

[54] **METHOD AND APPARATUS FOR
PRODUCING ARTICLES HAVING A
POCKET CONTAINING A REMOVABLE
INSERT**

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93/62

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[58] Field of Search. **93/61 R, 61 A, 62;**
156/108, 514; 53/31, 32, 206

[56] **References Cited**

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[57]

ABSTRACT

Flat articles, such as letterheads, having a surface, are processed by laying an insert onto the surface, applying adhesive to the surface in a pattern at least partially surrounding the insert and applying sheet means, such as paper, into overlying relation with the insert and into contact with the adhesive pattern forming a pocket containing the insert, all while continuously propelling the articles along the path.

11 Claims, 4 Drawing Figures

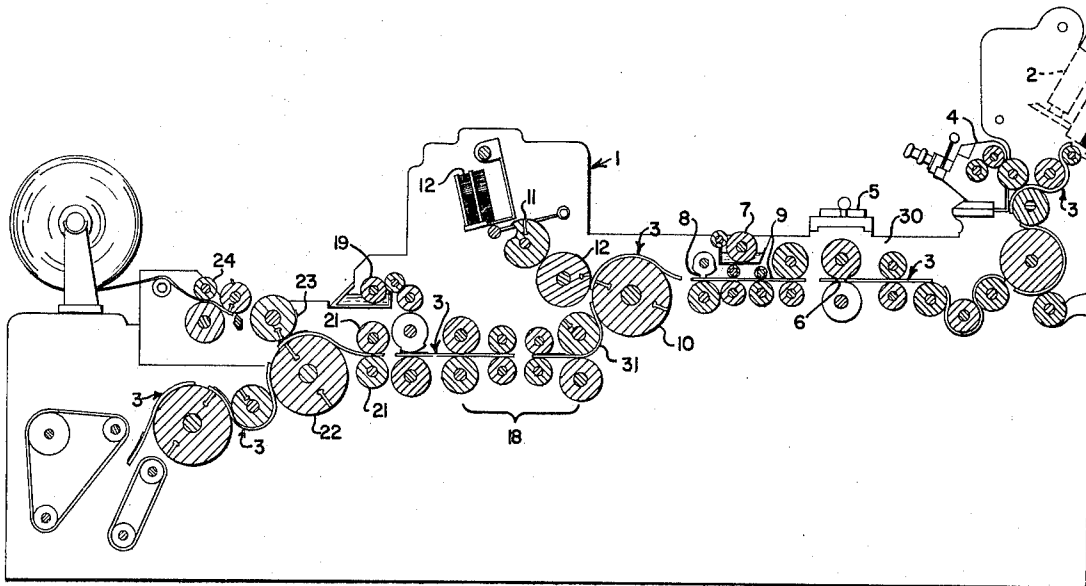


Fig. 1.

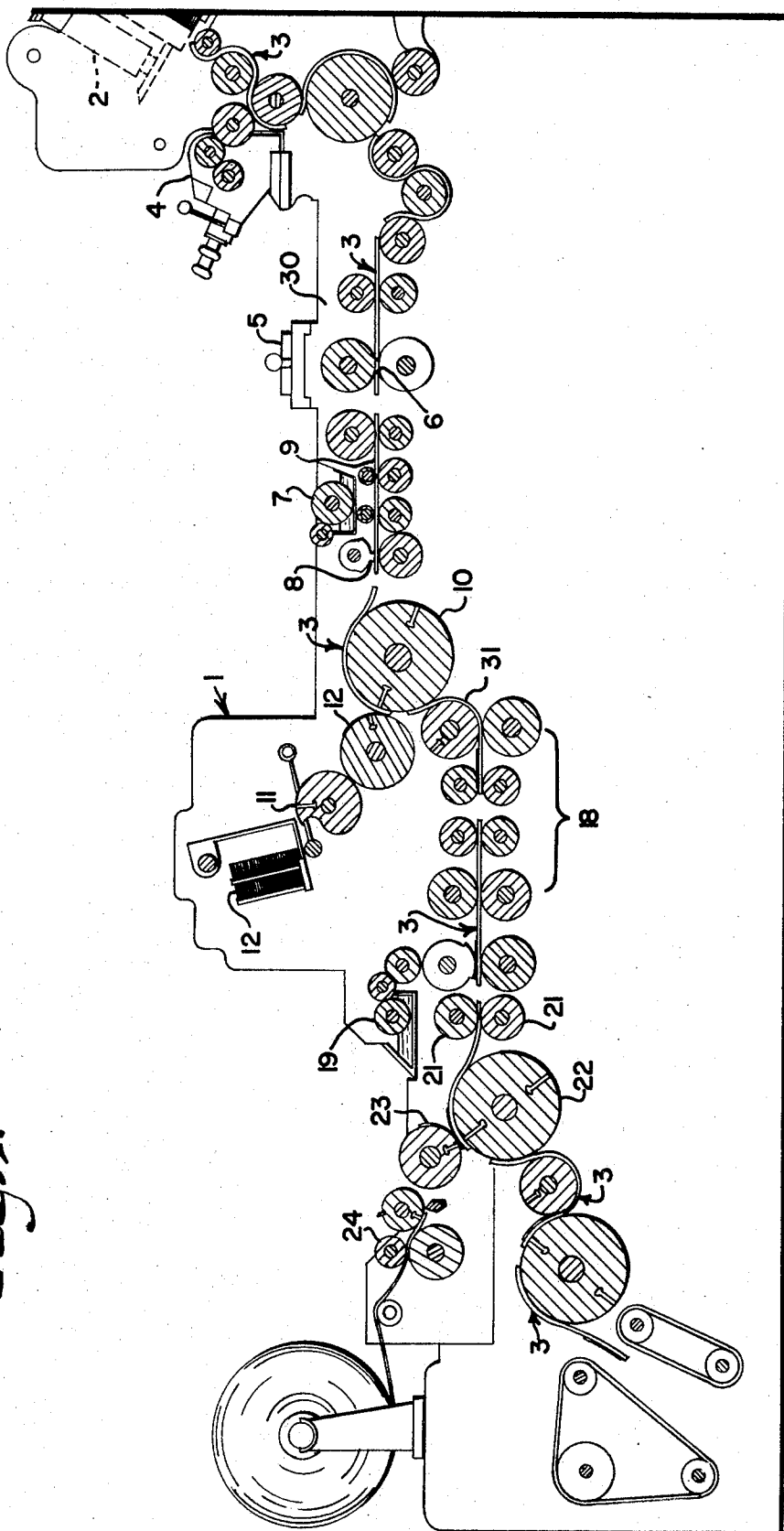


Fig. 3.

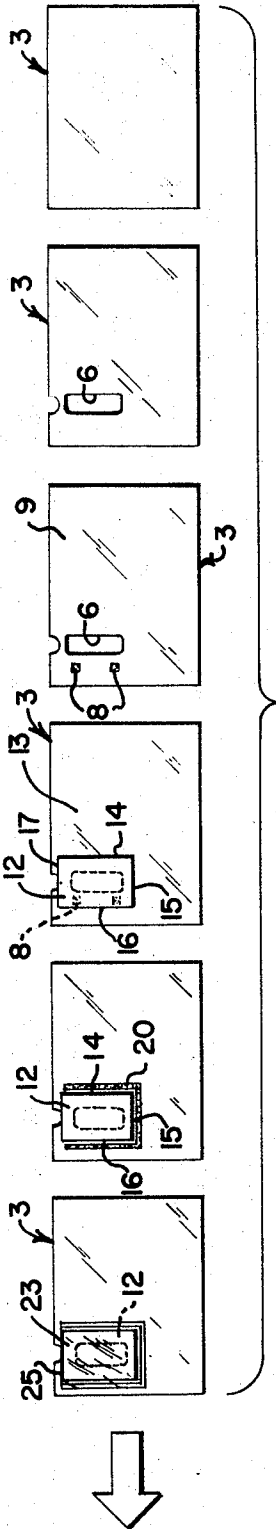


Fig. 2.

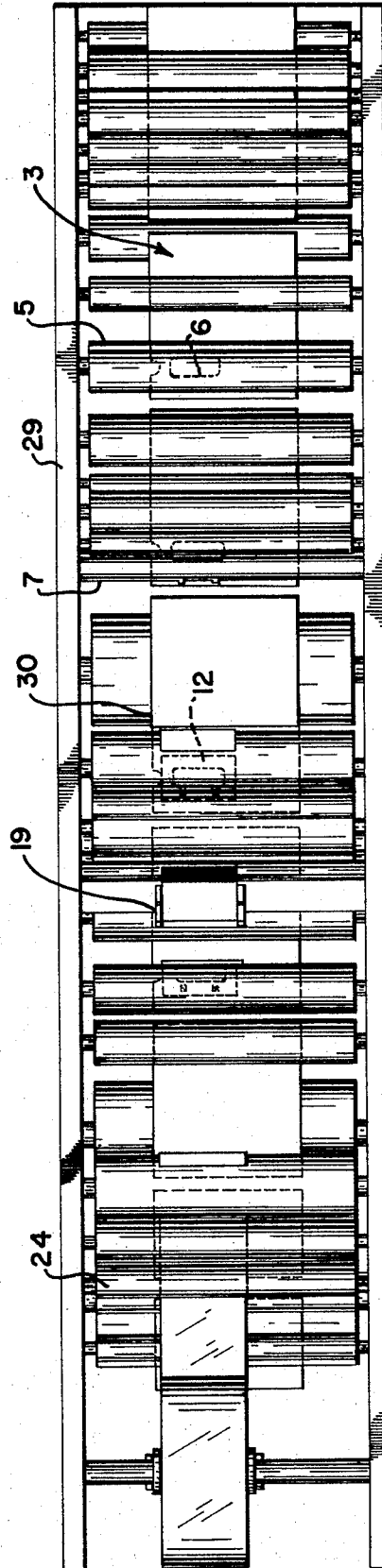
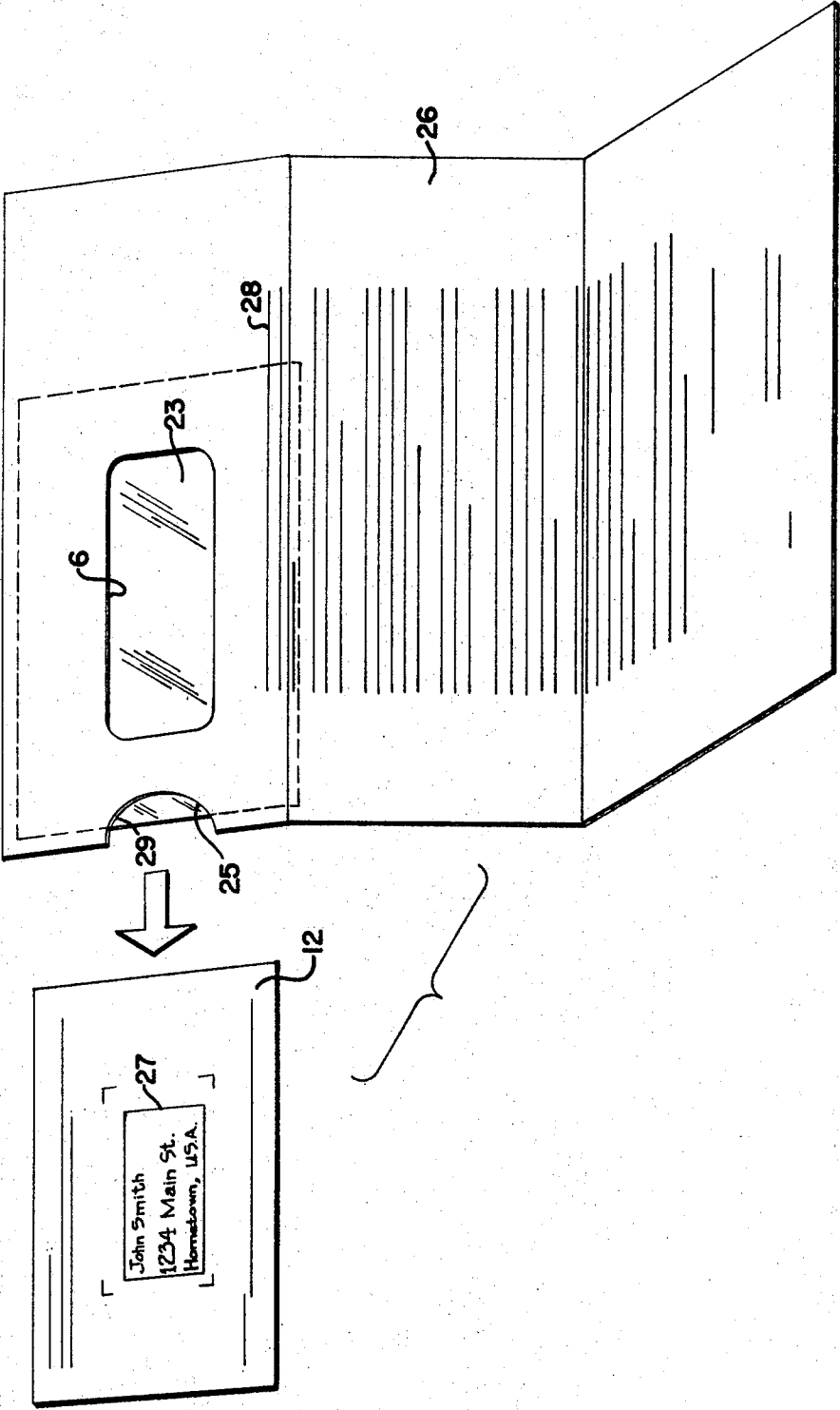


Fig. 4.



METHOD AND APPARATUS FOR PRODUCING ARTICLES HAVING A POCKET CONTAINING A REMOVABLE INSERT

This invention relates to a method and apparatus for producing articles having a pocket containing a removable insert, and more particularly to a method and apparatus for producing such articles rapidly and inexpensively.

Flat articles, such as letterheads and the like, having a pocket into which a return mailing card or similar insert is retained, are well known. The production of such items has been relatively expensive because the insert was placed into the pocket after pocket formation, either by hand or by separate operation in an inserting machine. In the practice of this invention the inserting step is eliminated, whereby the cost of manufacturing such items is considerably reduced while increasing the rate of production.

The principal objects of the present invention are: to provide an inexpensive method of producing articles having a pocket containing a removable insert; to provide such a method wherein the production rate is considerably increased over alternative methods; to provide apparatus for producing such articles which is readily available through a relatively simple modification of common paper folding machines, envelope machines and the like; to provide a simple and reliable method of producing pocket letterheads containing card inserts; and to provide such a method and apparatus which are exceptionally well suited for their intended purpose.

Other objects and advantages of this invention will become apparent from the following description taken in connection with the accompanying drawings wherein are set forth by way of illustration and example certain embodiments of this invention.

FIG. 1 is a longitudinal, partially schematic, sectional view illustrating rotary paper converting equipment adapted for the practice of this invention.

FIG. 2 is a partially schematic plan view of the apparatus of FIG. 1, with certain mechanisms removed, illustrating the path of article travel therethrough.

FIG. 3 is a diagrammatic view illustrating successive steps involved in forming a typical article in accordance with this invention.

FIG. 4 is a perspective, exploded view illustrating a typical article, in this case a pocket letterhead, with an insert card removed.

Referring to the drawings in more detail:

The reference numeral 1 generally indicates typical rotary paper converting apparatus modified for the practice of this invention. The apparatus 1 includes sheet article supporting and delivery means 2 for delivering articles 3 into the apparatus in consecutive order. The articles 3, here in the form of letterhead blanks, travel through a printing section 4 and then, in this example, through a window cutting section 5, which produces a window opening 6 therethrough. From the window cutting section 5, the articles 3 pass through a gum applying section 7 where spots 8 preferably of low shear, (breakaway) or in the alternative, disintegrating gum are applied to the upper surface 9 thereof which is exposed during the travel of the articles through the apparatus to the extent necessary to perform the described operations thereon. In this example, the spots 8 are positioned in spaced-apart relation near an edge

of the window opening 6 for reasons which will become apparent hereinafter.

A suction roll 10 receives the respective articles 3 from the gum applying station 7 and brings the articles successively into a receiving position adjacent an insert applying section 11, where an insert 12 is applied on the surface 9 over the window opening 6 and into contact with the adhesive spots 8, said spots functioning to temporarily maintain the inserts in the applied position during further travel through the apparatus.

The inserts 12 are of smaller size than the surface 9 whereby said surface is partially covered by the insert, but exposed over an area 13 (FIG. 3) located beyond a substantial peripheral portion of the insert 12. In this example, the insert 12 is in the form of a rectangular address card and the surface 9 is exposed beyond the edges 14, 15, 16 and 17 thereof.

After the insert 12 is applied at section 11, the article, with the insert temporarily secured thereto, is received by propelling rollers 18 and delivered through a second gum applying section 19. In the section 19 adhesive is applied onto the exposed area 13 in a pattern 20 at least partially surrounding the insert 12, in this example, in a series of strips respectively adjacent but not contacting the insert edges 14, 15 and 16, forming a "U" shape, FIG. 3.

The article is then transferred by means of suitable propelling rollers 21 to a suction roll 22 which forms a support for the articles while sheets 23 are applied into at least partially overlying relation with the insert 12 and into contact with the adhesive pattern 20 at a sheet applying station 24. The application of the sheet 23 forms a pocket 25 with the article 3, which, although just created, contains the removable insert 12.

The articles 3, incorporating the pocket and insert, are then delivered to other sections of the apparatus, (not shown) where additional operations may be performed thereon, such as folding. An example of the final products is illustrated in FIG. 4, which shows a letterhead 26 with the insert 12 removed from the pocket 25. Note that an address 27 is positioned on the insert 12 so as to align with the window opening 6, constituting an address heading for text 28 printed on the letterhead. The recipient of the completed article may easily withdraw the insert 12 since the adhesive spots 8, as noted, are preferably composed of either low-shear or disintegrating adhesive which present little or no resistance to force tending to separate the insert from the article surface. If desired, the apparatus may be suitably modified to temporarily mechanically retain the insert 12 in place on the surface 9 without the use of adhesive, until the sheet 23 is secured. Further, a slot 29 (FIG. 4) may be cut into the letterhead, preferably with the window opening 6, to facilitate grasping the insert.

The apparatus described above may constitute, as in the described example, a suitably modified, integrated envelope making machine wherein the various operating sections are mounted on a common frame 30. However, the apparatus, alternately, could be constructed of individual operating members located in spaced relation, so long as they, together, define a suitable path 31 through which the articles 3 may be continuously propelled in spaced-apart or suitably partially overlapped relation, exposing the surface 9 when necessary to perform the respective described operations. Also, it will be apparent to those skilled in this art that, if desired,

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the sequence of operations could be suitably modified so that the adhesive pattern 20 is applied to the surface 9 prior to the application of the insert 12; the adhesive pattern 20 may be applied to the underside of the sheet 23 instead of the surface 9, and the adhesive spots 8 may be applied to either the surface 9 or insert 12 and at various locations in the production sequence.

It is to be further understood that while certain forms of this invention have been illustrated and described, it is not to be limited to the specific form or arrangement of steps or parts herein described and shown except insofar as such limitations are included in the following claims.

What is claimed and desired to secure by Letters Patent is:

1. A method of producing articles having a surface supporting sheet means forming a pocket containing a removable insert comprising:

a. propelling said articles along a path with said surface exposed;

b. applying said removable insert from a remote location into overlying, contacting, impermanent relation with said surface, said removable insert being of smaller size than said surface whereby said surface is partially covered by said removable insert and exposed over an area located beyond a substantial peripheral portion of said removable insert; and

c. applying said sheet means from a remote location into at least partially overlapping relation with said removable insert and into adhesive contact with said area forming a pocket at least partially containing said insert and having an opening sufficient to withdraw said removable insert therefrom,

d. the application of said removable insert and sheet means being performed while continuously propelling said articles along said path.

2. The method as set forth in claim 1 wherein said articles are paper letterheads.

3. The method as set forth in claim 1 wherein said removable inserts are cards.

4. The method as set forth in claim 1 wherein said removable inserts are rectangular in shape and said adhesive pattern is located adjacent three edges thereof.

5. The method as set forth in claim 1 wherein low shear adhesive is applied between said removable insert and said surface prior to applying said removable insert

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into overlying contact relation with said surface.

6. The method as set forth in claim 1 wherein disintegrating gum is applied between said removable insert and said surface prior to applying said removable insert into overlying contact relation with said surface.

7. The method as set forth in claim 1 wherein a window opening is cut through said article prior to said removable insert application and said removable insert is applied over said window opening.

8. Apparatus for producing articles having a surface supporting sheet means forming a pocket containing a removable insert comprising:

a. frame structure;

b. means associated with said frame structure for continuously propelling said articles along a path with said surface selectively exposed;

c. means on said frame structure and located in said path for applying said removable insert from a remote location into overlying contacting, impermanent relation with said surface whereby said surface is partially covered by said removable insert and exposed over an area beyond a substantial peripheral portion of said removable insert;

d. means on said frame structure and located in said path for applying adhesive between said sheet means and said area in a pattern at least partially surrounding said removable insert; and

e. means on said frame structure and located in said path for applying said sheet means from a remote location into at least partially overlapping relation with said removable insert and into adhesive contact with said surface and forming a pocket at least partially containing said insert and having an opening in said pocket sufficient to withdraw said removable insert therefrom.

9. The apparatus as set forth in claim 8 wherein said adhesive applying means is adapted to apply said adhesive pattern upon said area.

10. The apparatus as set forth in claim 9 wherein said removable insert is a rectangular card and said adhesive applying means is adapted to apply adhesive in strips adjacent three edges of said card.

11. The apparatus as set forth in claim 8 including means upstream from said means for applying said insert for applying temporary adhesive between said insert and said surface.

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