Nov. 7, 1939. H. A. BURNS 2,178,557

TEAR STRIP BAND

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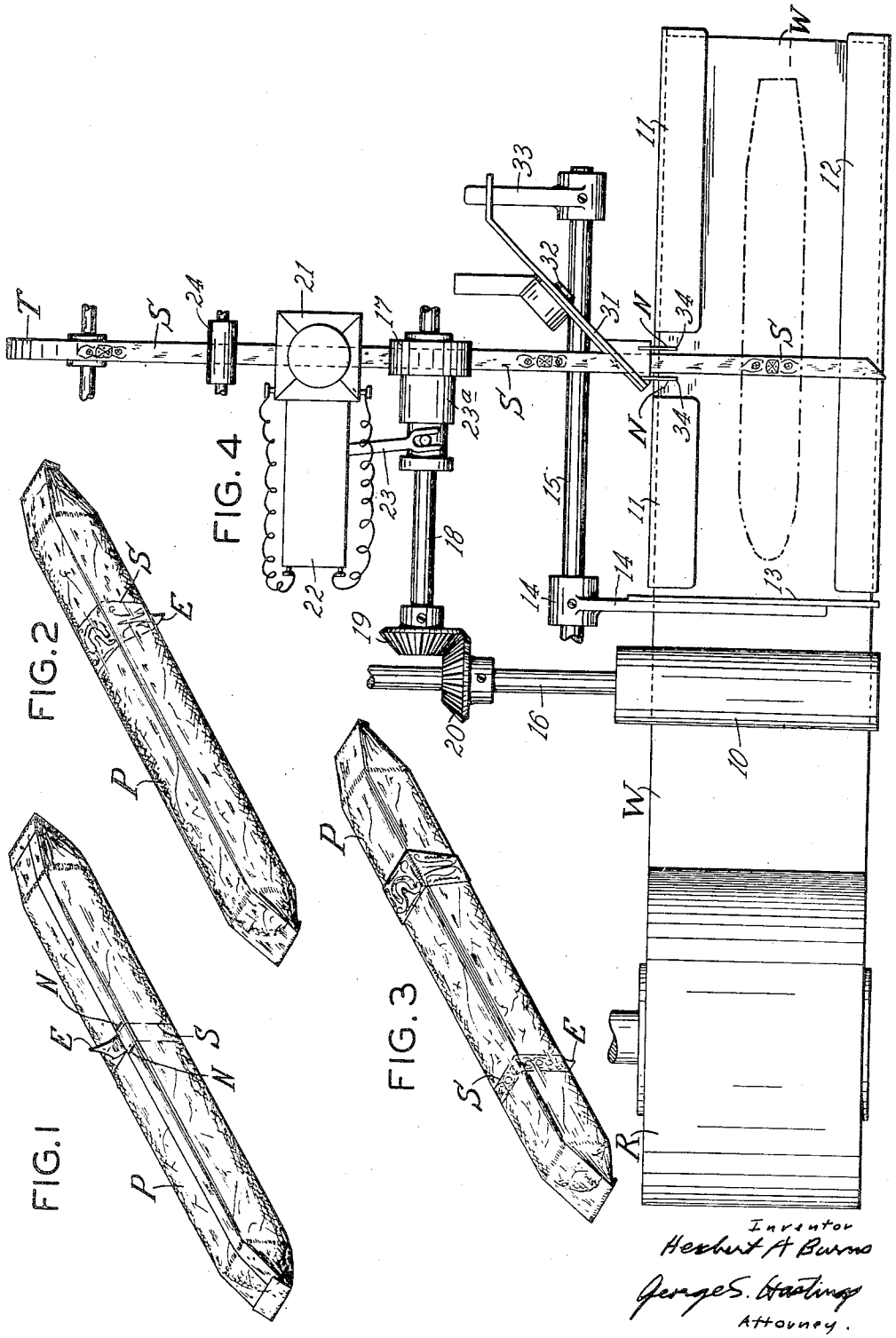

FIG. 4

FIG. 2

FIG. 3

FIG. 1

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FIG. 6

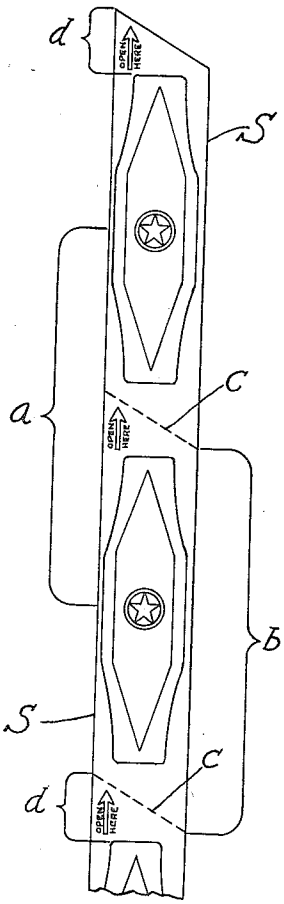
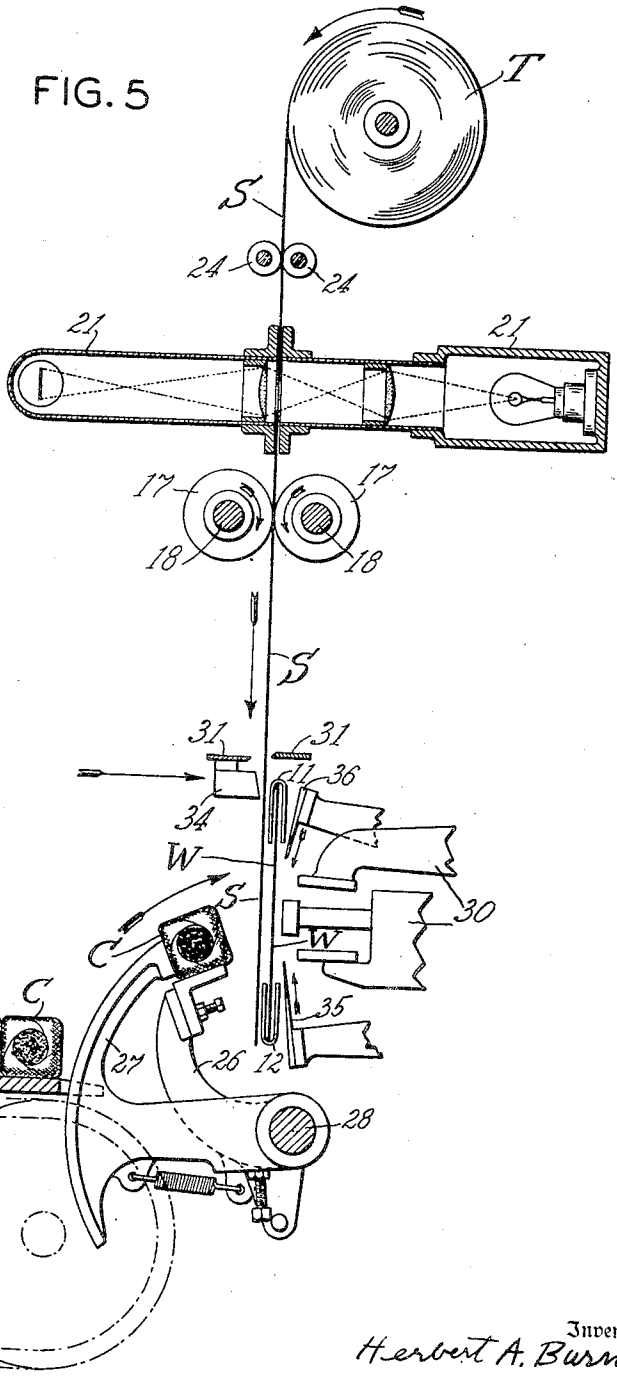


FIG. 5



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2,178,557

TEAR STRIP BAND

Herbert A. Burns, Forest Hills, N. Y., assignor to International Cigar Machinery Company, a corporation of New Jersey

Application June 19, 1936, Serial No. 86,120

6 Claims. (Cl. 40—21)

This application is a continuation in part of my co-pending application, Serial No. 722,959, filed April 28, 1934.

This invention relates to packages wherein articles are enveloped in heat sealable "Cellophane" or similar heat plastic coated material and sealed, a novel tear strip enfolded within the "Cellophane" envelop and a novel film of material from which the tear strips may be cut.

The main object of the invention is to facilitate the removal of the sealed envelop from the cigar. This object is achieved by placing a strip of suitable sheet material or a piece of string within the envelop and so sealing the same that the end of such strip or string protrudes from the longitudinal seam of the package so that the envelop may easily be torn open by pulling on said protruding end. The tear strip may be so shaped and decorated that it can be used as a substitute for a standard cigar band, thereby obtaining the advantage that upon tearing open the package both the band and the envelop are removed and destroyed in one easy operation and without injury to the relatively fragile cigar and saving the cost of the cigar band.

A further object of the invention is to provide a tear strip formed of sheet material coated with heat plastic material and its outer face printed to simulate a cigar band. Of course it will be understood that heat sealable "Cellophane" or other suitable transparent or opaque, coated or uncoated material may be used for the tear strip. By use of a tear strip having a heat plastic coating, the operation of heat sealing the longitudinal seam will securely seal the tear strip therein so that when the protruding end of the strip is grasped the strip cannot be pulled out as in prior packages, without rupturing the wrapper. With these and other objects not specifically mentioned in view, the invention consists in certain constructions and combinations hereinafter fully described and then specifically set forth in the claims hereunto appended. In the accompanying drawings which form a part of this specification and in which like characters of reference indicate the same or like part:

Fig. 1 is a perspective view of an enveloped cigar bottom up, the end of the tear strip protruding from the longitudinal seam of the envelop;

Fig. 2 is a similar view of a cigar package face up, the tear strip being printed to simulate a cigar band;

Fig. 3 is a similar view of a cigar package in which a separate cigar band is used in addition to a tear strip;

Fig. 4 is a diagrammatic showing of apparatus for wrapping cigars and severing tear strips from a film and enfolding the same within the wrapper;

Fig. 5 is a sectional side view of the apparatus shown in Fig. 4; and

Fig. 6 is a plan view of the tear strip web.

In carrying the invention into effect there is provided a novel package comprising a wrapper enfolded about an article and having its longitudinal edges overlapped to form a seam and a tear strip held between the article and wrapper, one end of the tear strip protruding from the seam, and the outer seam edge may be nicked at either side of the strip if desired. To this end a web of wrapping material is fed along and in front of a folding pocket, a film of plastic-coated material is fed transversely of the pocket in the front of the web, and a wrapper blank and tear strip are severed from the web and film, respectively. Thereupon, an article is pushed sidewise into the pocket, whereby the article is enfolded in the wrapper and the tearing band is held between the article and the wrapper, and the longitudinal edges of the wrapper are folded into overlapping relation to form a seam from which the tear strip protrudes.

The particular packages selected to illustrate the invention are but a few of many possible concrete embodiments of the same. The invention, therefore, is not to be restricted to the specific packages shown and described.

The wrapping material which may be heat sealable "Cellophane" or other suitable transparent or opaque material is fed intermittently in the form of a web W from a reel R by means of a pair of feed rollers 10 into the guide channels 11 and 12, whereupon a length according to the size of the cigar to be wrapped is cut from web W by means of an oscillating knife 13. The latter is mounted on an arm 14 fast to a shaft 15, and one of the feed rollers 10 is keyed to a shaft 16. Both shafts 15 and 16 are operated in properly timed relation from the main drive of a wrapping machine as will be presently described.

The film S is fed from a reel T crosswise of the web W (Fig. 4) by means of a pair of feed rollers 17 mounted on shafts 18. In order to assure properly timed relation between feed rollers 10 and feed rollers 17, one of the shafts 18 is equipped with a bevel gear 19 meshing with a bevel gear 20 on the shaft 16 to which is keyed the roller 10.

In case the material of the film S is transparent or translucent and provided with printed matter or labels as contemplated in one form of the invention, the film S is led through a photoelectric device 21 for the purpose of registering the design on the strip S with the web W. The photo-electric device 21 consists of an incandescent lamp on one side of the film S and a photoelectric cell on the other side of the same, the lamp projecting a beam of light through the film onto the photo-electric cell, so that when a printed area obstructs the beam a suitable relay, not shown, in circuit with the photo-electric cell closes the circuit of an electromagnet 22, thus energizing the latter and thereby operating a clutch fork 23 engaging with a standard friction clutch 23a splined on one driven shaft 18 and disengaged from the corresponding feed roller 17 when the clutch fork is operated upon energization of the electromagnet. The film S is guided into the photo-electric device 21 by means of guide rollers 24.

The cigars C to be wrapped are delivered one by one by means of pusher fingers 25 (Fig. 5), from a feed table 25a to a pair of oscillating transfer arms 26 and 27 supported and operated by shaft 28 actuated from the main drive of the wrapping machine, which may be of the type disclosed in the co-pending application of R. J. Beutel S. N. 487,080, filed October 7, 1930. Fingers 25 are attached to an endless chain 29 also driven from the main drive of the wrapping machine. Transfer arms 26 and 27 coact to push the cigar with the cut tear strip and the wrapper blank into a folding pocket 30 of the wrapping machine. The tear strip is cut at the moment the cigar touches the same, by means of an angularly mounted pair of scissors 31 pivoted on stud 32 and actuated from a lever 33 (Fig. 4) mounted on shaft 15. To scissors 31 are attached a pair of nicking knives 34 which provide the cut wrapper blank with nicks N at its outer seam edge on both sides of the tearing band or strip S in order to give the same an easier start for tearing the wrapper when the protruding end or tab E of the tear strip S is grasped to remove the envelop from the cigar. After the cigar carries the tear strip and the wrapper blank into the folding pocket 30 a pair of folding plates 35 and 36 fold the longitudinal edges of the wrapper into overlapping relation to form the longitudinal seam from which the tear strip protrudes. In the next stage these edges are heat sealed to each other and to the tear strip protruding therefrom, if plastic coated tear strip material is employed.

As described in the specification of the application referred to above the ends of the wrapper are closed by tucking the same and folding them back and heat sealing them to the wrapper, although the wrapper ends may be closed in any other suitable manner.

Among the other advantages of a tear strip and package formed in accordance with the invention is the fact that the simulation of the cigar band on the outer face of the tear strip will prevent discoloration of the cigar with ink, bronze or other material of its medallion, as when the indicia were printed on the under face of the wrapper as heretofore. Furthermore, by impressing the simulated cigar band on the outer face of the strip, it will have a clearer and more lustrous appearance than if it were impressed on the under face of a transparent tear strip, by reason of the fact that only one layer of material covers the indicia.

If desired, the protruding tab E may bear indicia designating that it may be grasped to tear open the wrapper. For this purpose, the portions of the film S intermediate the cigar bands simulated thereon may have the requisite indicia impressed thereon. The particular indicia chosen for this purpose may comprise a legend, an arrow, or both, as illustrated herein.

The particular process by which the simulated cigar band and the indicia on the protruding tab are impressed on the film S may be widely varied in practice, although it may preferably comprise printing rows of simulated, equally spaced cigar bands on the sheet of tear strip material and slitting the same to provide webs from which the tear strips may be severed. The indicia on the tab adjacent the overlap ends of the simulated cigar bands may be impressed simultaneously with the printing of the cigar bands. In case of plastic coated material such as heat sealable "Cellophane", there are known processes by which the bronze and ink which constitute the cigar band may be applied.

It may be noted that the distance between the centers of the cigar bands simulated on the film S may, if desired, be equal to the girth of the cigar plus an allowance for overlap plus a substantial additional distance for forming a tear tab. Furthermore, the unprinted areas between the simulated cigar bands, in the case of transparent material, may be utilized for photoelectric registering purposes. To this end, as mentioned above, the printed film S is guided between the incandescent lamp and the photoelectric cell of the photoelectric device 21. Thus the beam of light from the lamp will pass through the transparent areas of the film and set up a current in the photoelectric cell which will control the electromagnet 22 in such a manner that the circuit through the same will be kept open until the beam is obstructed by a printed cigar band, whereupon the electromagnet will be energized and the feeding of the film interrupted. Of course it will be understood that the printed film may be used in other types of machines besides that illustrated herein.

As illustrated in Fig. 6, the distance *a* between the centers of the simulated cigar bands may be equal to the girth of the cigar or other article to be wrapped, plus an allowance for overlapping plus a substantial additional distance for forming a tear tab. In the form of the invention exemplified therein the length of the simulated cigar band is sufficient to encompass the girth of the cigar, in the desired lapped relation. The length of each of the tear strips extending between consecutive lines of cut *c* is equal to this distance between the centers of the simulated cigar bands, and on each of the tear strips thus cut there will be a tear tab having a length indicated by the bracket *d* projecting from the overlap end of the tear strip, on which suitable indicia are impressed as illustrated in Fig. 6. If desired, however, the allowance for the tear tab may be dispensed with and the line of cut may extend diagonally from a portion of the film S lying within one cigar band to a similar portion lying within the length of the next cigar band.

What is claimed is:

1. A web of material having cigar bands simulated by a positive imprint thereon at equal intervals to extend lengthwise of the web, the length of the simulated cigar bands being sufficient to encircle the cigar with the ends thereof in lapped relation and the spaces between said

simulated cigar bands being sufficient to provide a tearing tab upon severing the web with a line of cut extending obliquely from a portion coextensive with one cigar band to a portion coextensive with an adjacent cigar band, said spaces being provided with indicia disposed to lie on the tapered tab resulting from said oblique severance of the web and designating that the tab may be grasped and pulled.

2. A tear strip web for use in tear strip packaging of cigars comprising a narrow strip of transparent regenerated cellulose of uniform width narrower than the length of a cigar and having spaced positive printed areas in simulation of a cigar band thereon extending lengthwise of the strip a distance equal to the girth of the cigar plus an allowance for overlap, said strip having a substantially transparent unprinted area between the printed areas which may be used for photoelectric registering purposes, the lengths of the unprinted areas being sufficient to provide a tear tab upon severing the web obliquely between the bands and indicia in the areas between the ends of the printed areas disposed to lie on the tab resulting upon severance of the web for indicating the location of and part to be pulled of the tear tab when the strip is applied to a package, said strip having a heat sealable coating on its printed face for securing the same to the package wrapper.

3. A tear strip web for use in tear strip packaging comprising a narrow strip of transparent regenerated cellulose of uniform width having spaced positive printed areas thereon in simulation of cigar bands extending lengthwise of the strip and spaced apart a distance between centers of the printed areas substantially equal to the girth of the cigar, plus an allowance for overlapping, plus a substantial additional distance for forming a tear tab upon severing the web obliquely between the bands, said strip having printed thereon an indicia for indicating the tear tab part to be pulled when the strip is applied to the package, said strip having a heat sealable coating on its printed face for securing the same to the package wrapper.

4. A tear strip web for use in tear strip packaging comprising a narrow strip of transparent regenerated cellulose of uniform width having spaced positive printed areas thereon in simulation of cigar bands extending lengthwise of the strip and spaced apart a distance between centers of the printed areas substantially equal to the girth of the cigar plus an allowance for overlapping, said strip having printed thereon an indicia for indicating the tear tab part to be pulled when the strip is applied to the package, said strip having a heat sealable coating for securing the same to the package wrapper, the band simulating printing being on the coated side of the strip so that the printed side of the band may be heat sealed to the packaging material.

5. The process of manufacturing tear strips comprising forming spaced positive imprints simulating cigar bands on one face of a narrow transparent web coated with heat sealable material, with the cigar bands extending lengthwise of the web and of an extent sufficient to encompass the girth of a cigar with the ends of the cigar band in lapped relation, and severing the web obliquely intermediate the cigar bands with the line of cut extending from a portion coextensive with one cigar band to a portion coextensive with an adjacent cigar band to form a pointed tear tab on the overlap ends of the tear strips so severed from the web.

6. The process of manufacturing tear strips comprising forming spaced positive imprints on one face of a transparent web coated with heat sealable material, said imprints simulating cigar bands and being of a length sufficient to encompass the girth of a cigar with the ends of the cigar band in lapped relation, and the distances between centers of adjacent cigar bands being equal to the length of the cigar bands plus an allowance for forming a tear tab, severing the web obliquely intermediate adjacent cigar bands to provide pointed tear strips at the overlap ends of the tear strips so severed from the web, and imprinting indicia on portions of the web intermediate the cigar bands which will lie adjacent the apices of the pointed tabs on the severed strips.

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