechanical interconnection for intermittent movement of the severing means and the web-guiding and feeding means to feed a predetermined length of the web at each intermittent movement of the feeding means and to effect severing of the web after each such movement.

It is a feature of the invention that the web-feeding apparatus provided relies solely on mechanical means for insuring synchronization of the web with respect to the severing device.

It is another feature of the invention that the web to be severed is fed from a continuous roll to the severing device while engaged with rotatable means effecting synchronization by direct mechanical engagement with the web without interposition of photoelectric means or other electronic components.

Other objects and features of the invention will be readily apparent from the following detailed description of the invention and of illustrative embodiments thereof, and from the accompanying drawings, wherein,

FIG. 1 is an end perspective view of an apparatus assembly embodying features of the present invention;

FIG. 2 is a right side elevational view of the apparatus assembly of FIG. 1 showing the web-supply roll and the related mechanical components as seen along the line 2—2 of FIG. 1;

FIG. 3 is a side elevational view of the web-supply roll illustrated in FIG. 2 as seen from the reverse side;

FIG. 4 is a detailed and enlarged elevational view of the feed roll assembly shown in FIG. 1 as seen from the left side;

FIG. 5 is an enlarged end elevational view of the feed roller showing the registering relationship between the roller surface and the web;

FIG. 6 is a right rearward and enlarged perspective view of the severing and heat-sealing mechanism seen in FIGS. 1 and 2; and

FIG. 7 is a further enlarged perspective view of a portion of the severing mechanism seen in FIG. 6.

Referring to the drawings, and more particularly to FIGS. 1 and 2, the supply roll **10** of the web **11** to be fed and cut into units of predetermined length is carried on a supply roller **12** from which the web **11** is led to a loop or tension roller **14**, to a first guide roller **15**, and then to a second guide roller **16**. After leaving the guide roller **16**, the web meshes with the recessed recurrent pattern in the peripheral surface of the synchronizing web-guiding and feeding roll **18**, the guide roller **16** suitably directly engaging the roll **18** for concurrent rotation with it. As will be described in more detail below, the periphery of the roll **18** is formed with a continuous circumferential recess **20** which has a transverse or lateral configuration which mates and registers with the corresponding transverse configuration of the web as it varies in repeating units longitudinally, i.e., each

edge of the recess **20** has a repetitively varied edge contour which mates with the repetitively varied edge contour of the web. On leaving the roll **18**, the web is fed past a cutting unit designated generally at **22** which severs the individual bands or units **11***a* from the web. Suitably, a guide assembly designated generally at **23** is employed, this assembly having opposed guiding surfaces which channel the web in its passage from the web-guiding and feeding roll **18** to the cutting unit. If desired, the web **11** may be combined with a second web **25**. This second web may, for example, be a sheet of cellophane, or the like, adapted to have the label unit applied to it before the wrapping operation. For this purpose, the printed surface of the web **11** may be bonded to the cellophane web by passing these two elements between the jaws of a heat-sealing device **27**. The heat-sealing device may be of any conventional construction, and, in itself, forms no part of the present invention.

The second web is suitably fed laterally from a supply roll (not shown), the web suitably passing around a guide roll **28**. The second web may be of any desired width and may be disposed in any desired relationship with respect to the cutting unit **22** so that it may be partially cut or nicked by the cutting unit to provide a "tear-strip" or the like, as will be described below, or it may avoid the cutting unit entirely. It will be understood, however, that the present invention is primarily concerned with the feeding of the web **11** to the cutting device in such manner that accurate cutting with respect to the design or indicia on the web will occur at each severing operation, and the invention is not necessarily concerned with any other operation such as the heat-sealing step in which the fed web is combined with a second web, referred to above. These operations have been indicated by way of example to show how the feeding device of this invention may be conveniently used in conjunction with other operations because, as mentioned above, it is a feature of the apparatus of this invention that it may be installed on or adjacent any conventional wrapping or labeling machine (not shown), e.g., for the wrapping of cigars, the severed label, or the cellophane web having the severed label secured to it, being introduced into the feed end of the conventional wrapping or labeling machine.

Referring now to FIGS. 2 and 3, the supply roller **12** is suitably rotatably carried on a bracket **31** mounted on the machine frame. As seen in FIG. 2, the shaft of the roller **12** receives, on one side, a removable plate **32** which has fingers **34** extending from it to confine the web roll **10**. The plate **32** is removable to permit mounting of fresh web rolls upon the supply roller. As seen in FIG. 3, the opposite side of the roller **12** is provided with a second plate **36** which is rigidly secured to the roller **12** and is provided with fingers **37** similar to the fingers **34**. The plate **36** has an axial extension in the form of a braking drum **38** which is engaged by a brake band **40** secured at one end to an arm **42** rigidly mounted on the bracket **31**. Pivoted on the bracket **31**, is a supporting unit defined by a support arm **44** and an integral tension arm **45** which is resiliently urged in the direction of the bracket **31** by a tension spring **46** having its opposite ends fastened to bracket **31** and arm **45**. The tension roller **14**, which is suitably in the form of a pulley with a flat internal surface for receiving the web **11**, is supported on the free end of the support arm **44** and the web **11** passes over it under the traction which is exerted downstream of the tension roller **14** by the feed roller **18**. As a result, the tension roller **14** tends to be moved downwardly, but this downward movement is resisted by the spring **46**. It will also be seen that the brake band **40** is secured to the support arm **44** so that braking pressure is applied to the braking drum **38** when the roller **14** rises and is released when the roller **14** descends. Thus, when downstream traction on the web **11** is increased, the roller **14** tends to descend and the braking action on the roller **12** is re-

leased. Similarly, when downstream traction is decreased, the roller **14** tends to rise and braking action is exerted on the roller **12** so that uniform feed of the web **11** is insured at all times without buckling or breaking of the web.

Referring now to FIG. 4, which is a view of the apparatus from the side corresponding to FIG. 3 and opposite the side shown in FIG. 2, it will be seen that the guide roller **15**, to which the web passes after leaving the tension roller **14**, is rotatably mounted on a bracket **48** connected to the machine frame in any convenient manner. Also rotatably mounted on the bracket **48** is the web-guiding and feeding roll **18**, and the second guide roller **16** is rotatably supported on an arm **50** which, in turn, is pivoted to the bracket **48**. The guide roller **16** is resiliently maintained in engagement with the surface of the feed roll **18** by any convenient means, such as the spring **52**, which is suitably connected to the bracket **48** and arm **50**. The guide roller **15** is, like the tension roller **14**, advantageously in the form of a pulley with a flat internal guiding surface.

It is a feature of the invention that the web-guiding and feeding roll **18** positively cooperates with the web **11** to insure accurate feeding of the web to the cutting unit. As indicated in FIG. 5, the web, in addition to having a repetitive design imprinted on it, is formed with lateral extensions or indentations or preferably, as illustrated, with both. Thus, the web **11** is shown with extensions **54** which are regularly spaced apart longitudinally, and recesses **55** which are spaced between the extensions **54** and are regularly spaced apart longitudinally. Each repetitive design of the web is thus associated with a repetitive pattern of extensions, recesses, or both. As seen in FIG. 5, the central recessed portion of the feed roll **18** is similarly formed with the same repetitive pattern found on the web **11** except, of course, that the feed roll is formed with extensions **57** to mate with the recesses **55** of the web and with recesses **58** to mate with the extensions **54** of the web. This positive interrelationship occurs throughout the periphery of the feed roll and, as the web **11** is fed into the recess **20** of the feed roll from the second guide roller **16**, it automatically interengages with the sides of the recess at all times. To facilitate engagement in the recess, the second guide roller **16** has a central ridge **60** which fits into the recess **20** of the feed roll. The lateral portions of the roller **16** are of a smaller diameter than that of ridge **60** and directly engage the lateral portions of the roll **18** for concurrent rotation with it.

Thus, as the web **11** is fed from the roll **10** over the tension roller **14** and the guide rollers **15** and **16**, any tendency for the web to move out of registry longitudinally is automatically cancelled as it engages the web-guiding and feeding roll **18** and becomes seated in the recess **20**. As a result, the web **11** leaves the roll **18** in perfect registry with the cutting unit **22** which is adapted to have its cutting element or knife reciprocated into and out of engagement with the web to effect the cutting operation.

As seen in FIGS. 6 and 7, the cutting unit **22** in the embodiment illustrated is defined by a stationary portion **65** having a central guideway **66** to receive the web being fed, and a reciprocating blade **68** which is slidable in the stationary portion. As seen more particularly in FIG. 7, the blade **68** is formed with a transverse slot **69**, one side of which is defined by an oblique cutting edge **70** which cooperates with an edge **97***a* on the stationary portion adjacent the guideway **66**. In FIG. 7, the blade **68** is shown in its retracted, inactive position, and the strip or web **11** is shown passing through the guideway **66** and the knife slot **69**. When the blade **68** is actuated, the cutting edge **70** will move toward the web **11** and sever it to form the web unit **11***a*, and the blade will then return to its inactive position illustrated in FIG. 7 under the action of a spring **64**. The leading edge of the web **11** which is left upon the severance of the web unit **11***a* will then be in position to enter the knife slot **69** upon the next intermittent feeding of the web.

The blade **68** is intermittently actuated in any convenient manner and suitably, as illustrated, by means of a cam. Thus, as seen in FIG. 6, an arm **71** is mounted upon a pivoted assembly **72** which is pivotable about the axis **73** and carries a cam follower **74** held in engagement with the surface of a cam **75** by means of a spring **76**, the cam being rigidly connected to a shaft **77**. The upper end of the arm **71** is formed with an adjustable finger **78** which engages the back of the carriage **80** upon which the blade or knife **68** is mounted. Upon pivoting movement of the arm **71** toward the cutter unit **22** in response to movement of the cam follower **74**, the finger **78** is caused to engage the blade carriage and to impart the severing movement to the blade **68**.

The web **11** is advantageously automatically and positively guided into the guideway **66** of the cutting unit, and for this purpose there is suitably provided a guide plate **82** having a face which merges with the guideway **66**. The face of the plate **82** is formed with two lateral guides **83** which define between them a flat feed channel **84** of sufficient width to permit the free vertical passage of the web but to guide it against undesired lateral displacement. The front of the channel is closed at its lower end by a plate **85** which also defines one side of the guideway **66**. Above plate **85** is a hinged arm **86** which serves to close the upper portion of the channel **84** but is movable away from the plate **82** to facilitate initial feeding of the web into the guiding assembly. Thus, as seen in FIGS. 1 and 2, the web **11** passes from the feed roll **18** into the channel **84** and then into the guideway **66** of the cutting unit. The arm **86** is weighted in such manner that irregularity in feeding such as bunching of the web in the channel **84**, will cause it to swing away from the channel and warn the operator. A limit switch (not shown) may also be actuated by the arm to stop the machine, if desired.

When it is desired to effect heat-sealing of the web unit **11***a* being severed to a second web **25**, e.g., a cellophane web, suitable heat-sealing units of any conventional type are mounted below the cutting unit. Thus, as seen in FIG. 6, the "anvil" or stationary portion of the heat-sealing unit is shown at **88** and the heated "hammer" or movable portion is shown at **90**. The portion **90** is heated electrically in conventional manner and is suitably mounted upon the arm **71** so that it is moved into and out of heat-sealing relationship with the web units being heat-sealed in response to the movements of the arm **71**.

When the web **11** is used to form web units which are to serve as cigar bands or the like and which are heat-sealed to cellophane or other web to be wrapped around the cigar or other article, the web unit **11***a* can be advantageously utilized as a "tear strip." For this purpose, the end of the web unit is positioned to extend slightly beyond the edge of the second web **25**, as will be the case in the use of the construction shown in FIG. 7 wherein the edge of the web **25** is guided in the block **95** which forms part of the lower portion of the cutting unit **22**. Use of the tear strip is facilitated by providing short cuts inwardly from the edge of the second web **25** on either side of the web unit **11***a* severed from the main web **11**. To form such cuts, vertical blades **96** are mounted on the knife carriage **80**, the block **95** being suitably slotted to accommodate these blades, the opposite block **97** also being correspondingly slotted as shown in FIG. 7. Thus, when the knife carriage **80** is reciprocated in response to the movements of the arm **71**, the leading portion of the web **11** is heat-sealed to the web **25**, this leading portion is severed from the web **11** to define the desired web unit **11***a*, and the upper edge of the web **25** is slit on either side of the severed unit **11***a*.

In accordance with the invention, the movements of the web-guiding and feeding roll **18** and the movements

of the cutting unit 22 are synchronized so that intermittent incremental movement of the web to the cutting unit is effected and the blade 68 is actuated between each such incremental movement of the web. Thus, referring to FIGS. 2 and 4, it will be seen that the feed roll 18 is driven through a Geneva gear of known type, the driven wheel 100 of the Geneva movement being secured to the roll 18 and the driving wheel 102 being mounted upon shaft 104 supported in the machine frame which also carries the shaft 106 upon which the web-guiding and feeding roll 18 is mounted. The Geneva gear component 102 is driven from any convenient power source such as the motor 110 through a series of sprocket gears and chains, including the sprocket wheel 111 carried by the shaft 114, the sprocket wheels 116 and 117 carried by the shaft 77, and the sprocket wheel 118 of the motor 110, the power being transmitted through the sprocket chains 120 and 121. Thus, upon continued actuation of the motor 110, gear wheel 112 on the same shaft 114 with sprocket wheel 111 rotates and causes meshing gear wheel 113 to rotate. Thus, gear wheel 113 which is on the same shaft 104 with Geneva gear component 102 causes the Geneva component 102 to rotate continuously and regular intermittent movement is transmitted to the feeding roll 18 through the Geneva gear wheel 100. The gear wheel 100 is formed to impart an incremental movement to the feeding roll 18 equal to the longitudinal length of the element 11*a* to be severed from the web 11 so that, upon each movement of the roll 18, the web 11 is moved past the blade 68 a distance equal to the length of the element 11*a* to be cut. Because of the continued accurate registry of the web with respect to the web-guiding and feeding roll 18, by reason of the relative relationships referred to above, the same portion of the repetitive design or indicia on the web is engaged by the cutting blade 68 upon each actuation, and uniform and accurate cutting of the web is insured continuously during the operation of the machine.

As previously mentioned, the blade 68 of the cutting unit 22 is actuated in synchronism with the movement of the web so that it engages the web in the time interval between each incremental movement of the web. Thus, advantageously, as shown, the cutting unit is powered from the motor 110 and for this purpose the shaft 77 which carries the cam 75 is the same shaft which carries the sprocket wheel 116 and is driven from the motor 110. The cam 75 is formed with a suitable configuration to effect the desired reciprocation of the knife blade 68 in timed relationship with the movements of the web-guiding and feeding roll 18. However, the blade 68 may be actuated by other means, if desired, and may be actuated from a power source other than motor 110.

It will be apparent that various changes and modifications may be made in the embodiment of the invention described above and shown in the drawings without departing from the scope of the invention as defined in the patent claims. It is intended, therefore, that all matter contained in the foregoing description and in the drawings shall be interpreted as illustrative only and not as limitative of the invention.

What is claimed is:

1. An apparatus for accurately cutting a continuous first web having a repetitively varied transverse configuration into web units of equal length and of uniform relationship to said transverse configuration and for applying the web units to a second continuous web, which comprises the combination of web-supply means, a rotatable web-guiding and feeding drum having a circumferential recess with a transverse configuration corresponding to said transverse configuration of said web, said drum being positioned to receive said first web in a first direction and to feed said first web in said first direction, cutting means downstream of said rotatable drum to cut said web, means for feeding a second web in a direction transverse to said first direction and to feed said second web to place said second web adjacent said first web with said first web in overlying relationship with respect to said second web, and activating means for intermittent rotary movement of said rotatable drum to feed one of said web units with each said movement of said rotatable drum and for intermittent operation of said cutting means to cut said web unit from said web after each said movement while said first web overlies said second web with a portion of the web unit extending beyond the edge of said second web, and means for sealing said web unit to said second web, said last-named means being mounted to be actuated in synchronism with said cutting means.

2. The apparatus of claim 1 wherein the activating means comprises a Geneva gear.

3. An apparatus for accurately cutting a continuous first web having a repetitively varied transverse configuration into web units of equal length and of uniform relationship to said transverse configuration and for applying the web units to a second continuous web, which comprises the combination of web-supply means, a rotatable web-guiding and feeding drum having a circumferential recess with a transverse configuration corresponding to said transverse configuration of said web, said drum being positioned to receive said first web in a first direction and to feed said first web in said first direction, guide means for maintaining in engagement with said rotatable drum a portion of said web of a length greater than one of said web units, cutting means downstream of said rotatable drum to cut said web, means for feeding a second web in a direction transverse to said first direction and to feed said second web to place said second web adjacent said first web with said first web in overlying relationship with respect to said second web, and activating means for intermittent rotary movement of said rotatable drum to feed one of said web units with each said movement of said rotatable drum and for intermittent operation of said cutting means to cut said web unit from said web after each said movement while said first web overlies said second web with a portion of the web unit extending beyond the edge of said second web, and means for sealing said web unit to said second web, said last-named means being mounted to be actuated in synchronism with said cutting means.

4. The apparatus of claim 3 wherein the guide means comprises an idler roll riding in the circumferential recess of the rotatable drum and wherein the activating means comprises a Geneva gear.

5. An apparatus for accurately cutting a continuous first web having a repetitively varied transverse configuration into web units of equal length and of uniform relationship to said transverse configuration and for applying the web units to a second continuous web, which comprises the combination of web-supply means, a rotatable web-guiding and feeding drum having a circumferential recess with a transverse configuration corresponding to said transverse configuration of said web, said drum being positioned to receive said first web in a first direction and to feed said first web in said first direction, cutting means downstream of said rotatable drum to cut said web, channel means for directing said web from said rotatable drum to said cutting means, means for feeding a second web in a direction transverse to said first direction and to feed said second web to place said second web adjacent said first web with said first web in overlying relationship with respect to said second web, and mechanically interconnected means for intermittent rotary movement of said rotatable drum to feed one of said web units with each said movement of said rotatable drum and for intermittent operation of said cutting means to cut said web unit from said web after each said movement while said first web overlies said second web with a portion of the web unit extending beyond the edge of said second web, and means for sealing said web unit to said second web, said last-named means being

mounted to be actuated in synchronism with said cutting means.

6. The apparatus of claim 5 wherein an idler roll rides in the circumferential recess of the rotatable drum to press the web into engagement with said recess, wherein the mechanically interconnected means comprises a Geneva gear, and wherein the means for sealing the web unit to the second web comprises heat-sealing means.

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1,032,742	Coursen	July 16, 1912
1,085,077	Ballard	Jan. 20, 1914
1,791,144	Ranney	Feb. 3, 1931
2,675,851	Mutti	Apr. 20, 1954
2,947,358	Hawxhurst	Aug. 2, 1960