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(12) # EUROPEAN PATENT APPLICATION

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(54) **Improvements in or relating to business forms.**

(57) The invention is concerned with a business forms assembly of the kind sometimes referred to as a "snap-out' set which may be of self manifolding paper (sometimes called self copy paper) or of record sheets (1) interleaved with transfer sheets (carbon paper sheets). The assembly comprises a plurality of interleaved sheets (1) secured together at or adjacent one edge by adhesive (2) to form a stub and with transfer material between the sheets and wherein an extension sheet part (5) extends beyond the secured stub edge to provide a means for feeding the interleaved sheets (1) into a print unit (11 to 15).

FIG.2

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This invention has reference to business forms assemblies and has particular reference to forms usually of the self manifolding paper but may be of record sheets interleaved with sheets of carbon paper and which sheets are secured together at one edge by adhesive between the individual sheets to form a stub. This stub is usually at the top end of the sheets and the form constitutes what is knownas a "Snap-out" set.

It is required to feed such sheet assemblies into and through a print unit. Such print unit may form part for example of a word processing unit and this leads to difficulty because of the distance through which the form has to be fed between the imput to the print unit and the feed mechanism within the print unit. Such print units readily accomodate a single part sheet being fed through them but when feeding traditional multi part sets problems arise with the feeding of such sets.

It is an object of the present invention to provide an improved business forms sheet assembly.

It is a further object of the invention to provide an improved business forms sheet assembly which is capable of being fed through a print unit, having a

long feed distance between the in feed and feed mechanism within the print unit.

According to the present invention a business form sheet assembly comprises a plurality of interleaved sheets secured together at or adjacent one edge by adhesive to form a stub wherein a single extension sheet part extends beyond the secured stub edge to provide a means for feeding the interleaved sheets into a print unit.

Preferably the business forms sheet assembly has the single extension sheet part integral with the upper or lower record sheet of the assembly.

A business forms sheet assembly in accordance with the present invention will now be described by way of example with reference to the accompanying drawings wherein:

Fig 1 is a plan view of a business forms assembly in accordance with the present invention

Fig 2 is a side view of the assembly.

Figs 3 and 4 are views of modified assemblies and

Fig 5 is a diagrammatic view of a printing unit.

Referring to Fig 1 of the drawings, there is shown a business forms sheet assembly comprising a plurality of record sheets 1 each consisting of a sheet of self manifolding paper. This may be the kind sold under the Trade Mark MCP (Moore Clean Print) but may be of other kinds of self manifolding paper. As shown the assembly consists of four sheets of paper secured together adjacent at their leading edges by a respective line of adhesive 2 extending across the form adjacent to the leading edge of the form. On the side of the line of adhesive away from the leading edge of the form a plurality of aligning holes 3 are provided in each sheet. These are for the purpose of registering the sheets together.

A line 4 of tear off perforations is also provided in each sheet on the side of the registration holes remote from the leading edge and thus defines one side of a stub. The upper most sheet only of the assembly extends beyond the leading end of the other sheets of the assembly to form a single extension sheet part or tongue 5 which extends beyond the stub edge of the first four sheets to provide a means for feeding and leading the interleaved sheets into a print unit. A perforation line 6 is provided on the sheet part or tongue adjacent the body part of the assembly in order that the sheet part or tongue 5 may be readily detached.

In a preferred form of the invention each of the top four sheets has a width of 8 inches and a depth of 12 and a quarter inches. The extension sheet part or tongue 5 extends beyond the four other sheets for a distance of 6 inches and of course has a width of eight inches.

In a modified form of the forms assembly 1 shown in Fig 3 the construction is similar to that shown in Fig 1 except that the extension sheet 5 extends from the lowermost sheet of the assembly rather than the uppermost sheet to provide a means for feeding and leading the sheets into a print unit.

The modified form of the forms assembly shown in Fig 4 is similar to that shown in Fig 1 but with the lowermost sheet of the assembly extending for a short distance beyond the other four record sheets of the assembly. In addition an extension sheet 7 separate from the four record sheets of the assembly is secured to the uppermost sheet of the assembly to extend away from the record sheets. The near edge of the extension sheet 7 is aligned with lines of tear off perforations 4 on the record sheets and the sheet 7 is secured to the uppermost of the record sheets 1 by a line of adhesive 8 in line with the line 2 of adhesive securing the record sheets 2 together. The sheet 7 also has

a line of aligning holes 3 in line with the holes in the record sheets 1. A line of adhesive 9 secures together the upper side of that part of the lowermost sheet of the assembly which extends beyond the other record sheets and the lower side of the extension sheet 7.

In a preferred form of the assembly shown in Fig 4 the paper which forms the extension sheet part of the assembly is of 90 gsm (grams per square metre) paper and for MCP (self manifolding paper) each part is of 53 gsm paper whereas for bond paper with carbon transfer sheets the uppermost record sheet part of the assembly is of 60 gsm paper and the other sheets of the assembly are of 45 gsm paper.

The extension sheet part 5 may constitute a reply card and has provision to receive the name of a prospect printed on the card. Alternatively it can be used as a self adhesive label or an attachement for an envelope. In an alternative it can de produced from Davoc paper and serve as a basis for providing a label in which case the label would be printed in the print out unit. In a further arrangement the tongue would constitute an envelope.

Referring to Fig 5 of the drawings there is shown a diagrammatic view of a print unit which includes a hopper tray 11 for receiving a stack of forms 1a assemblies of the kind shown in Figs 1 to 4. The hopper tray 11 has adjacent its lower end a resilient guide member 12 which serves to guide the uppermost form assembly of the stack towards a form feed means shown diagrammatically as a feed tractor mechanism 13. The feed tractor mechanism directs a single form assembly from the hopper tray to a throat between the platen 14 and a guide 15 arranged circumferentially around the platen and thence to a print position 16 represented by an arrow. At this print position 16 a percusssion mechanism for example a print hammer of a series of wire print heads apply printed data to the form assembly. Rollers mechanism represented by a pair of rollers 17 are positioned at the outfeed side of the platen 14 and these other rollers serve to guide the forms assembly to the tray 18 to receive the printed forms assemblies. The print mechanism is retained in a casing shown at 19 to reduce the noise issuing from the print mechanism.

By virtue of having the extension sheet part at the leading end of each of the forms assemblies as assembly (as distinct from a single sheet) can be fed satisfactory through a print unit.

CLAIMS

1. A business forms sheet assembly comprising a plurality of interleaved sheets secured together at or adjacent one edge by adhesive to form a stub and with transfer material between the sheets and wherein an extension sheet part extends beyond the secured stub edge to provide a means for feeding the interleaved sheets into a print unit.

2. A business forms sheet assembly according to claim 1 wherein the extension sheet part is integral with the upper or lower record sheet of the assembly.

3. A business forms sheet assembly according to claim 1 wherein the extension sheet comprises a separate sheet secured to one of the outer sheets of the assembly by adhesive.

4. A business forms sheet assembly according to any one of the preceding claims wherein the sheets of the assembly are of self manifolding paper.

5. A business forms sheet assembly according to any one of claims 1 to 3 wherein the sheets of the assembly are of record sheets interleaved with transfer material sheets.

6. A business forms sheet assembly according to any one of the preceding claims wherein each record sheet has a line of transverse tear off perforations adjacent the adhesive securing the sheets together which line of tear off perforations defines a stub.

7. A business forms sheet assembly according to claim 2 wherein the separate sheet is secured to one of the outer record sheets of the assembly and the other outer record sheet is extended beyond the other record sheets and the separate extension sheet is secured by adhesive to the extended outer record sheet.

8. A business forms sheet assembly constructed and arranged as herein described with reference to the accompanying drawings.

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FIG.1

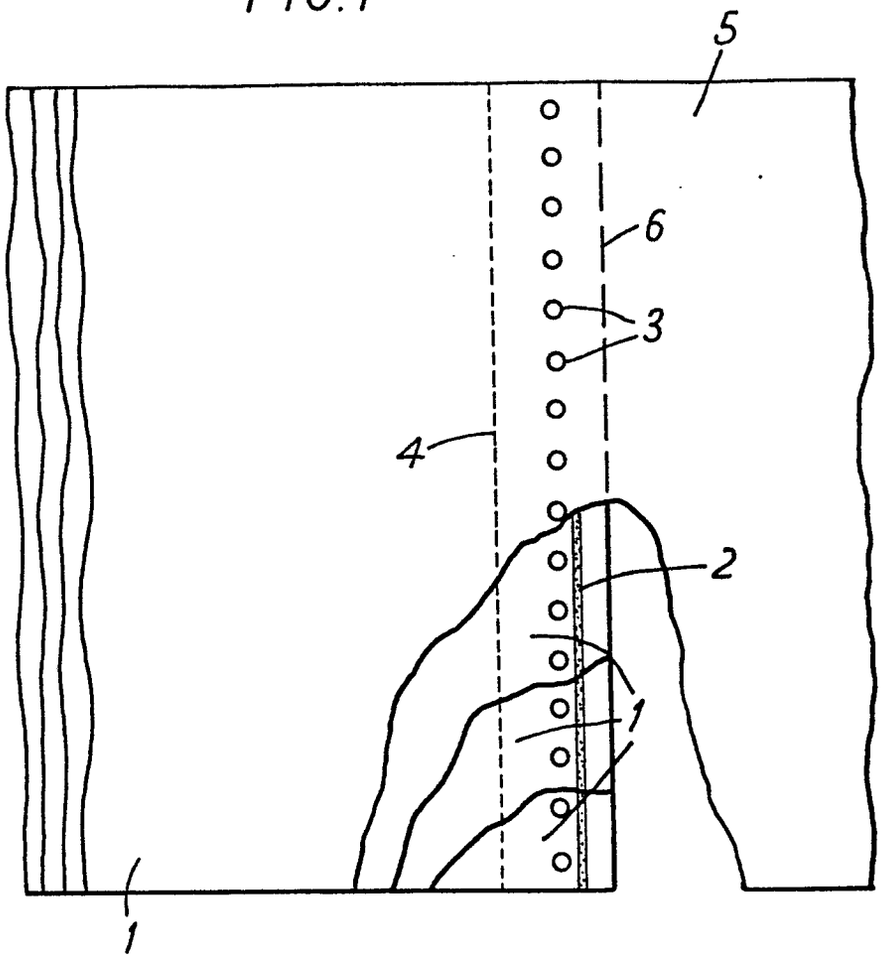


FIG.2

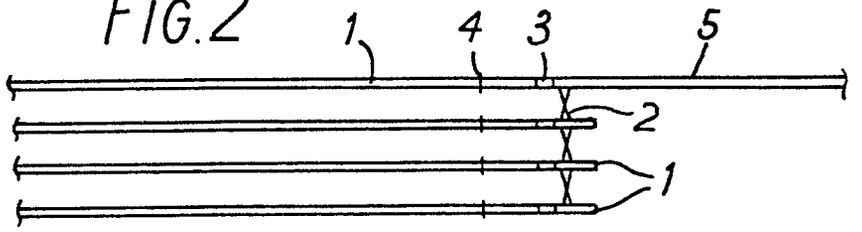
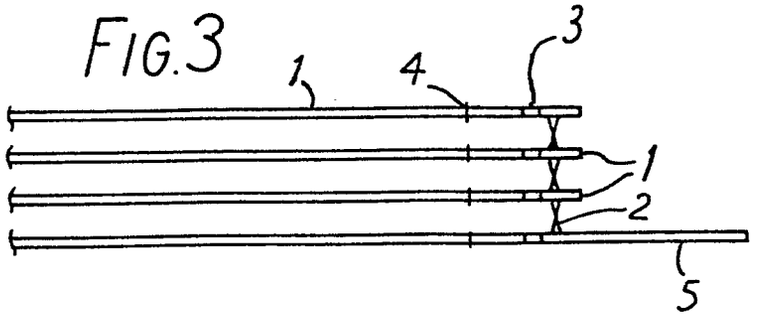


FIG.3



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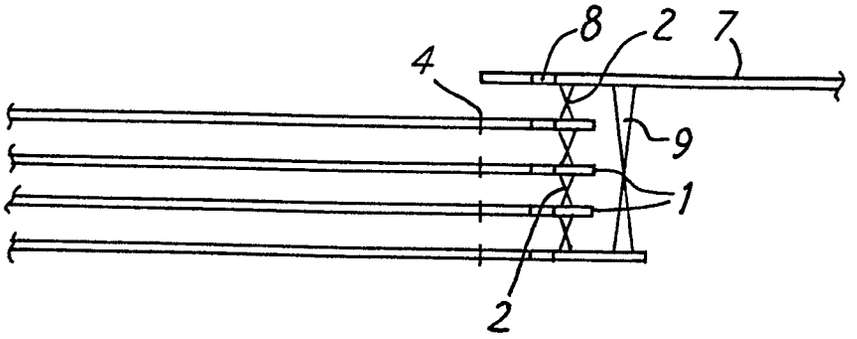

FIG.4

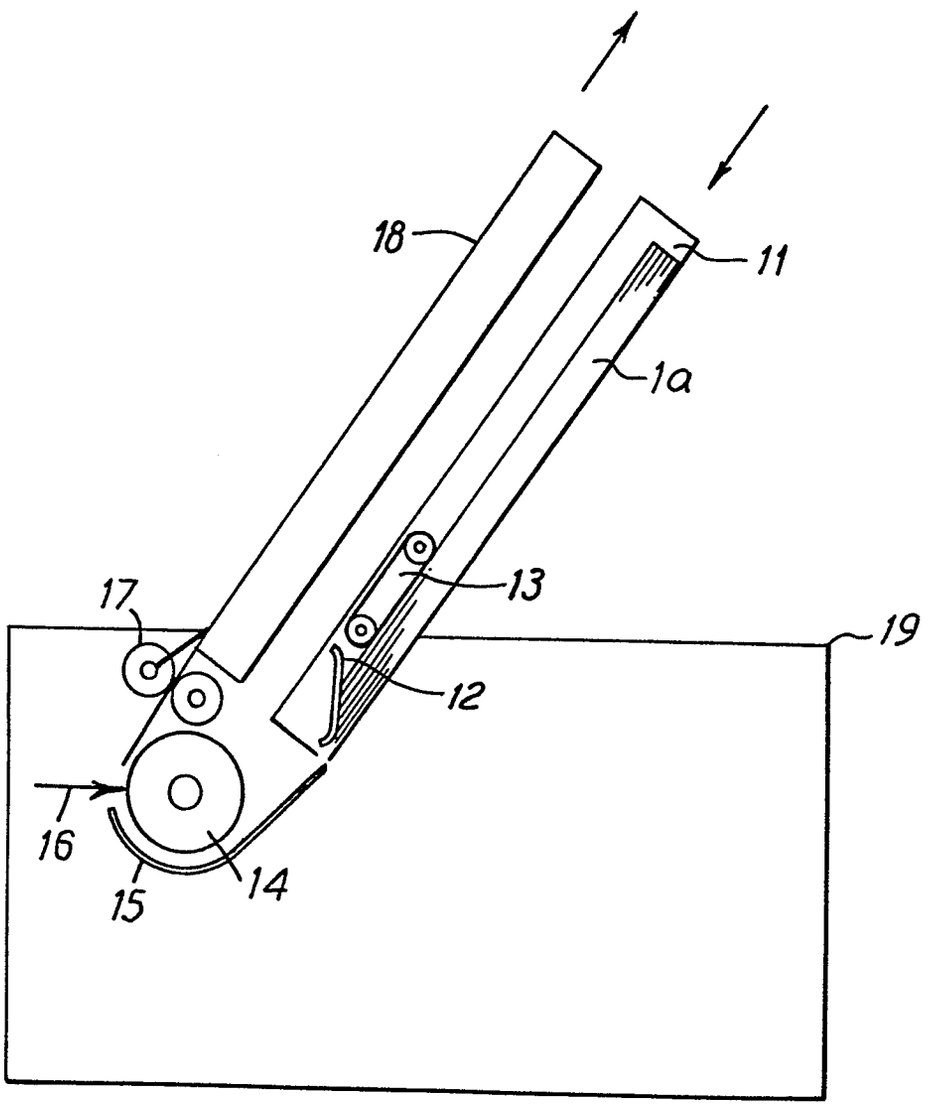

FIG.5

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EUROPEAN SEARCH REPORT

Application number

EP 82 30 2569

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. ³)
X	GB-A- 707 072 (KERR) *Page 2, line 120 to page 3, line 11; page 7, lines 42 to 53; figures 9 to 13*	1,2,5	B 41 L 1/20
A	CH-A- 390 958 (BURGMER) *Claims 5,7; figures 1,7* & GB - A - 970641	2,6	
A	US-A-3 952 122 (KERMADEC et al.) *Abstract; column 2, lines 1 to 33*	3,7	
A	US-A-4 199 174 (SORNBERGER) *Abstract*	4	
			TECHNICAL FIELDS SEARCHED (Int. Cl. ³)
			B 41 L

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	11-08-1982	LUTZ C.H.A.

CATEGORY OF CITED DOCUMENTS

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