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(54) IMPROVEMENTS IN OR RELATING TO CONTINUOUS ENVELOPE ASSEMBLIES

(71) We, MOORE BUSINESS FORMS LIMITED (formerly Lamson Industries Limited) a British company of 75/79 Southwark Street, London SE1 0HY, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

10 This invention has reference to continuous envelope assemblies. For example it may refer to the continuous envelope assemblies described in the specification of our British Patent No. 1258423 which includes an envelope assembly divided into envelope lengths and which comprises an information sheet and a pocket sheet, the sheets being adhesively secured together along three edges by areas of adhesive to form a pocket to receive a cheque in payment of an account and the information sheet having a cross perforation line to divide each envelope length into a retained portion and a returnable envelope portion, the returnable portion containing a pocket to receive a cheque and a flap portion to retain the cheque in the pocket. Such envelope assemblies are arranged to receive details of accounts being submitted for payment, invoices etc.

30 The invention also has reference to those kind of envelope assemblies sometimes referred to as salary advice envelopes which are divided into envelope lengths by cross perforations and each envelope length is divided into two parts by a longitudinal perforation. One part contains areas on which details of an employee's salary, name and address can be applied by a typewriter or print unit and the other part is folded over to cover the employee's salary part.

45 When such envelopes are used for sending out accounts, invoices, salary advices etc., the continuous assembly consists of a plurality of envelope lengths fed through a typewriter or other print unit and information of the account, salary advice etc. is applied to each envelope length of the envelope assembly. Subsequently, the envelope lengths can be detached and the envelope parts are

folded by hand before being posted. This hand folding is time consuming and costly. 50

In such assemblies the so called envelope webs do not constitute envelopes in web form. It is not until they are folded and sealed that they become envelopes. Nevertheless they are referred to herein as envelope webs which are said to be divided into envelope lengths. 55

It is a principal object of the present invention to provide an improved envelope assembly which can be used to receive data information by a typewriter or other print unit and then be readily subjected to a collating (for example, folding) and sealing operation in a processing machine. 60

According to the present invention a continuous envelope form assembly comprises a continuous web having spaced and parallel transverse lines of weakening therealong for separating said web into individual units, said web having first and second spaced and parallel longitudinal fold lines therein defining adjacent first, second and third web portions, said first and third portions respectively overlying said second and first portions upon being folded along said respective first and second fold lines, said first and second portions of each said unit being adhesively secured together by adhesive means defining a pocket of a return envelope opening toward said first fold line, said third portion of each said unit being removably secured to said first portion and having an end lying adjacent said first fold line, a detachable end stub in said overlying web portions and including said end of said third portion, said second portion of each said unit having a first section adjacent said stub and a flap detachably secured to said section, said first portion of each said unit having a second section detachably secured thereto and overlying said first section as well as said flap, whereby removal of said stub facilitates removal of said third portion and exposes said return envelope, and removal of said sections exposes said flap for closing said return envelope packet. 65 70 75 80 85 90 95

Embodiment of the invention will now be

described by way of example with reference to the accompanying drawings wherein:

Fig. 1 is a top plan view of a continuous web of which the envelope assembly of the invention is constructed;

Fig. 2 is a plan view similar to Figure 1 showing a portion of the continuous web being first folded on itself to form the return envelope of the assembly;

Fig. 3 is a cross-sectional view through the partly constructed assembly taken along line 3—3 of Figure 2;

Fig. 4 is a top plan view of the assembly, slightly enlarged, after having been separated from the continuous web;

Figs. 5 and 6 are respectively cross-sectional views of the Figure 4 envelope assembly taken along lines 5—5 and 6—6 of Figure 4; and

Fig. 7 is a top plan view similar to Figure 4, although slightly reduced in size, of the envelope assembly in accordance with the invention after having been received by the addressee and showing the manner in which the envelope is opened.

A continuous web 10 is shown in Figure 1 from which continuous envelope assemblies according to the invention are constructed. Score lines 11 and 12 are provided in the web as well as lines 13, 14, 15 and 16 of perforations. Pattern prints 17 which may be of cold flow adhesive are also applied on the web in U-shaped form substantially as shown in Figure 1 and opening toward fold line 11. Web portion 18 constituting an intermediate ply and which in part constitute an addressee portion as to be hereinafter described, is then plough folded along score line 11 to collate the assemblies so that the intermediate ply overlies a middle web portion 19 which will ultimately constitute a bottom ply of the assembly as shown in Figure 4. It should be noted that the above-mentioned plough folding operation is common in business forms manufacturing as a means for folding continuous webs. Return envelope pockets 21 are thereby formed between web portions 18 and 19 and the part of the web not covered by the web portion 18 constitute an information receiving portion.

All press printing may now be carried out for applying information on those portions of the web typically shown in Figure 2 as identifying return and record stubs, operation instructions for the addressee, and a printed face of the return envelopes.

Lines 22, 23 and 24 of perforations parallel to the fold lines are then applied along the web, and marginal web feed holes 25 are provided along the left and right margins as shown in Figures 2 and 3 for processing the web during assembly and user processing over computer printers. A strip of sealing material 26 is applied along the top surface of web portion 18 inwardly of line 13 of per-

forations. And, a cover strip 27, typically of glassine or wax coated paper, is applied over the sealing material for effectively covering same until subsequently removed.

Windows 28 are then die-cut in web portion 29, and clear window patches 33 of any suitable material may then be secured over windows 28. The windows are so positioned that when the part 29 of the web is folded about the perforation 22 the address printed on the addressee portion is visible through the window. Transverse lines 31, 32 of perforations are applied in the partly folded over web just outwardly of the upper and lower leg portions of pattern print areas 17, and pattern prints 34, which are of hot melt heat seal adhesive, are applied in U-shaped form on web portion 29 substantially as shown in Figure 2. These adhesive pattern prints are disposed outwardly of lines 24, 31 and 32 of perforations, and they open toward line 22 of perforations. Transverse lines 35 of perforations are applied in the folded-over web between the adjacent legs of adhesive pattern prints 34 so as to define series connected envelope length assemblies, ready for successive printing, folding, sealing, and detaching.

The top face of the open envelope assembly shown in Figure 2 is then computer printed either on the printing press or by conventional billing methods to apply the necessary data information to the information receiving portion 18 and address information to the area constituting the addressee portion as shown in Figure 2. Serially addressed forms are then processed into mail-ready configuration by folding panel 29 over previously folded panels 18 and 19, along perforation 22, then sealing by activating previously applied hot-melt adhesive and bursting by equipment in general usage for this operation. Individually separated stacks of envelope assemblies are then ready for mail processing.

Upon receipt, the addressee is instructed by indicia applied on the top face of the assembly 36 to carefully remove stubs 36, 37 and 38 as illustrated in Figure 7 along their respective lines 24, 31 and 32 of perforations. Since these three stubs contain the three legs of adhesive pattern print 34, the means securing the web portion or top ply 29 in place is removed. A return envelope 39 having a removably attached part 41 thereon remains after stub removal together with upper ply 29 removably secured to the return envelope along line 22 of weakening. The top ply may then be separated along line 22 and subsequently separated into two parts 42 and 43 along line 23 of perforations. In the configuration shown in Figure 7, part 42 containing window 28 may then be discarded by the addressee, and part 43 may comprise a receipt stub for retention by the addressee,

although individual layout preferences could be altered.

Upon removal of stubs 36, 37 and 38, the addressee is likewise instructed to remove part 41 from the return envelope along lines 13 and 16 of perforations. This part 41 actually comprises two superimposed sections 44 and 45 (see also Figure 3) wherein the formed is defined between lines 13 and 14 of perforations and the latter is defined between lines 15 and 16 of perforations. Section 44 may therefore comprise a return stub for insertion into envelope pocket 21 of the return envelope. The addressee is then instructed to remove cover strip 27 so that return envelope flap 46, defined between score line 12 and line 16 of perforations in bottom ply 19, can be folded over the open end of the return envelope for sealing the flap along material 26.

From the foregoing, it can be seen that a combined mailer and return envelope assembly constructed of a single web twice folded over on itself is provided in such a material as to be easily assembled yet is highly economical as compared to multiple part constructions. The assembly includes a return envelope and a return stub for insertion therein as well as a record stub for retention by the addressee. The flap for the return envelope may be formed on the bottom ply as disclosed or on the intermediate ply if desired, and spots of adhesive may be used to secure the top ply in place in lieu of the top and bottom glue streams of adhesive pattern print 34. Accordingly, stubs 37 and 38 would not be needed since the top ply could be simply peeled away after the removal of stub 36.

#### WHAT WE CLAIM IS:—

1. A continuous form envelope assembly, comprising a continuous web having spaced and parallel transverse lines of weakening therealong for separating said web into individual units, said web having first and second spaced and parallel longitudinal fold lines therein defining adjacent first, second and third web portions, said first and third

portions respectively overlying said second and first portions upon being folded along said respective first and second fold lines, said first and second portions of each said unit being adhesively secured together by adhesive means defining a pocket of a return envelope opening toward said first fold line, said third portion of each said unit being removably secured to said first portion and having an end lying adjacent said first fold line, a detachable end stub in said overlying web portions and including said end of said third portion, said second portion of each said unit having a first section adjacent said stub and a flap detachably secured to said section, said first portion of each said unit having a second section detachably secured thereto and overlying said first section as well as said flap, whereby removal of said stub facilitates removal of said third portion and exposes said return envelope, and removal of said sections exposes said flap for closing said return envelope packet.

2. The assembly according to claim 1, wherein said first and third portions of each said unit are secured together by further adhesive means lying outwardly of said adhesive means parallel to said transverse lines and to said third portion end, detachable side stubs in said overlying web portions and containing said further adhesive means, whereby said third portion of each said unit is separable from said first portion upon removal of said stubs.

3. The assembly according to claim 1 or 2, wherein said third portion of each unit is separable into two parts along a line of weakening, one of said parts constituting a receipt stub of the assembly.

4. A continuous form envelope assembly constructed and arranged substantially as herein described with reference to the accompanying drawings.

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