

July 16, 1968

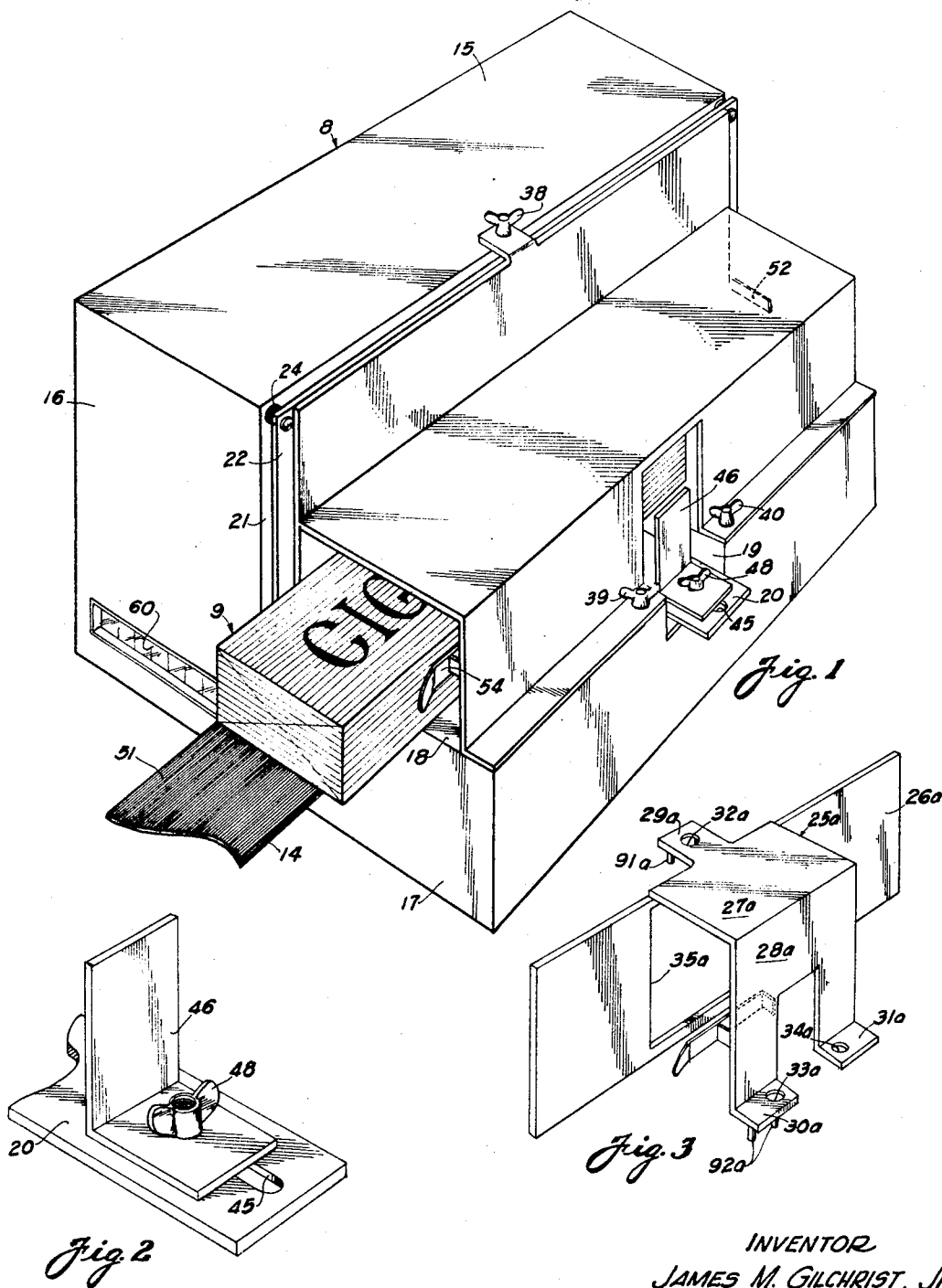
J. M. GILCHRIST, JR

3,392,501

METHOD OF MARKING COVERED ITEMS

Filed March 13, 1967

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

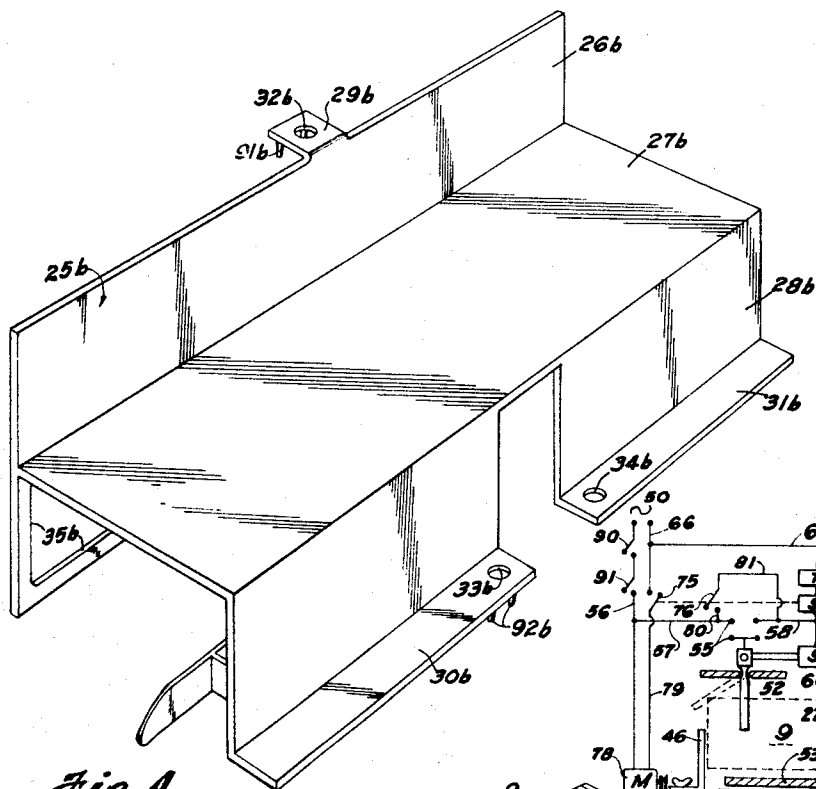


Fig. 4

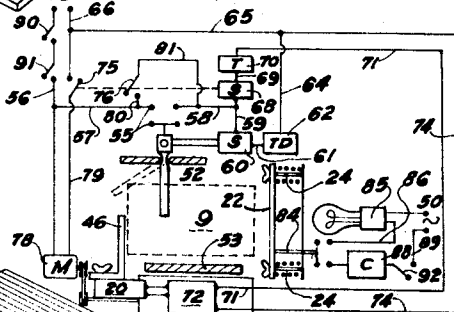


Fig. 6

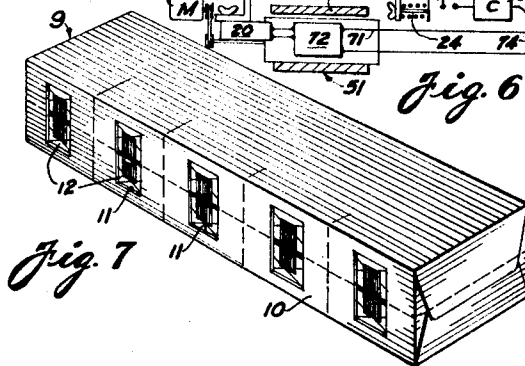


Fig. 7

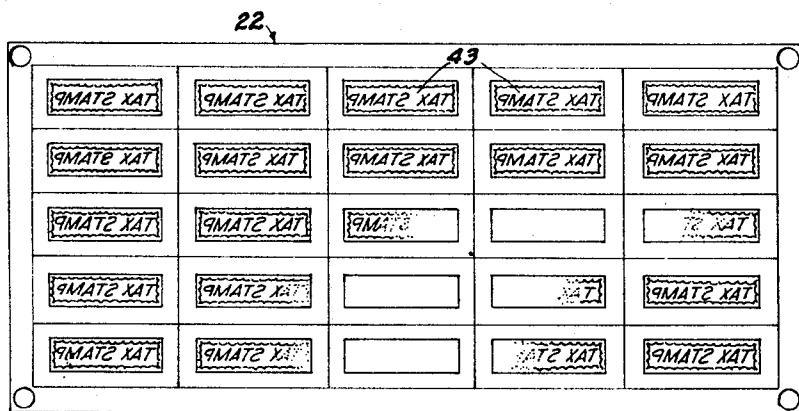


Fig. 5

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3,392,501

METHOD OF MARKING COVERED ITEMS
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(P.O. Box 15066, Atlanta, Ga. 30333)
Continuation-in-part of application Ser. No. 836,391,
Aug. 27, 1959. This application Mar. 13, 1967, Ser.
No. 622,626

10 Claims. (Cl. 53—14)

ABSTRACT OF THE DISCLOSURE

A method and apparatus for stamping or otherwise marking a surface through a barrier, wherein the surface is coated, soaked or otherwise treated with a solution that is sensitive to heat, light or other forms of energy, and will change color or texture when subjected to the energy source, the surface is enclosed in a protective barrier, such as glass, cellophane, cardboard, or any substance, transparent or opaque, through which the energy may be transmitted, and the coated surface and its protective barrier are subjected to the source of energy with a stencil or similar pattern forming device interposed therebetween so that portions of the coated surface will change color or texture and a pattern will be formed thereon.

Cross reference to related application

This application is a continuation-in-part of application Ser. No. 836,391 of James M. Gilchrist, Jr., filed Aug. 27, 1959 now abandoned.

Background of the invention

In the packaging industry, it is frequent that the manufacturer of the articles being packaged does not know the ultimate destination of his goods. In many instances, the goods are packaged and shipped to a warehouse for temporary storage before the order for the goods has been transmitted to the manufacturer.

When the goods are received by the distributor, merchandiser or wholesaler, he is often required to label, re-label or otherwise mark the goods, as with a tax stamp, the contents of the goods, or with a warning as to the improper use of the goods as might be required by law in his state or country. Furthermore, the merchandiser may wish to place his trademark or other identifying legend on the goods before selling or distributing the goods to the public.

When the goods are packaged by the manufacturer with an outer transparent protective coating or cover over an inner package, the markings to be applied subsequently by the manufacturer or distributor of the goods, in current practice, must be applied by ink, stamping, pasting decals or other labels to the outer surface of the transparent coating, or the transparent coating must be removed, the markings applied to the inner opaque package, and the outer transparent coating reapplied if desired. Of course, removing the outer transparent protective coating is time consuming and expensive. Furthermore, the printing applied to the outer protective coating may be damaged or partially erased or removed by normal handling of the goods in shipment. Moreover, when the information applied to the goods is in the nature of a tax stamp or information relating to the contents of the goods as might be required by law, inadvertent or deliberate damaging of the information applied to the outside surface of the protective coating of the goods may cause the subsequent sale of the goods to be in violation of local statutes.

In the instance of tax stamps being applied to the goods,

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it can be seen that applying the tax stamp to the surface of the opaque package inside a protective coating would reduce the possibilities of tax fraud since the removal of the protective coating would not conceal non-payment of tax. This method of application would also deter reverse transfer of an inked stamp, and the application of counterfeit stamps to the package, since surface to surface contact is necessary therefor and not available in practicing this method. Also, no physical stamp would be in existence and available for theft prior to the actual application of the stamp to the goods.

While marking the outsides of a plurality of individual packages enclosed in a large carton has been accomplished, the usual method has been to apply the marking to the protective outer wrapper of the packages through apertures or openings in the carton. This method is shown in U.S. Patent No. 2,129,701, wherein cigarette packages located in a carton have the tax stamps affixed through openings defined in one side of the carton onto the cellophane wrappers of the individual packages. In this manner, the carton does not have to be opened and the individual packages removed before the tax stamps are applied thereto. It should be noted, however, that the tax stamps applied to the individual cigarette packages are applied to the outside surface of the transparent protective cover of the individual packages where they may be transferred, counterfeited, altered or otherwise tampered with without otherwise damaging the individual packages of cigarettes, or the cartons. Also, if the printing is applied to the outer protective cover and the cover is removed there is no way to determine if the goods had ever had the tax printing applied thereto.

Summary of the invention

This invention relates to a method and apparatus for stamping or otherwise marking packages, or other surfaces, through a protective cover or coating. The surface to be marked is coated with a solution that is responsive to forms of energy, such as light, heat, sound waves, or other vibratory forms of energy, so as to change color, texture, or otherwise form a visible image. The surface, such as the wrapper of a package of cigarettes, surface of a box of candy or container of perfume, is then wrapped or otherwise enclosed in a protective cover such as cellophane, transparent plastic, translucent substance, or any other wrapper through which the transmitted energy can be projected. If desired, the goods may be stored until ready for shipment to a wholesaler or distributor. Before shipment to the distributor, or after received by the distributor, a pattern, such as a stencil, may be placed in juxtaposition with the packaged goods, adjacent the barrier and opposite the coated surface, and energy applied to the pattern so as to be projected through the protective coating of the goods, to the coated surface of the interior package. The portion of the coated surface of the package to which the energy is applied changes color or its texture visibly changes so that the pattern is applied to the inside package. In this manner, the manufacturer of the goods or the distributor of the goods is able to mark each package with the appropriate additional information, which may include tax stamps required in the tax jurisdiction in which the packages are to be sold, trademarks of the wholesaler, instructions as to the use of the goods, or warnings that may be required by local statute. The packages can be marked at any appropriate time.

Brief description of the drawing

FIG. 1 is a perspective view of apparatus for marking individual packages of cigarettes packaged in cartons.

FIG. 2 is a partial perspective view of the presser bar utilized to move the cartons of cigarettes into focus in the cigarette package marking apparatus shown in FIG. 1.

FIG. 3 is a perspective view of an alternate housing which may be used in conjunction with the cigarette package marking apparatus of FIG. 1, which is sized to accommodate cartons having twenty packages in four by five layers.

FIG. 4 is a perspective view of a housing used in conjunction with the cigarette package marking apparatus of FIG. 1, which is sized to accommodate conventional cartons having ten packages in two by five layers.

FIG. 5 is a side elevational view of a patterned press plate utilized as the stencil in conjunction with the radiating element of the cigarette package stamping machine of FIG. 1.

FIG. 6 is a schematic showing of the electrical circuitry utilized in the cigarette package stamping machine of FIG. 1.

FIG. 7 is a perspective view of a carton of cigarettes that might be processed through the apparatus of FIG. 1.

Description of the embodiments

Referring now more particularly to the drawing, in which like numerals indicate like parts throughout the several views, FIG. 1 shows the cigarette package stamping apparatus 8 through which cartons of cigarettes 9 may be processed. As is shown in FIG. 7, the side 10 of carton 9 defines five apertures 11 equally spaced along its length. Apertures 11 are spaced apart so that the packages of cigarettes placed in the carton will have a portion of their lower end surfaces exposed by the apertures. Cartons of similar configuration are shown in U.S. Patent No. 2,129,701, and are not intended to form a novel part of the invention disclosed herein. With some forms of irradiating energy, no apertures are required, and the use of conventional cartons will be appropriate.

During their manufacture, the cigarette packages to be placed in carton 9 are printed, cut, and folded about the cigarettes in the conventional manner, and the bottom surface of each individual package is coated or otherwise impregnated with a solution which is non-toxic, stable in daylight or under normal illumination, but which, when later subject to temporary intense exposure to energy, such as heat (infrared, for example), light (ultraviolet, for example), sound (high frequency, ultra high frequency, or supersonic, for example) or other rays or vibrations or forms of energy, will visibly change in color or texture. After the individual packages of cigarettes have been coated, as described above, the individual packages are then given a protective cover of the usual acetate wrap, or cellophane, which protects the paper package therebeneath from moisture and abrasion in handling.

After the individual packages of cigarettes have been treated, as described above, they are inserted in cartons 9, as shown in FIG. 7, so that the end portions 12 which were treated with the solution are exposed, when necessary, by apertures 11. At this point, the cigarettes are ready for shipment to local distributors in several states.

After being received by the local distributor, but prior to the sale of the cigarettes, cartons 9 are placed on conveyor 14 and the cartons are carried through cigarette package stamping apparatus 8. Cigarette package stamping apparatus comprises an L-shaped housing 15 including an upright leg portion 16. While housing 15 is generally closed, upper surface 18 of horizontal leg portion 17 defines an opening or slot 19 therein to accommodate presser bar 20. The vertically extending surface 21 of the upright leg portion 16 adjacent horizontal leg portion 17 of housing 15 supports a patterned press plate 22 by means of springs 24 connected therebetween at each of their common corners.

As is best shown in FIGS. 3 and 4, housings 25a or 25b are provided for attachment to the upper surface 18 of the horizontal leg portion 17 of the L-shaped housing 15. Housings 25a and 25b are sized and shaped differently

so as to accommodate different sized and shaped cigarette cartons. Housing 25b is sized and shaped to accommodate conventional cartons similar to that shown in FIG. 7, and comprises an upright partition 26b to obscure three unneeded rows of patterns, a horizontally extending partition 27b extending from a point on upright partition 26b midway between the second and third rows of tax patterns, and a downwardly extending partition 28b. A tab 29b is connected at the midpoint of the upper edge of upright partition 26b, and tabs 30b and 31b extend outwardly from downwardly extending partition 28b. Tabs 29b, 30b and 31b define apertures 32b, 33b and 34b, respectively, which assist in the attachment of upper housing 25b to the L-shaped housing 15.

Upper housing 25a is substantially similar in configuration to upper housing 25b, and includes upright partition 26a, horizontally extending partition 27a extending from the upper edge of upright partition 26a, downwardly extending partition 28a, tabs 29a, 30a and 31a defining apertures 32a, 33a and 34a. Upright partitions 26a and 26b define apertures 35a and 35b therein, respectively, which are positioned below horizontally extending partitions 27a and 27b, respectively.

Upper housing 25a or 25b is attached to L-shaped housing 15 of the cigarette package stamping apparatus 8 by inserting apertures 32a, 33a and 34a of housing 25a or apertures 32b, 33b and 34b of housing 25b over the threaded positioning screws 38, 39 and 40, and fastening the upper housings to the threaded positioning screws by means of conventional wing nuts. When upper housings 25a or 25b are attached to the L-shaped housing 15 in this manner, apertures 35a or 35b will be positioned so as to allow the energy source 85 (FIG. 6) to communicate with the side 10 of the carton 9 which defines apertures 11 and exposes the bottom ends 12 of the packages of cigarettes. Aperture 35b of upper housing 25b is sized and shaped in a configuration substantially similar to the side 10 of carton 9, while aperture 35a of upper housing 25a is sized and shaped to correspond in configuration to the bottom side of cigarette cartons with the packages stacked therein in four by five tiers. Thus, upright partition 26a or 26b acts to block the energy emitted from energy source 85 so that energy is transmitted only through apertures 35a or 35b.

Patterned press plate 22 is placed at the exit of energy source 85 so that the energy emitted from energy source 85 is filtered. Patterned press plate has etched, embossed or otherwise integrally affixed thereon or therein a series of patterns 43 which correspond to the tax stamp of a given jurisdiction. The patterns 43 are arranged so that the energy transmitted from energy source 85 is filtered through patterned press plate 22 in such a manner that it impinges upon the bottom surface 12 of the individual packages of cigarettes in carton 9 to create a silhouette corresponding to the state tax stamp. In applications where fraud is not an issue of consequence, a separate, non-protected, form of stencil will be, of course, acceptable.

Presser bar 20 comprises a rectilinear metallic strap which protrudes from L-shaped housing 15 through its slot 19. A slot 45 is defined in the end of presser bar 20 which protrudes through slot 19 in L-shaped housing 15, and an adjustable angle member 46 is connected thereto by means of bolt 48 extending through slot 45 and an aperture in angle member 46. When bolt 48 is loosened, angle member 46 can be moved axially of slot 45 to permit use of the same mechanism for marking packages containing cigarettes of varying lengths, which occasion a similar number of carton widths, while in each instance minimizing presser bar travel.

Referring now to FIG. 6, a source of electrical energy 50 is provided to electrically energize the various components of the cigarette package stamping apparatus 8. Conveyor belt 51, which may be operated from an outside source of energy, extends through the passageway

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defined by upper housing 25a or 25b and horizontal leg portion 17 of L-shaped housing 15. Conveyor 51 is energized so that its upper flight moves from left to right as shown in FIGS. 1, 3 and 4. Trip lever 52 extends outwardly from the upright leg portion 16 of L-shaped housing 15, above the path of the upper flight 53 of conveyor belt 51. When a carton 9 of cigarettes is placed upon upper flight 53 of conveyor belt 51, it travels through the upper housing 25a or 25b until it contacts trip lever 52. Guide members 54 (FIG. 1), which are provided to accommodate the various sized cartons for the different lengths of cigarettes, gently guide the carton 9 toward pattern press plate 22, as the carton travels along the upper flight 53 of conveyor 51. When trip lever 52 is engaged by a carton 9, it pivots to close switch 55 (FIG. 6) which connects the source 50 of electrical energy through electrical conductors 56, 57, 58, 59, solenoid 60, conductor 61, time delay 62, and conductors 64, 65 and 66. Thus, a circuit is made through solenoid 60 and time delay 62. Solenoid 60 is effective to pivot trip lever 52 to a position above carton 9, as shown in dotted lines in FIG. 6; however, time delay 62 is effective to delay the action of solenoid 60 and trip lever 52 will remain in the path of carton 9 for an instant. Thus, trip lever 52 is effective to stop the movement of the carton 9.

When switch 55 is moved to its closed position by the pivoting of trip lever 52, a circuit is made from source 50 through conductors 56, 57, switch 55, conductors 58, 59, solenoid 68, conductor 69, timer 70, conductor 71, solenoid 72, and conductors 74, 65 and 66. Solenoid 68 is effective to open normally closed switch 75 and to close normally open switch 76. Motor 78 is normally energized from the source 50 through conductor 56, conductor 79, switch 75 and conductor 66. The opening of switch 75 stops motor 78 and the movement of conveyor belt 51. The closing of switch 76 by solenoid 68 creates a holding circuit around switch 55 through conductors 80 and 81.

When switch 55 is closed, and as long as switch 76 holds the circuit closed, solenoid 72 will cause presser bar 20 to push carton 9 into engagement with patterned press plate 22. Switch 84 is an integral part of and moves with patterned press plate 22. Switch 84 is connected to source 50 through radiating element 85, conductor 86, counter 88, and conductor 89. Thus, when patterned press plate 22 is moved by a carton 9, switch 84 functions to cut on the radiating source 85 and actuate counter 88. Damage to or removal of patterned press plate 22 prevents the circuit from operating.

A conventional on-off switch 90 is positioned in conductor 56. Also, fraud protection switch 91 is positioned in series with switch 90 and another fraud protection switch 92 is positioned in the radiation and counter circuit. Fraud protection switches 91 and 92 are in the form of plugs attached to housings 25a and 25b, at tabs 32a, 33a and 32b and 33b, respectively. Thus, either housing 25a or 25b must be attached to the L-shaped housing 15 in order to effectively close switches 91 and 92. If switch 91 remains open, motor 78 cannot be energized to run conveyor belt 51, and if switch 92 remains open, the source of radiation 85 cannot be operated. Thus, the apparatus can be operated only with one of the housings 25a or 25b properly connected thereto.

The sequence of operation of the apparatus is as follows: a housing 25a or 25b is connected to the apparatus, and switches 91 and 92 are effectively closed. The on-off switch 90 is closed thereby energizing motor 78 to drive conveyor belt 51. A carton 9 of cigarettes is placed on the upper flight 53 of conveyor belt 51 and travels into housing 25a (or 25b). When the carton 9 engages trip lever 52, switch 55 is closed, which closes two circuits: a circuit through solenoid 68, timer 70 and solenoid 72, and a circuit through solenoid 60 and time delay 62. When solenoid 68 is energized, switch 75 will be moved to its opened position to de-energize motor 78, and switch 76 will be moved to its closed position to create a holding circuit

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about switch 55, thus holding solenoid 68, timer 70 and solenoid 72 energized for a duration as determined by timer 70. An instant after the above described circuit is made, time delay 62 allows solenoid 68 to be energized and trip lever 52 will be moved by solenoid 60 to the position shown in dotted lines of FIG. 6, whereupon trip lever 52 will eventually come to rest on the edge or corner portion of carton 9, and carton 9 will be free to pass beneath trip lever 52. Movement of trip lever 52 in this manner causes its switch 55 to become disengaged from its contacts so that the previously described circuits are maintained only by the holding circuit of switch 76.

Timer 70 functions to hold solenoids 68 and 72 energized for the period of time necessary for radiation source 85 to radiate through patterned press plate 22 to visibly change the surface of the cigarette packages in carton 9. Once the bottoms of the cigarette packages have been exposed to radiation of sufficient intensity and time to make the visible change, timer 70 functions to open the circuit through solenoid 68. De-energization of solenoid 68 functions to open switch 76 and close switch 75. The closing of switch 75 restarts motor 78 and conveyor belt 51, while the opening of switch 76 breaks the holding circuit around switch 55 so that a circuit is no longer made to solenoids 68 and 72 and timer 70, and solenoid 60 and time delay 62. Thus, trip lever 52 will be allowed to trail over the upper edge or corner of carton 9 as the carton is moved by conveyor belt 51, until the carton moves from beneath trip lever 52, whereupon trip lever 52 will be repositioned by gravity to its full line position of FIG. 6. Thus, trip lever 52 is repositioned so as to re-energize the system upon engagement by another carton 9. When solenoid 72 is de-energized, presser bar 20 will be allowed to move away from carton 9 and springs 24 of patterned press plate 22 will move patterned press plate 22 to the left (FIG. 6) and switch 84 will be allowed to move to its opened position. The opening of switch 84 de-energizes the radiation element 85 and completes the cycle of counter 88. Thus, radiation element 85 is energized only when carton 9 has been moved into focus with patterned press plate 22.

From the above description, it can be seen that the basic movements of the apparatus are as follows: conveyor belt 51 moves a carton of cigarettes toward patterned press plate 22. When the carton is properly positioned, conveyor belt 51 is stopped and presser bar 20 moves the carton into juxtaposition with the patterned press plate 22. When the carton engages the patterned press plate, the carton is radiated at an intensity and for a length of time sufficient to make a visible change in the surface of the treated portions of the packages of cigarettes. After the predetermined interval of time, the presser bar is disengaged from the carton, the conveyor belt is restarted, and the carton passes beyond the marking apparatus whereupon another carton is conveyed to the apparatus by the conveyor belt and the operation is repeated.

While a specific circuit has been disclosed so as to illustrate a method of practicing the invention, it should be understood that various other circuits or mechanical movements may be utilized to carry out the basic function of the invention. For instance, conveyor belt 51 could be allowed to run continuously, trip lever 52 could be replaced with a photoelectric cell to sense the presence and position of cartons 9, the counter could be positioned at another point in the circuit and various other modifications to the circuitry may be devised. Thus, it should be understood that the principles disclosed may be utilized in conjunction with various other structural arrangements to meet various needs and demands.

While the apparatus shown has been specifically disclosed as operating with cartons of cigarettes and includes fraud preventive measures which are necessary in this application, it should be understood that various other applications of the principles disclosed may be utilized. The particular configuration of upper housings 25a and 25b

and their switches or plugs 91a, 92a or 91b, 92b, respectively, and the progression of the circuitry as described is such as to prevent fraud in the application of tax stamps to the bottom surfaces of individual packages of cigarettes. This fraud preventive concept is furthermore enhanced substantially by the two-part concept of the method requiring application of the solution by the manufacturer while permitting irradiation at a different, likely distant point. While upper housings of this or similar configuration are appropriate for this use, it will be understood that a similar apparatus may be used in other applications without the upper housings. Moreover, when the principle of operation herein disclosed is to be applied to other types of goods, the proportions of the apparatus may be altered, as needed. For instance, if boxes of candy, perfume, or any packages normally wrapped in a protective cover, are to be stamped or marked by the apparatus, it may be desirable to have the image projected from energy source 85 directed in a vertical direction, as opposed to the horizontal direction disclosed in FIGS. 1 and 6. Furthermore, it is anticipated that the apparatus can be portable and hand operated. For instance, if large items or goods are to be marked with the use of the process disclosed herein, it may be desirable to allow the apparatus to rest on the upper surface or be applied to a side surface of the goods, the apparatus energized to create the image from the energy source, and then removed from the goods. With such a procedure, it will be necessary for the operator to know the portion of the goods treated with the solution that is responsive to the energy. Of course, with a portable device, the energy would be emitted from the bottom or side of the device at a range to focus upon the surface on which it is to rest.

While the invention has been disclosed as forming a mark or stamp through a protective cover on the surface of a package, it is deemed to be within the scope of this invention to treat the surface of a product itself with an energy responsive solution, apply a protective coating, such as a plastic coating or a clear paint, over the treated area of the product and subsequently subject the treated area to a pattern of energy to which it is visibly responsive.

At this point, it should be apparent that the method herein disclosed generally comprises radiating energy through a focused pattern toward a responsive surface through a tangible barrier. If the surface has been pretreated with a coating of a solution which is responsive to the radiated energy so that it visibly changes, as a color or other type change in texture, in response to the energy, the pattern radiated will be imparted to the surface so that it appears to be printed thereon. Thus, the pattern or information desired to be imprinted on the protected surface can be imparted thereto without the removal of the protective cover.

As previously disclosed, the energy radiated from the energy source 85 may be of various types. The solution applied to the packages, as previously suggested, is a matter of choice and mechanical skill dictated by the type of irradiation or vibratory stimuli utilized in any particular application, and must correspond to the radiated energy; that is, if the radiated energy is in the form of light, the solution applied to the package must be light responsive, whereas if the energy transmitted by the energy source is in the form of high frequency vibrations, sound or other low frequency vibrations, the solution applied to the package must be responsive to the particular range of frequencies. Furthermore, if heat is applied by the source of energy, the solution must be responsive to heat. It should be pointed out that U.S. Patents No. 2,663,654, 2,663,655, 2,663,656, 2,663,657, 2,710,263, 2,880,110 and Re. 24,554 disclose various solutions which are responsive to various sources of energy. It is anticipated that it is not beyond the scope of this invention to utilize these or any solutions which are responsive to an energy source which can be transmitted through a protective

coating for the purpose of practicing the process herein disclosed.

It will be obvious to those skilled in the art that many variations may be made in the embodiments chosen for the purpose of illustrating the present invention without departing from the scope thereof as defined by the appended claims.

What is claimed as invention is:

1. The method of stamping cigarette packages or the like with revenue or other data, which consists of coating selected portions of such packs with a solution or dye color responsive to heat stimuli, wrapping the packs with cellophane, placing the packs in cartons having openings registering directly with said coatings, and then subjecting the coatings to brief heat producing irradiation to which the coating is sensitive in the presence of a designated pattern adjacent said openings, whereby the outline of said pattern is permanently affixed in reverse, to the packages in the carton.

2. The method of stamping cigarette packs with revenue stamps which consists of coating the bottoms of said packs with a solution which is color responsive to heat, wrapping said packs in cellophane, placing said packs in cartons, and subsequently briefly heat irradiating said bottoms in series, in the presence of a desired pattern, whereby said pattern is permanently affixed to the cigarette packs.

3. The method of stamping the bottoms of cigarette packages or the like, which consists of first coating the bottoms of such packs with a solution color responsive to heat inducing irradiation, wrapping the packs with cellophane in a conventional manner, placing the packs in cartons having windows registering with said coatings, and then subjecting the sensitized portions thereof to split-second irradiation to which the coating is sensitive, in the face of a fixed pattern, whereby the image of a revenue stamp or other designation is permanently affixed to the packages and without the employment of additional stabilizing factors.

4. The method of stamping packages or the like, which consists of first coating a portion of such packages with a solution color responsive to heat inducing irradiation, placing a protective wrapper about the packages, and subsequently subjecting the coated portions of the packages to irradiation to which the coating is sensitive in the presence of a fixed pattern, whereby the outline of the pattern is permanently affixed to the packages.

5. The method of affixing indicia on the wrapper of a package or the like, which consists of coating at least a portion of the wrapper with a solution visibly responsive to heat inducing irradiation, placing a cover about the package, and subsequently subjecting the coating to a brief irradiation through the cover to which the coating is responsive in the presence of a selected pattern, whereby indicia is established in the portion of the wrapper.

6. A method of marking a package comprising coating a selected portion of the package with a solution which is visibly responsive to heat stimuli, applying a covering about the package, and subjecting the coated portion of the package to a brief heat inducing irradiation to which the coating is sensitive through the covering in the presence of a designated pattern, whereby the outline of the pattern is affixed to the package.

7. A method of marking a package comprising the steps of: coating at least a portion of the package with a solution which is visibly responsive to heat producing irradiation, substantially enclosing the package with a cover, and subjecting the coated portion of the package to patterned heat inducing irradiation to which the coating is sensitive through the cover.

8. The method of claim 7 wherein the step of substantially enclosing the package with a cover comprises placing a transparent wrapper about the package.

9. The method of claim 7 wherein the step of substantially enclosing the package with a cover comprises placing an opaque wrapper transitive to the selected patterned irradiation.

10. A method of marking an item comprising: coating a portion of the item with a substance responsive to a heat stimulus, substantially enclosing the item with a cover, and selectively passing according to a predetermined pattern a heat inducing stimulus through the cover to the substance in sufficient quantity to induce a visible change in the substance.

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DAVID KLEIN, *Primary Examiner*.