

July 6, 1943.

J. A. McMANUS ET AL

2,323,342

PRESSURE-SENSITIVE TAPE

Filed June 24, 1940

2 Sheets-Sheet 1

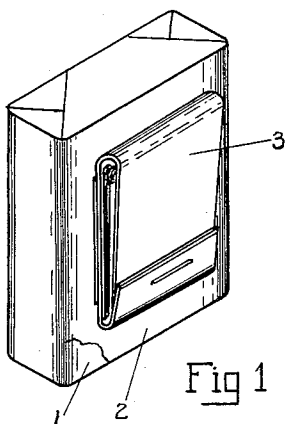


Fig 1

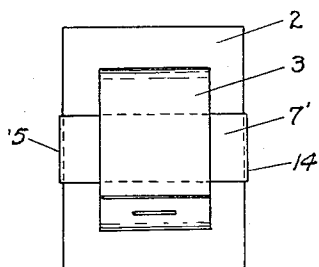


Fig 2

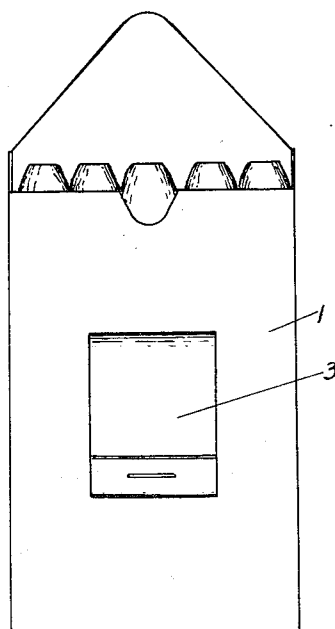


Fig 3

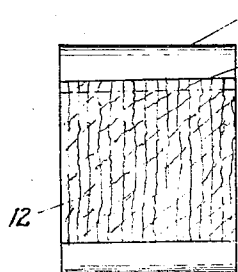


Fig 4

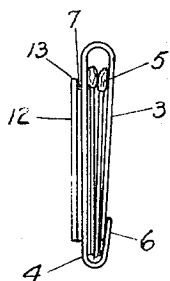


Fig 5

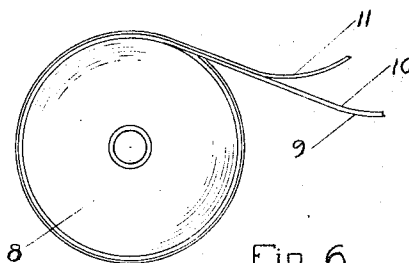


Fig 6

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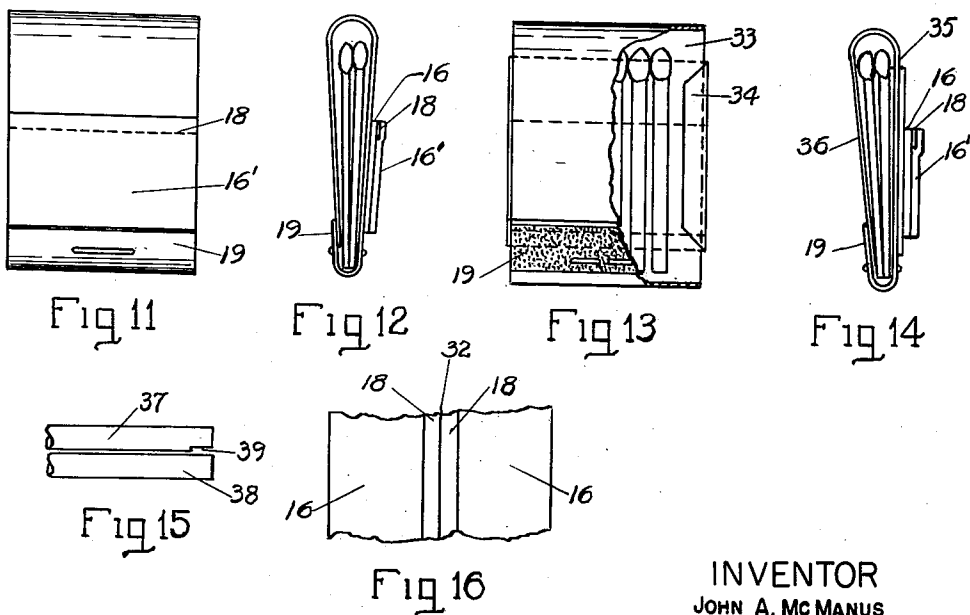
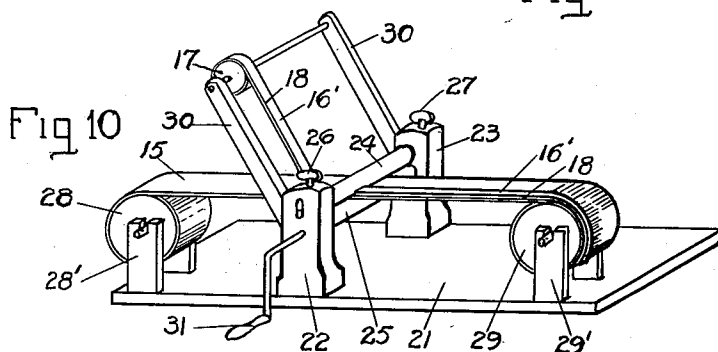
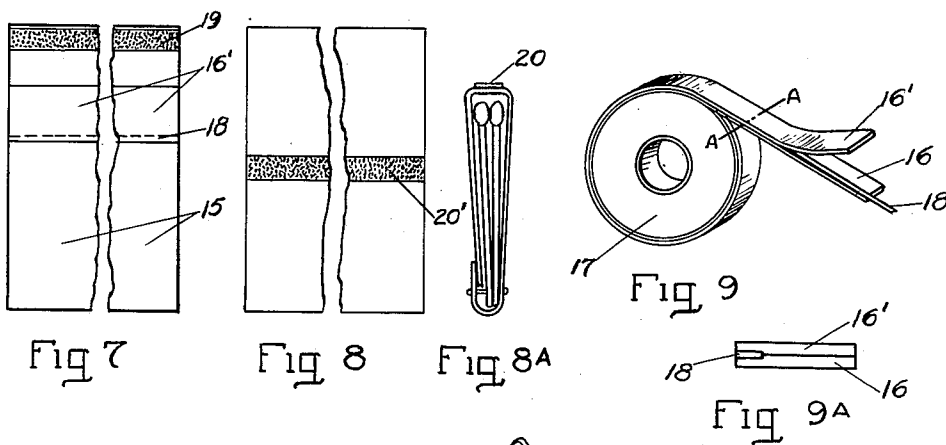
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2 Sheets-Sheet 2



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PRESSURE-SENSITIVE TAPE

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2 Claims. (Cl. 154—43)

The present invention is a continuation-in-part application of our application filed March 24, 1939, S. N. 263,894. The invention relates to certain new and useful improvements in the merchandising of tobacco products, such as cigarettes and cigars, accompanied by so-called "paper" match-packs. It is usual to dispense match-packs gratuitously for their advertising value. Attempts have been made heretofore in the art to attach the match-packs to the cigarette packages, but without success from a merchandising standpoint. The reason for the failure has been doubtless because something was necessary to be done to change the conventional method of packaging the cigarettes.

By means of our invention we have discovered a way to attach the match package to the cigarette package without the necessity for changing the method of packaging the cigarettes.

While our invention is designed to be applied more particularly to cigarette packages, it may be applied equally as well to cigar packages or tobacco packages generally.

The further objects of our invention will be better understood by referring more specifically to the accompanying specification and drawings, in which

Fig. 1 is a perspective of a combined cigarette and match-package embodying our invention;

Fig. 2 represents a front elevation of a combination package wherein a pressure sensitive strip of adhesive tape or sticker is attached to the inside surface of the back cover of the match fold, and to the cigarette package at either end of said strip;

Fig. 3 represents the invention as applied to any conventional type of tobacco or cigar container;

Fig. 4 represents in front elevation the match-pack itself, having the adhesive strip attached to the back cover of the match folder and showing the paper protector, which is stripped off of the adhesive tape or strip when ready for use;

Fig. 5 represents a side elevation of Fig. 4;

Fig. 6 illustrates a roll of adhesive tape, both surfaces of which are of cellulose compound or other suitable pressure sensitive materials and protected when not in use by a covering of preferably crepe paper;

Fig. 7 illustrates in plan a long continuous strip (preferably in a roll), broken in section, and which strip is impressed with the printed advertising matter for the finished match-pack, and carrying the match-striking surface and adhesive tape and cover of our invention;

Fig. 8 illustrates a modification in plan of such a strip and similarly broken away, the strip being provided with a striking surface at a location which will bring the latter on the top of the

match-pack instead of on the sides of the latter after the match-pack is fabricated;

Fig. 8A represents a side elevation of a match-pack fabricated from the strip shown in Fig. 8 and showing the striking surface on the top of the pack;

Fig. 9 represents a roll of adhesive tape provided with a paper backing or cover and having a liner of suitable material, such as "Cellophane," adhesively secured to one of the longer borders of the tape;

Fig. 9A represents a section on line A' of Fig. 9;

Fig. 10 represents in isometric a machine for feeding onto the printed strip a pressure sensitive tape provided with the liner, shown in Figs. 9 and 9A.

Fig. 11 represents a front view of the match-pack illustrating in dotted lines the liner along the upper border of the tape;

Fig. 12 represents a side elevation of the match-pack in Fig. 11 provided with the adhesive tape, the liner, and the paper cover for the tape;

Fig. 13 represents in front elevation, partly in section, a modification of the match-pack provided with a metal or plastic holder for the match-packs and to the back of which our improved adhering means is applied;

Fig. 14 represents a side elevation of the cigarette package, the improved adhering means, and the metal or plastic holder shown in Fig. 13;

Fig. 15 represents diagrammatically a pair of rolls through which the printed strip shown in Figs. 7 and 8 is fed in order to fabricate the match-packs; also illustrating a relieved surface for the rolls to prevent excessive pressure on the adhesive material, and

Fig. 16 represents a section of a strip of pressure sensitive adhesive material provided with the new liner of our invention adapted to be cut into strips.

Referring to the drawings, 1 represents the usual cigarette paper package wrapped in a transparent covering of cellulose compound, known to the trade as "Cellophane," although such a wrapper may be made of any suitable material for the purpose. A match-pack 3, best illustrated in side elevation in Fig. 5, is comprised of the usual cardboard folder having the matches contained between its covers 4 and 5, 4 representing the back cover, and 5 the front cover thereof, which, when closed, tucks in behind the overlapping lip 6 of the back cover 4. This match-pack has attached to the back cover 4 a sticker or piece of tape of a cellulose compound nature generally known as a "pressure sensitive" tape. A roll of such tape is shown in Fig. 6. A special form of this tape is provided with two adhesive sides 9 and 10, and is protected on one side from adhesion while in the roll by a strip of crepe paper

11 of substantially the same width as the tape. When the tape is attached to the match-pack, it is still provided with a protecting cover paper or mask 12, secured to the exposed adhesive side of the strip or sticker 7, which is a piece of the double adhesive tape of roll 8. The crepe paper cover or mask 12 extends a little beyond the top of the sticker or tape 7 at 13 in order to provide a ready means for stripping the crepe paper cover from sticker or tape 7 when it is desired to attach the match-pack to a cigarette package or tobacco pack. The crepe paper is preferably made of coarse enough ribbing to enable the crepe paper to be more readily stripped from the pressure sensitive material.

In Fig. 2 is illustrated a modification of our invention wherein the match-pack 3 is attached to the cigarette package by means of a strip of adhesive tape 7' stuck to the inside of the back cover fold 4 of the match-pack. This strip 7' is preferably adhesive on one side only as distinguished from the tape shown in Fig. 6 which is adhesive on both sides; in fact, the adhesive of Fig. 2 may be what is known as the conventional "Scotch tape." The strip of adhesive tape 7' extends beyond the lateral sides of the match-pack and its inner adhesive side is attached to the package 1 or wrapper 2 of cellulose compound (Cellophane) at the sides of the package, as at 14 and 15.

Referring to Fig. 7, 15 represents a long strip preferably in a roll of printed cardboard material such as is used in fabricating match-packs. At 16 is shown how the double adhesive Scotch piping tape 16 (Fig. 9) from a roll 17 is applied to the strip 15. This tape is provided with a paper cover or mask, usually of creped paper 16' to prevent the adhesive surfaces from sticking together. In the application of this tape to the strip 15, the crepe paper 16' and adhesive tape 16 are laid on the strip 15 in a continuous length with the crepe paper 16' on top and the under adhesive surface of the double adhesive tape applied to the printed strip 15 under pressure in order to cause its satisfactory adhesion to the latter. A narrow liner of paper or "cellulose compound" material known as "Cellophane," 18 is attached to the upper surface of the tape 16 by the adhesion of the tape itself, the "Cellophane" being preferably non-adhesive. This "Cellophane" strip or liner 18 is so-located on the printed strip 15 that when the latter is fabricated into a match-pack the liner will be at the top of the tape 16 and between the cover 16' and the tape 16. This will be seen in Fig. 9A, Fig. 11, and Fig. 12. While this liner is shown at the bottom in Fig. 7 this is because when the forming strip 15 goes through the match-pack fabricating machine at the mill, the liner 18 will come at the top of the tape 16 as shown in Fig. 11 and Fig. 12. Likewise, the match-scratching or abrasive surface 19, while at the top in the forming strip 15 will, when the match-pack is formed, be located at the bottom front of the pack as shown in Figs. 11, 12 and 14.

In Figs. 8 and 8A, however, we have illustrated a novel position for the striking or abrasive surface, viz., at the top surface of the match-pack when formed as shown at 20, Fig. 8A and 20', Fig. 8. It will be noted that at 20', Fig. 8, the striking or abrasive surface is at such a position on the flat strip that when the strip is folded and fabricated to form the match-pack shown in Fig. 8A, the said abrasive surface will be at the top of the pack, as at 20, Fig. 8A. By locating the

striking surface at the top it will avoid the danger of setting fire to the remaining matches when one match is struck and it is not necessary to reverse the match-pack in order to strike a match.

Referring to Fig. 10, the method of applying our invention to the forming strip 15 is illustrated wherein 21 is a base provided with suitable standards 22 and 23 which support a pair of rollers 24 and 25 respectively. The pressure on these rollers may be adjusted by means of the adjusting screws 26 and 27 respectively. A second pair of rolls 28 and 29 are supported in the uprights or standards 28' and 29' respectively. Upon the roll 28 is carried the forming strip 15. A frame 30 is suitably supported by the standards 22 and 23, and this frame in turn supports the roll 17 of double adhesive Scotch tape provided with the liner 18 of "Cellophane." A suitable handle 31 actuates the rolls 24 and 25 to unroll the forming strip 15 from roll 28 through the pressure rolls 24 and 25 and onto reroll 29. At the same time the actuation by the handle 31 also causes the roll 17 to unroll and feed onto the forming strip 15, the Scotch piping tape 17 provided with the "Cellophane" liner 18 and crepe paper cover 16'. This is done in a manner to bring the tape liner and crepe paper cover on the predetermined location on the forming strip, as illustrated in Fig. 7. To this end, the roll 17 is located at one side of frame 30 as shown in Fig. 10.

One method of providing the Scotch piping tape with the liner is shown in Fig. 16 where a wide strip of tape of the double adhesive type 16 is shown, having a double normal width of liner or "Cellophane" 18 which may be cut in the middle on the line 32, thus affording two pieces or strips of tape and liner. Of course, while we have, for the purpose of illustration, shown only a double width of tape and liner, it will be readily understood that any width or duplication of this idea may be carried out in practice.

Figs. 13 and 14 illustrate a modification of our invention wherein a metal stamping or a plastic-formed holder is provided for the match-pack, and to the back of which is adhesively secured the tape 16, liner 18 and crepe paper cover 16', Fig. 14, as in the previous cases where these latter are attached to the match-pack itself.

Referring to Fig. 13 illustrating the above modification, 33 represents the metal or plastic match-pack holder having two internal flanges, one of which is illustrated in the broken-away section at 34. These flanges form channels through which the back cover 35 (Fig. 14) of the match-pack may be inserted, the front cover 36 being folded and tucked behind the abrasive or match-striking surface 19. Thus is provided a permanent holder which may be attached to any suitable surface, such as the windshield of an automobile, a chair or any other suitable surface to which the permanent holder is adhesively applied. When the match-pack has been used up, it is only necessary to discard it by opening the front cover and pulling the match-pack out from the end carrying the abrasive or match-striking surface. A fresh match-pack may then be inserted through the internal flanges or channels 35.

Referring to Fig. 15, the rolls 37 and 38 are illustrated diagrammatically. One of the rolls, such as 37, may have a relieved or re-entrant surface as at 39. At the mill where the forming-strip 15 is run through these rolls 37 and 38 to fabricate the match packs if the liner 18 of

roll 17 (Fig. 9) were not provided the pressure of the rolls on the tape 16 and cover paper 16' would be sufficient to cause the cover paper 16' to adhere so firmly to the tape 16 that when the pack is in use and it is attempted to strip cover 16' from tape 16 the cover and tape will both be stripped off the match-pack together and the object of the invention would be defeated; hence the relieving of the roll surface as at 39, Fig. 15, will avoid this undue pressure on the tape 17 and cover 16' so that when in use this objectionable happening will not occur, and the protecting cover 16' may be removed from the tape 16 without stripping the latter from the back of the completed match-pack.

The rolls should have a sufficient depressed or re-entrant surface at the area of the adhesive tape and liner superposed thereon so that there will be no pressure on this area of the forming-strip as the latter passes between the rolls.

The operation of our invention is as follows: Orders are placed by the customer for quantities of match-packs carrying special advertising matter to be printed thereon.

A long roll of cardboard or paper strip such as is employed in making so-called "paper" match-packs is run through the printing machine in flat form and the desired advertising matter impressed on the strip 15. A suitable blank space is left unprinted along the length of the roll at the proper location thereon, upon which is to be mounted the adhesive, liner, and crepe-paper cover of Fig. 9. As shown in Fig. 10, the printed strip 15 is now in roll form 28, Fig. 10, and mounted in the uprights or bearings 28'. This strip is fed through the rollers 24 and 25 and rerolled onto roll 29, mounted in bearings or uprights 29'. The roll 17 of Fig. 9 is mounted on frame 30 and arranged in such relation to strip 15 that the tape, liner and crepe-paper cover will be adhesively secured to strip 15 before the latter passes between the rolls 24 and 25. The pressure on these latter rolls may be adjusted by means of adjusting screws 26 and 27. The operation of the machine shown in Fig. 10 is by means of the handle 31 which, as it is turned, automatically rolls strip 15 and the strip from roll 17 through rolls 24 and 25 and onto reroll 29. When roll 28 is completely unrolled, onto reroll 29, the latter will have adhesively attached thereto throughout its length the adhesive tape and the protecting cover of crepe paper with the "Cellophane" liner there-between in the proper location on the reroll and with the crepe-paper cover 16' on the top as shown in Fig. 7. The strip on reroll 29 is now ready to be run through the mill rolls 37 and 38, Fig. 15, for the formation of the match-packs and the insertion of the matches themselves. As these latter operations are well-known in the art, it is not necessary to describe them here.

After the printed strip 15 (with the tape liner and crepe-paper thereon) has been completely formed into match-packs, each match-pack will be as shown in Fig. 12, that is, the double adhesive Scotch tape 16 will be secured to the match-pack. On the outside of the upper adhesive surface of this tape will be crepe-paper cover 16' and lying along the top border of the adhesive tape between the latter and the paper cover will be the "Cellophane" liner 18, as best

shown in dotted lines, Fig. 11. It will be seen from Figs. 11 and 12 that the paper cover 16' instead of lying in close adhesive contact with the Scotch tape throughout its whole area, lies at the top against the narrow strip of smooth "Cellophane" liner surface. Thus, when it is desired to remove the crepe paper from the match-pack (in order to use the latter and attach it to a cigarette package or other surface) it is only necessary to insert the finger behind the paper cover 16' and strip it from the match-pack. The function of the smooth liner is to provide a surface which does not adhere to the inside top surface of the paper cover and thus avoid stripping the adhesive tape from the match-pack, when the paper cover is removed. When the latter is removed, the outer adhesive surface of the tape is exposed and ready to be applied with a little pressure or rubbing with the fingers to the surface to which the match-pack is to be applied.

It will be seen from the above description that we have invented novel means which afford a commercial manufacturing method of producing match-packs supplied with a ready means of sticking them to any desired surface, such as to the "Cellophane" wrapper of a cigarette package, thus affording a homogeneous or integral union of two cellulose compound surfaces; to the paper wrapper thereof if the Cellophane wrapper has been removed; or to windshields of automobiles, arm-chairs and many other applications. While we have referred to the use of a double-adhesive tape as the specific embodiment of our invention, it is to be understood that any other suitable form of adhesive surface on the forming strip may be employed.

While we have described the principle of operation of our invention together with the apparatus which we now consider to represent the best embodiment thereof, it will be obvious to those skilled in the art, that changes and modifications may be made without departing from our invention, and we, therefore, aim in the appended claims to cover all changes and modifications as fall within the true spirit and scope of our invention.

What we claim as new and desire to secure by Letters Patent of the United States is:

1. A pressure-sensitive tape adhesively coated upon both its upper and bottom surfaces having a removable cover and a narrow liner of flexible cellulose material such as paper extending along the entire length of at least one of the longer borders of the tape, the outer edge of the narrow liner and the edge of the tape being substantially coincident, and the liner being secured to the tape by adhesion of the latter but the upper surface of said liner adjacent the protecting cover being non-adhesive.

2. A pressure-sensitive tape adhesively coated on at least one of its surfaces having a narrow liner of flexible cellulose material such as paper attached to the tape by the adhesive surface of the latter and extending along the entire length of at least one of the longer borders of the tape, the outer edge of the narrow liner and the edge of the tape being substantially coincident, and the upper surface of said liner being non-adhesive.

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