

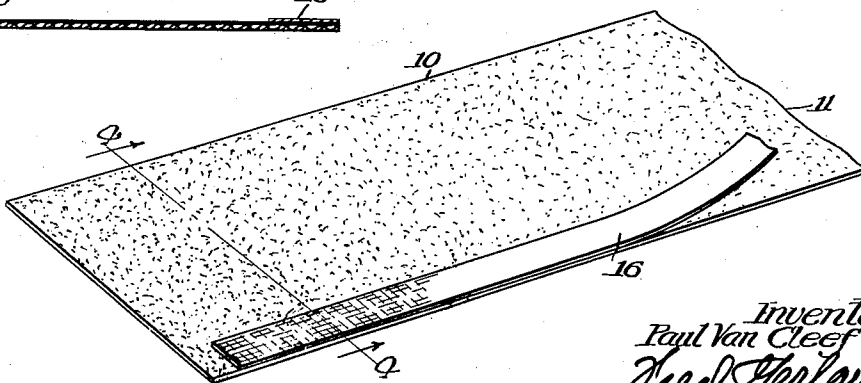
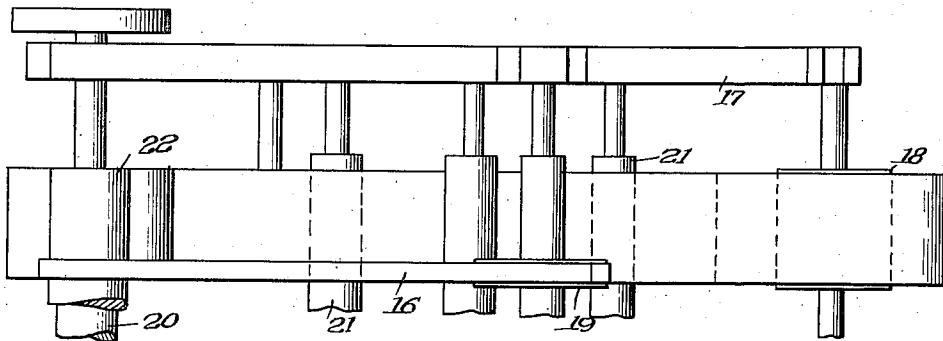
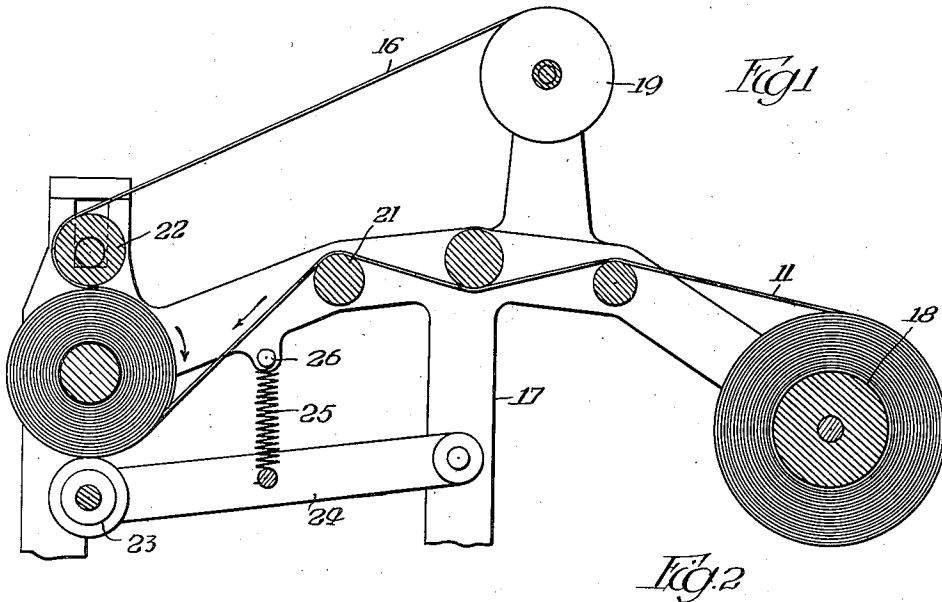
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P. VAN CLEEF

2,248,318

METHOD OF MAKING STICKER PACKETS

Original Filed Aug. 31, 1938 2 Sheets-Sheet 1



Inventor
Paul Van Cleef
By *Frederick Herlach*
His Atty.

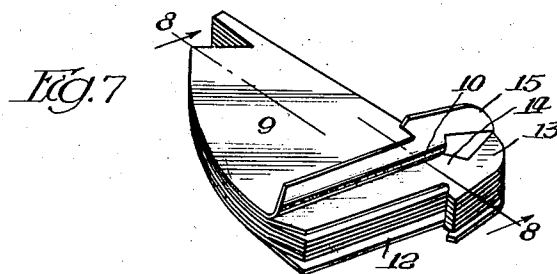
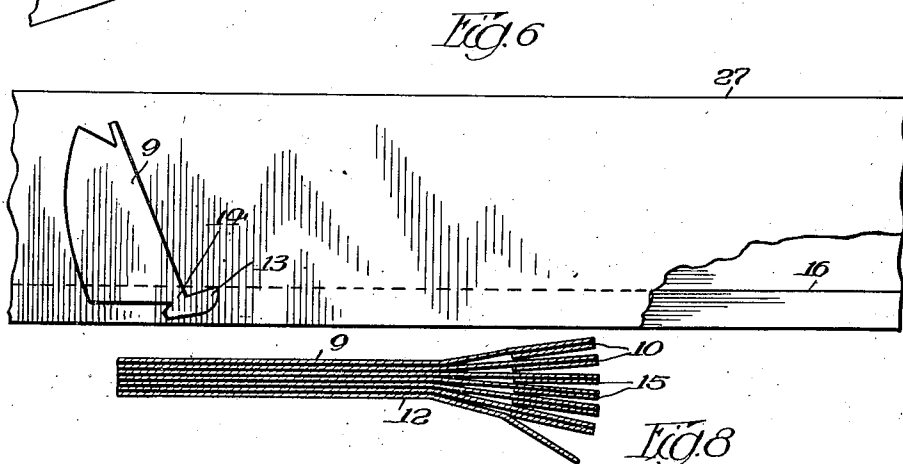
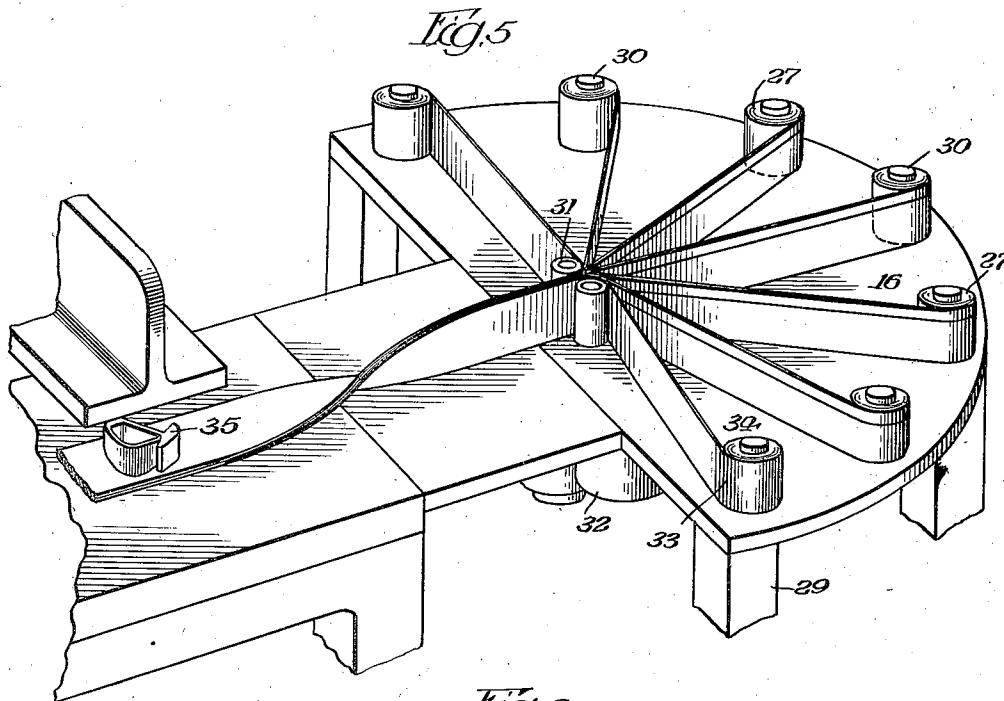
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METHOD OF MAKING STICKER PACKETS

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Inventor:-
Paul Van Cleef
By *Fred Schlach*
his Attorney

UNITED STATES PATENT OFFICE

2,248,318

METHOD OF MAKING STICKER PACKETS

Paul Van Cleef, Chicago, Ill., assignor to Van Cleef Bros., Chicago, Ill., a partnership composed of Noah Van Cleef, Felix Van Cleef, and Paul Van Cleef

Original application August 31, 1938, Serial No. 227,672. Divided and this application August 28, 1939, Serial No. 292,234

3 Claims. (Cl. 154—43)

The present invention relates generally to the manufacture of packets of stickers. More particularly, the invention relates to the manufacture of that type of sticker packet in which the stickers are arranged in superposed relation, have, on the inner faces thereof, coextensive facings of permanently tacky pressure-sensitive adhesive whereby they are adhesively secured together in packet form and are adapted after stripping apart or separation to be stuck against any selected surface or object for ornamentation or other purposes and are provided along one margin of the packet with tabs and in addition small strip-like pieces of holland which cover and are stuck to the adjacent portion of the adhesive facings and serve so to space apart or separate the contiguous marginal portions of the stickers that the latter may be readily gripped with the fingers in connection with stripping apart or separation thereof.

The object of the invention is to provide a simple and improved method of manufacturing or fabricating a sticker packet of this type which includes, as steps thereof, first applying by pressure to one side margin of the adhesive-faced side of a web of sticker-forming material, a narrow substantially coextensive band of holland, then forming the web with the holland band along one margin thereof into a plurality of rolled strips, then mounting the rolls on separate spindles, then unrolling the strips simultaneously and pressing them together into adhesively-connected or secured relation between pressure rolls in such manner that the pieces of holland band are all at one side and in aligned or lapped relation and then, at the conclusion of the pressing operation, cutting the superposed strips transversely and across the sections of holland by way of a continuous hollow cutter in order to form packets of the desired size and shape with the portions at one margin thereof provided with tabs and sticker separating pieces of holland.

The invention consists in the several novel steps which are hereinafter set forth in detail and are more particularly defined by claims at the conclusion hereof.

In the drawings which accompany and form a part of this specification or disclosure and in which like numerals of reference denote corresponding parts throughout the several views:

Figure 1 is a vertical longitudinal sectional view of an apparatus for carrying out the first step of the improved method of packet manufacture, that is, the step of applying to one margin of the adhesive-faced side of a web of sticker-

forming material, a narrow substantially coextensive band of holland;

Figure 2 is a fragmentary plan view of the apparatus of Figure 1;

Figure 3 is a perspective of the web after application of the holland band to one side margin of the adhesive-faced side thereof;

Figure 4 is an enlarged transverse sectional view taken on the line 4—4 of Figure 3 and illustrating in detail the cross-sectional design of the band-equipped web;

Figure 5 is a fragmentary perspective view showing an apparatus for carrying out the fourth and final steps of the improved method of manufacture, that is, the steps which follow the formation of the web into a plurality of rolled strips and comprise unrolling the strips simultaneously and pressing them into adhesively-connected relation between pressure rolls in such manner that the sections of holland band are all at one side and are in aligned or lapped relation, and then cutting the superposed strips into packets of the desired size and shape;

Figure 6 is a plan view of the superposed strips after cutting thereof by the cutter;

Figure 7 is a perspective view of a sticker packet made in accordance with the improved method and formed from the superposed sheets of Figure 6; and

Figure 8 is an enlarged sectional view taken on the line 8—8 of Figure 7 and showing or illustrating the manner in which the pieces of holland serve to cover the adhesive face portions of the projecting tabs and contiguous marginal portions of the stickers so that they are precluded from sticking together and may be readily gripped in connection with stripping apart or separation of the stickers.

The packet which is formed by the improved method consists of a plurality or set of superposed stickers 9 which are adapted when stripped apart or separated from one another to be stuck to any selected surface or object and, depending upon their shape, serve as articles of utility or ornamentation. The stickers as shown in Figure 7 of the drawings, are thin and flexible and are secured together in packet form by means of facings 10 of permanently tacky pressure-sensitive adhesive. They are formed from an elongated web 11 of tapelike material like that which forms the subject matter of an application for United States Letters Patent for improvements in Tape and the method of making same, filed by me July 24, 1937, Serial No. 155,483. Such material is composed of a base of paper or like

material. The base is impregnated with rubber latex and embodies on the outer face thereof a vulcanized layer whereby it is rendered impervious. The vulcanized rubber layer is provided with a thin coating of shellac, varnish, lacquer, or ethyl cellulose in order to prevent the permanently tacky pressure-sensitive adhesive from sticking too tightly thereto when the material is wound in roll form. The facings 10 are formed on the inner faces of the stickers and are coextensive with the latter. They are preferably of rubber base adhesive material and are bonded to the paper base portions of the stickers in such manner that when the stickers are stripped apart or separated the facings remain in connected relation with the paper base portions and pull readily from the outer faces of the contiguous stickers. The bottom or lowermost sticker of the packet is protected from adhering to objects by way of a holland sheet 12. This sheet underlies and is stuck lightly to and is coextensive with the adhesive facing 10 of the bottom or lowermost sticker. When the bottom or lowermost sticker is to be used, the holland sheet 12 is stripped from the adhesive facing of the lowermost sticker so as to expose such facing and permit the sticker to be stuck in place by the facing. When it is desired to use a sticker, the upper or topmost sticker is separated from the sticker next below by stripping or pulling it therefrom. During the stripping or pulling operation the adhesive facing for the topmost sticker is pulled from sticking relation with the top or upper face of the next sticker. Upon separation of the topmost sticker from the sticker next below it is adapted by pressing its adhesive facing into contact with any selected surface or object to be stuck to such surface or object. By reason of the fact that permanently tacky pressure-sensitive rubber base adhesive is used, the sticker may be reused as many times as desired. As shown in Figure 7, the stickers 10 are provided with integral outwardly projecting tabs 13. These tabs are joined to the stickers by reduced necks 14. As illustrated in Figure 8, the adhesive facings 10 cover the inner faces of the tabs 13. In order to facilitate stripping apart or separation of the stickers 9, each sticker is provided along the tab-equipped margin thereof with a holland piece 15. The pieces 15 underlie and are lightly stuck to the portions of the adhesive facings which underlie the tabs and the adjacent marginal portions of the stickers. They serve to separate and prevent sticking together of the tabs and the margins that are associated therewith with the result that the tabs and said associated margins are free with respect to one another and may be readily gripped in connection with stripping apart or separation of the stickers. When the topmost sticker is to be removed from the packet, the tab 13 for such sticker is gripped by the fingers and then pulled upwardly. Because of the holland piece which is stuck to the tab of the top or uppermost sticker the tab is in separated relation with respect to the subjacent tab and hence it is possible readily to grip it in connection with the stripping or pulling operations. The holland pieces 15, by reason of the fact that they extend under the necks 14 and along the adjacent adhesive-equipped marginal portions of the stickers, reinforce the neck and prevent tearing thereof in connection with gripping and pulling of the tabs. If, after stripping apart or separation of the stickers, it is desired to remove the holland pieces 15, this may be readily done by or accomplished by gripping

the pieces and stripping them from the stickers with which they are associated. Upon stripping or removal of the holland pieces from the stickers, all portions of the adhesive facings are exposed and the stickers may hence be pressed or stuck flatly throughout the entire area thereof against the selected or desired surface or object. Because of the adhesive protecting holland pieces on the tabs 15, the tabs, as clearly shown in Figure 8, spread outwardly in a radial manner and are hence easy to grip with the fingers in connection with stripping apart or separation of the stickers.

In manufacturing or making the packet from the sticker-forming web 11, an apparatus like that shown in Figures 1 and 2 and an apparatus like that shown in Figure 5 are preferably employed. The method of manufacture comprehends five main or principal steps, viz.: applying by pressure to one side margin of the adhesive-faced side of the web 11 a band 16 of holland, then forming the web with the holland band along one margin thereof into a plurality of rolled strips, then mounting the rolls on spindles, then unrolling the strips and pressing them together into adhesively connected or secured relation and then, at the conclusion of the pressing operation, cutting the superposed strip transversely and across the sections of holland to form the improved packet. The apparatus of Figures 1 and 2 serves primarily as the medium for carrying out the first step of the method of manufacture. It comprises a frame-structure 17, a pair of feed spools 18 and 19, and a take-up spool 20. These three spools are suitably journaled with respect to the frame structure and are preferably positioned as shown in Figure 1. The take-up spool 20 is adapted to be driven either manually or by power and is disposed in substantially the same horizontal plane as the feed spool 18. The latter has the web 11 wrapped therearound in such manner that the facing of the permanently tacky pressure-sensitive rubber base adhesive is on the outside. The feed spool 19 is disposed above and is located between the feed spool 18 and the take-up spool 20 and has the band 16 of holland wrapped therearound. The web 11 is adapted to be anchored to the take-up spool 20 and when the latter is driven it is unwound from the spool 18 and is wound around the spool 20. Three idler rollers 21 are disposed beneath the feed spool 18 and the take-up spool 20 and serve to maintain taut and also to flatten the web 11 as it is unwound from the feed spool 18 and wound onto the take-up spool 20. The holland band 16 which, as hereinafter pointed out, forms the holland adhesive covering pieces 15 for the tabs 13 and the adjoining margins of the stickers 9, is adapted to be applied to and pressed into stuck relation with one side margin of the adhesive facing of the web during winding of the web around the take-up spool 20. It passes over and around a vertically movable idler roll 22 over the take-up spool 20 and is adapted when stuck in place with respect to the adhesive facing of the web and during drive of the spool to pass around and under the idler and then into abutment with the adjacent side margin of the adhesive facing of the web. The band 16 is adapted to be unwound simultaneously with the web 11 and as the result of the action of the idler roll 22, is pressed into place in such manner that it extends lengthwise of the adjacent side margin of the adhesive facing of the web. Firm engagement of the band and web is

obtained by way of a press roll 23. This roll as shown in Figure 1, is disposed beneath the take-up spool 20 and is mounted on the distal end of a pivoted frame 24 so that it is free to swing vertically. A tension spring 25 extends between the central portion of the frame 24 and an anchor pin 26 on the frame-structure 17 and serves to urge the roll 23 upwards into contact with the outer varnished or otherwise treated vulcanized rubber facing of the web 11. The roll 23 is so arranged with respect to the band 16 that during winding of the web and band around the feed spool, it presses the two together into adhering relation. After application of the holland band 16 to one of the side margins of the adhesive facing of the web 11, by way of the apparatus of Figures 1 and 2, the web, together with the band, is cut into lengths and then formed into a plurality of rolled strips 27.

The rolled strips 27 are used in connection with the apparatus of Figure 5 which, as hereinafter described, is adapted to perform or carry out the last two steps of the improved method of packet manufacture. As shown in Figure 5, the apparatus comprises an elongated top 28 which is supported by means of legs 29 and has an arcuate series of upstanding spindles 30 on the top face thereof. The spindles are spaced equidistantly apart and are concentrically disposed with respect to a pair of laterally spaced pressure rolls 31. The last mentioned rolls are adapted to be driven in opposite directions by means of a motor-driven gear unit 32 and operate simultaneously to unroll the strips 27. The strips while in rolled form are mounted on the spindles 30 in such manner that the adhesive facing of each strip faces the outer treated vulcanized face or facing of the opposed or next opposite strip. A holland web 33 in roll form is mounted on a spindle 34 at one end of the arcuate series of spindles 30 for the rolled strips 27. This web is adapted to be unrolled simultaneously with the strips 27 by the action of the pressure rolls 31 and forms the holland sheet 12 for protecting the adhesive facing 10 of the bottom or lowermost sticker of the packet. As shown in Figure 5, the web is the same in width as the rolled strips 27. In using the apparatus of Figure 5 the rolled strips 27 are mounted on their respective spindles 30 with the sections of the holland band 16 all at one side, and the rolled holland web 33 is mounted on its spindle 34. Thereafter the free ends of the rolls are drawn toward and into place between the pressure rolls 31, as shown in Figure 5. When the rolls are driven in the proper direction by the motor-driven gear unit 32, the rolled strips 27, together with the web 33, are unrolled and are pressed together into the form of a composite unit between the rolls. The strips and web, after being pressed together between the rolls 31, are adapted to be drawn or fed manually in a step-by-step manner under a vertically reciprocating continuous hollow cutter 35. The cutter is of the proper shape to form the packet and embodies a knife-edge on the bottom thereof. When the composite unit is stationary on the portion of the top 28 that is beneath the cutter 35 and the cutter is moved downwards so as to penetrate through the composite unit and cut across the sections of the holland band 16, it cuts from the unit the sticker packet. The latter, after ejection from the cutter, is in salable form. The cutter 35 is so arranged with respect to the part along which the composite unit is adapted to travel, that

when it is moved downwards in connection with a cutting operation, the sticker tabs are formed from the portions of the unit which embody the sections of the holland band 16. By so arranging the cutter the cut band sections, that is, the portions of the band sections which are severed or cut by the cutter, form or constitute the holland pieces 15 and are properly positioned with respect to the tabs 13 and the necks 14 of the stickers. By having the holland web 33 on the bottom of the composite unit, that is, the unit which is formed by pressing the rolled strips 27 together, by way of the pressure rolls 28, the holland sheet 12 is formed on the bottom of the packet in response to cutting of the unit by the cutter 35.

The hereinbefore described method of making or manufacturing packets is comparatively simple and may be carried out expeditiously and at a low and reasonable cost.

The invention is not to be understood as restricted to the details set forth, since these may be modified within the scope of the appended claims, without departing from the spirit and scope of the invention.

This application for Letters Patent is a division of that filed by me August 31, 1938, Serial No. 227,672.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent is:

1. That improvement in the manufacture of a unitary packet of stickers which comprises taking a sticker forming web having on one side thereof a facing of permanently tacky pressure-sensitive adhesive and applying along one side margin of the facing a band of holland type material, then forming the web into a plurality of strips, then pressing the strips together into adhesively connected and superposed relation and in such manner that the sections of the band are all at one side and in aligned or lapped relation, and finally cutting the adhesively connected and superposed strips transversely and across the band sections in order to form a packet of the desired size and shape and with pieces of holland type material covering certain marginal portions of the adhesive facings and serving to separate the contiguous marginal portions of the stickers so that they may be readily gripped in connection with separation of the stickers.

2. That improvement in the manufacture of a unitary packet of stickers which comprises taking a sticker forming web having on one side face thereof a facing of permanently tacky pressure-sensitive adhesive and applying and lengthwise of one side margin of the facing a narrow band of holland type material, then cutting the web transversely at spaced points in order to form a plurality of strips, then unrolling the strips and thereafter winding the strips into rolls and at the same time pressing them together into adhesively connected and superposed relation and in such manner that the adhesively connected sections of the band are all at one side and in aligned or lapped relation, and finally cutting the superposed strips transversely and across the band sections in order to form a packet of the desired size and shape and with pieces of holland type material covering certain marginal portions of the adhesive facings and serving to separate the contiguous marginal portions of the stickers so that they may be readily gripped in connection with separation of the stickers.

3. That improvement in the manufacture of a unitary packet of stickers which comprises taking a sticker-forming web having on one side thereof a facing of permanently tacky pressure-sensitive adhesive and applying along one side margin of the facing a narrow band of holland type material, then forming the web into a plurality of rolled strips, then simultaneously unrolling the strips and leading them between a pair of pressure rolls in order to stick them together in superposed relation and in such manner that the sec-

tions of the band are all at one side and in aligned or lapped relation, and finally cutting the stuck together superposed strips transversely and across the band sections in order to form a packet of the desired size and shape and with pieces of holland type material covering certain marginal portions of the adhesive facings and serving to separate the contiguous marginal portions of the stickers so that they may be readily gripped in connection with separation of the stickers.

PAUL VAN CLEEF.