C. BONNAIRE

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SHEET TO MAKE BLANK PRINTED OR WRITTEN ENVELOPES AND THE LIKE

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Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.

Inventor,
C. Bonnaire

By: Hascock Downing, Esq.
This invention relates to the improved manufacture of sets of connected envelopes.

The present invention consists in a set of connected envelopes without lateral flaps, comprising a web or sheet of paper or other flexible material pleated to form a structure consisting of alternating high and low elements which are connected together in pairs along one or both their lateral edges to form a series of connected pockets, the projecting portions of the higher elements forming closure flaps. The set is obtained by creasing the web or sheet transversely to form the elements, coating it along at least one of the lateral edges with an adhesive substance, folding it along the creases and pressing the elements down to cause the elements to stick together at least along one of the lateral edges and form the pockets and finally coating the projecting portions of the higher elements intended to serve as closing flaps with an adhesive.

By this means the manufacture of the envelopes involves the making of only a single fold for each envelope and in the finished strip the envelopes are folded over one another in overlapping formation, which enables them to be consecutively inscribed with any required data: also the contents inserted, the envelopes' flaps to be molstened and the individual parts of the sets to be detached, all consecutively.

The invention also has the advantages that lateral flaps being dispensed with, paper is saved, there is no waste due to parts of the web being cut away during the formation of the flaps, difficult pasting operations are avoided and the formation of the envelopes by folding over several pasted or gummed strips is avoided. The envelopes can therefore be manufactured more quickly and more cheaply and they do not occupy so much storage space, since each envelope awaiting use only comprises two thicknesses of paper as compared with the five paper and four glue overlapping thicknesses of the usual envelopes comprising top, side and bottom flaps and which, if connected to each other in step-like manner, cannot be inserted into the usual typewriter or book-keeping machine on account of their thickness, still less with any number of summary sheets or carbons.

Owing to the envelopes being arranged in overlapping relationship, it is possible when inscribing data on the envelopes to obtain simultaneously a copy of the inscribed data by placing a blank or printed sheet and a carbon over or under the envelope strip and typing the data on the envelopes through the carbon. The said sheet may be integral with, attached to, over or under, the strip of envelopes and provided with guide marks, in order to ensure that the required data are properly inscribed on the individual envelopes, when the sheet is placed over them, or one edge of the sheet may be offset from the edge of the strip to expose portions of the areas of the individual envelopes.

By employing a web or sheet of sufficient width and connecting the alternating high and low elements along one or more vertical lines intermediate their lateral edges, a series of overlapping horizontal rows of envelopes can be obtained, weakenings, e.g. lines of perforations being provided at the intermediate connecting places to allow the individual envelopes to be easily separated. Similarly, weakenings are also preferably provided between the overlapping envelopes or rows of envelopes.

The invention is illustrated by way of example in the accompanying drawing, in which

Fig. 1 is a front elevation of part of a web of material prior to being pleated but showing the fold lines,

Fig. 2 is a perspective view of a series of envelopes according to the invention,

Fig. 3 is a part front elevation of a series of envelopes with a record sheet attached thereto, and

Fig. 4 is a front elevation of part of a web of material prepared for the formation of envelopes with tags,

Fig. 5 is a perspective view of a fold introverted in the manufacture of the envelope according to the invention,

Fig. 6 is a perspective view of a series of envelopes with strips of adhesive provided intermediate of their lateral edges to enable smaller envelopes to be subsequently made from the original envelopes.

Referring to the drawing, a web a of paper or other flexible, transparent or non-transparent, material (Fig. 1) is creased transversely along the lines f and g to form alternating high and low elements h, i, respectively, and is coated along its lateral edges with strips b, c of an adhesive substance e.g. gum and with a wider intermediate strip of adhesive d, since in the example shown in Fig. 1 the envelopes are to be formed in pairs located horizontally side by side. The web a is then folded along the crease lines f, g to form a pleated structure, only half of which is shown in Fig. 2, the alternating high and low elements being pressed together to cause the elements to stick together at their lateral edges
and along the intermediate strips d. The projecting upper portions e of the elements serve as flaps for closing down the envelopes, preferably along separated folding lines (Figs. 1 and 2). The projecting portions e are attached to the strip of envelopes by sewing along the fold lines f and along the centre line j which is provided with a weakening, e.g., a row of perforations, for facilitating detachment. Preferably the fold lines f are also perforated or otherwise weakened to facilitate detachment of the envelopes. Fig. 2 shows only a single superposed series of envelopes, the complete strip formed from the web a having been divided into two along the line f. The use of an additional web, preferably of different kind, colour or thickness, will provide inside casing after both webs have been folded according to the invention. This will improve the openness of the envelopes and will provide a better resistance to the wear and tear and can also be used as an additional protective surface for any of the purposes herein described. With this end in view the additional web may be narrower and, if desired, also shorter than the other one, and the flap end may be shortened after folding by separating a small portion of the strip thereof made detachable by a horizontal perforation. Both webs may otherwise be treated simultaneously in the transverse and longitudinal direction, as herein described.

Instead of forming the envelopes in pairs as shown in Fig. 1, more than two envelopes may be arranged in a horizontal row or individual single strips as shown in Fig. 2 may be produced in the first instance from narrow webs of paper. The elements h, i may be attached to one another, by crimping the pleated web or according to any other suitable method or combination of methods, and spots or strips of adhesive be additionally provided at any suitable part and side of the web; for instance, if provided intermediate of the ends of the envelopes, as shown at k (Fig. 6) they will enable smaller envelopes to be subsequently made from the original envelopes after the end portions provided with the adhesive strips b, c have been removed along a perforation line, which smaller envelopes may in their turn be adapted to be opened along another perforation line. It is of course to be understood that the additional adhesive strips h are not stuck together in the first instance, but only subsequently when the smaller envelopes are to be formed. Self-adhesive spots and/or strips may be used on any of the parts above referred to as provided with an adhesive, it being understood that in this case self-adhesive spots and/or strips are provided on the counter-parts.

Carbon spots or strips may be provided in any suitable places within or outside the envelope as required, to enable copies or part copies to be obtained of any of the inscriptions on any part in or outside of the envelopes. The foregoing arrangements may be used for printed circulars, envelope addressing, containers, pay envelopes or any such kind of missive or containing envelopes. The envelopes may be provided with removable tags such as the tags l shown in Figs. 3 and 4, serving as receipt slips or for any other purpose, by employing webs of paper of sufficient width and applying the marginal strips of adhesive b or c preferably at a sufficient distance inwardly from the edge, perforations m being provided on any required side of the gummed strips for enabling the tags to be easily removed, and this either with or without a simultaneous opening of the envelope. Fig. 4 shows part of a web which has been perforated and provided with the necessary layers of adhesive in a similar manner to that shown in Fig. 1 b, in which provision has been made for the removable tags l.

Referring to Fig. 3, the uppermost part of the set of envelopes has a gummed strip n to which is attached a cover sheet o which may be plain or printed on and may be provided with guide marks to indicate the exposed areas of the individual envelopes below it. The cover sheet o may optionally be extended to the right or left of the strip of envelopes to enable other particulars to be inserted thereon which it is not desired to insert on the envelopes. Instead of one a number of superposed sheets o may be used, being attached in any suitable manner at the top or side and instead of guide marks, one edge m may be offset from the edge of the strip of envelopes to expose portions of the individual envelopes.

By inserting a carbon paper between the cover sheet and the strip of envelopes, or by providing carbonised underparts, the required data can be typed simultaneously on the cover sheet and on the envelopes, and as each envelope comprises only two thicknesses of paper this presents no difficulty. In order to facilitate the detachment of the cover sheet or sheets the perforations or other weakenings is provided at the fold p or at any suitable location below the fold.

It will be seen from Fig. 2 that all the flaps e of the strip of envelopes are simultaneously exposed, thus enabling all the flaps to be used for the purpose of inscriptions or for providing the whole set of them with an adhesive coating at one time. Thus, when the envelopes are required to have gummed flaps, the projecting portions e of the elements h are coated with adhesive after the lateral edges of the elements h, i have been stuck together; alternatively the adhesive may be applied simultaneously to the flaps and lateral edges.

The perforations or weakening lines need not be provided at the folds along the lines f but may be located at any convenient place according to the requirements of the finished article; e.g., the perforations may only be provided at every alternate fold f, so that the detached portions of the strip of envelopes can also be used as wallets with double side pockets. In this case alternate flaps e may be used as detachable colouration vouchers or the like, for which purpose they are preferably provided with perforations or other weakenings to facilitate their removal.

The folding may be varied. For instance the folds may be made at progressively increased distances apart to produce sets of envelopes of increasing or different sizes. Further, a regular double fold may be inserted between the envelope forming parts, preferably not gummed, for additional purposes. The edges of the envelopes may be especially strengthened in the case of envelopes required to enclose weighty or bulky articles. In this case it is preferred to provide the envelopes preferably at their base or in the flaps with an introverted fold as shown at p in Fig. 5, the sides being preferably made deeper. The flap may be similarly strengthened.

During the manufacture of the strips of envelopes, only a portion of the side flaps inwardly from the edge need be stuck down, leaving the other edge open as well as the top, so as to enable the envelopes to be completed by closing down the sides and the top, the contents being inserted through the open corner end which is subse-
quentlly closed down by sticking down the other
two lateral edges of the envelope by means of
the adhesive coating already, or to be, provided.
Elongated forms of envelopes can also be ob-
tained by leaving the side open only for sub-
sequent closing.

The corners of the flaps may be cut away as
shown at \( q \) to facilitate the insertion of the flaps
into the envelopes when the latter are required to
be tucked into the envelopes instead of being
stuck down.

What I claim is:

1. A method of manufacturing a pile of super-
posed, staggered and connected envelopes con-
sisting in creasing a rectangular web of flexible
material transversely to form a structure of pairs
of alternating high and low rectangular ele-
ments, providing adhesive means at least along
one of the lateral edges of the creased web, fold-
ing the web along the creases, whereby the said
pairs of elements become superposed in a stag-
gered manner, pressing the elements down to
cause them to stick together at least along one
of the lateral edges and to form superposed pock-
etes staggered with respect to one another and
providing with an adhesive the projecting por-
tions of the high elements intended to serve as
closure flaps.

2. A method of manufacturing a pile of ad-
ijacent series of superposed, staggered and con-
nected envelopes from a rectangular web of flex-
ible material consisting in providing a weaken-
ning line in the longitudinal direction of the web
at the required intermediate distance from the
lateral edges of the web to subdivide the latter
into strips and separate one series from the ad-
jacent one, creasing the web transversely to form
a structure of pairs of alternating high and low
rectangular elements, providing adhesive means
at least along one of the lateral edges of each
of the said strips of the creased web, folding the
web along the creases whereby the said pairs of
elements become superposed in a staggered man-
nner, pressing the elements down to cause them
to stick together at least along one of the lateral
edges of each subdivided strip and to form in
each such strip superposed pockets staggered
with respect to one another, and providing with
an adhesive the projecting portions of the high
elements intended to serve as closure flaps.

3. A method of manufacturing a pile of super-
posed, staggered and connected envelopes as
claimed in claim 1, comprising the step that in
addition to the adhesive means referred to, fur-
ther adhesive means are provided along and
in the close vicinity of the first adhesive means
together with a weakening line between the two,
for the purpose of enabling smaller envelopes
to be made subsequently after the envelopes se-
cured along the first adhesive means have been
used.

4. A method of manufacturing a pile of super-
posed, staggered and connected envelopes con-
sisting in creasing a rectangular web of flex-
ible material transversely to form a structure of
pairs of alternating high and low rectangular ele-
ments, providing adhesive means at least along
one of the lateral edges of the web, folding the
web along the creases, whereby the said pairs of
elements become superposed in a staggered man-
nner, pressing the elements down to cause them
to stick together at least along one of the lateral
edges and to form superposed pockets staggered
with respect to one another, the pro-
jecting portions of the higher elements being capa-
bile of serving as closure flaps.

5. A method of manufacturing a pile of super-
posed, staggered and connected envelopes from
a rectangular web of flexible material, consist-
ning in providing adhesive means at least along one
of the lateral edges of the rectangular web, fold-
ing the web transversely at such distances in the
longitudinal direction as to form a structure of
pairs of alternating high and low elements which
are superposed in a staggered manner, pressing
the elements down to cause them to stick toget-
er at least along one of the lateral edges and to
form superposed pockets staggered with respect
to each other, the projecting portions of the high-
er elements being capable of serving as closure
flaps.

6. A method of manufacturing a pile of super-
posed staggered and connected envelopes from
a rectangular web of flexible material, consist-
ing in providing weakening lines on the said
rectangular web transversely to form a structure
of pairs of alternating high and low rectangular
elements, providing adhesive means at least along
one of the lateral edges of the said web, folding
the web along the said weakening lines whereby
the said pairs of elements become superposed in
a staggered manner, pressing the elements down
to cause them to stick together at least along
one of the lateral edges and to form superposed
pockets staggered with respect to one another
the projecting portions of the higher elements
being capable of serving as closure flaps.

7. A method of manufacturing a set of con-
nected envelopes without lateral flaps consisting
in creasing a web of flexible material transverse-
ly to form a structure of pairs of alternating
high and low elements, the said pairs being stag-
gerated relatively to one another thereby enabling
the envelopes to be consecutively inscribed, pro-
viding adhesive means at least along one of the
lateral edges of the creased web, folding the web
along the creases and pressing the elements down
to cause them to stick together at least along one
of the lateral edges and form pockets, providing
with an adhesive the projecting portions of the high
elements intended to serve as closure flaps, and
providing the envelopes with carbon strips to enable copies or part copies to be ob-
tained of any of the inscriptions on any part in
or outside the envelope.

8. A method of manufacturing a set of super-
posed staggered and connected envelopes without
lateral flaps, consisting in creasing a web of flex-
ible material transversely to form a struc-
ture of pairs of alternating high and low ele-
ments, the said pairs being staggered relatively
to one another thereby enabling the envelopes
to be consecutively inscribed providing adhesive
means along one of the lateral edges of the
creased web and along a longitudinal line some
distance inward from the other lateral edge, per-
forating the web along the said longitudinal line,
folding the web along the creases and pressing
the elements down to cause them to stick to-
together along the said lateral edge and longitu-
dinal line, whereby envelope pockets are formed
each with a lateral tag, capable of being detached
during the perforations, and providing an
adhesive the projecting portions of the higher
elements intended to serve as closure flaps.

9. A method of manufacturing a set of con-
nected envelopes without lateral flaps consisting
in creasing a web of flexible material transverse-
ly to form a structure of pairs of alternating
high and low elements, the said pairs being staggered relatively to one another thereby enabling the envelopes to be consecutively inscribed, providing adhesive means at least along one of the lateral edges of the creased web, folding the web along the creases and pressing the elements down to cause them to stick together at least along one of the lateral edges and form pockets, providing with an adhesive the projecting portions of the higher elements intended to serve as closure flaps, and attaching at least one cover sheet to the strip of formed envelopes to enable data to be simultaneously inserted on the envelopes and cover sheets.

10. A method of manufacturing a set of connected envelopes without lateral flaps consisting in creasing a web of flexible material transversely to form a structure of pairs of alternating high and low elements, the said pairs being staggered relatively to one another thereby enabling the envelopes to be consecutively inscribed, providing adhesive means at least along one of the lateral edges of the creased web, folding the web along the creases and pressing the elements down to cause them to stick together at least along one of the lateral edges and form pockets, providing with an adhesive the projecting portions of the higher elements intended to serve as closure flaps, and attaching at least one cover sheet to the strip of formed envelopes to enable data to be simultaneously inserted on the envelopes.

11. A method of manufacturing a set of connected envelopes without lateral flaps consisting in creasing a web of flexible material transversely to form a structure of pairs of alternating high and low elements, the said pairs being staggered relatively to one another thereby enabling the envelopes to be consecutively inscribed, providing adhesive means at least along one of the lateral edges of the creased web, folding the web along the creases and pressing the elements down to cause them to stick together at least along one of the lateral edges and form pockets, providing with an adhesive the projecting portions of the higher elements intended to serve as closure flaps, and attaching at least one cover sheet to the strip of formed envelopes to enable data to be simultaneously inserted on the envelopes.

12. A method of manufacturing a set of connected envelopes without lateral flaps consisting in creasing a web of flexible material transversely to form a structure of pairs of alternating high and low elements, the said pairs being staggered relatively to one another thereby enabling the envelopes to be consecutively inscribed, providing adhesive means at least along one of the lateral edges of the creased web, folding the web along the creases and pressing the elements down to cause them to stick together at least along one of the lateral edges and form pockets, providing with an adhesive the projecting portions of the higher elements intended to serve as closure flaps, and attaching at least one cover sheet to the strip of formed envelopes to enable data to be simultaneously inserted on the envelopes and to cover sheets, the cover sheet being narrower than the width of the strip of envelopes in order to expose portions of the individual envelopes.

CLAUD BONNAIRE.