United States Patent [19]

Brown

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[54] **CONTINUOUS FORMS LEADER**

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[52] **U.S. Cl.** **226/91**

[51] **Int. Cl.** **B65h 5/28**

[58] **Field of Search** 226/91, 92, 1, 168, 200; 352/235

[56] **References Cited**

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Attorney, Agent, or Firm—Hofgren, Wegner, Allen, Stellman & McCord

[57] **ABSTRACT**

A leader for use in the printing of continuous business forms assemblies for enabling alignment of the endmost form in the assembly with a printer without requiring the destruction of such form. A Y-shaped member formed of flexible material is employed, the legs of the member receiving the endmost form of a continuous forms assembly for holding the same enabling the base to be properly aligned with the printer and then fed through the printer after alignment has been achieved carrying the continuous forms assembly through the printer. One of the legs of the Y-shaped member includes an enlarged cut out exposing the face of the form length held by the legs for printing by the printer.

3 Claims, 2 Drawing Figures

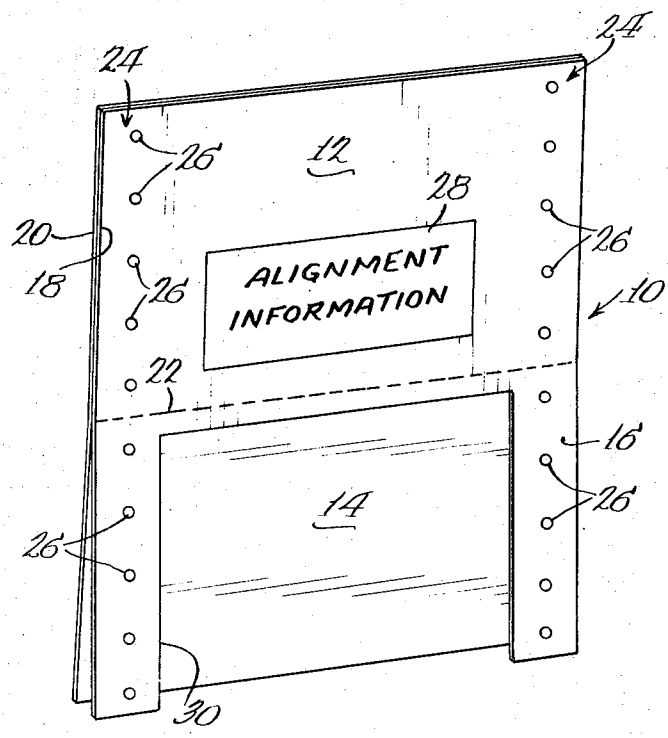


Fig. 2.

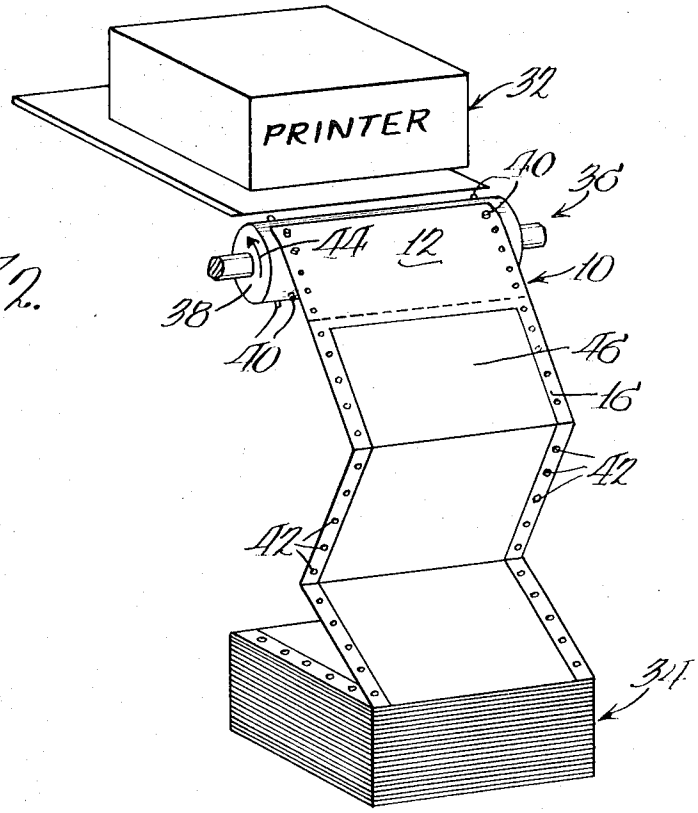
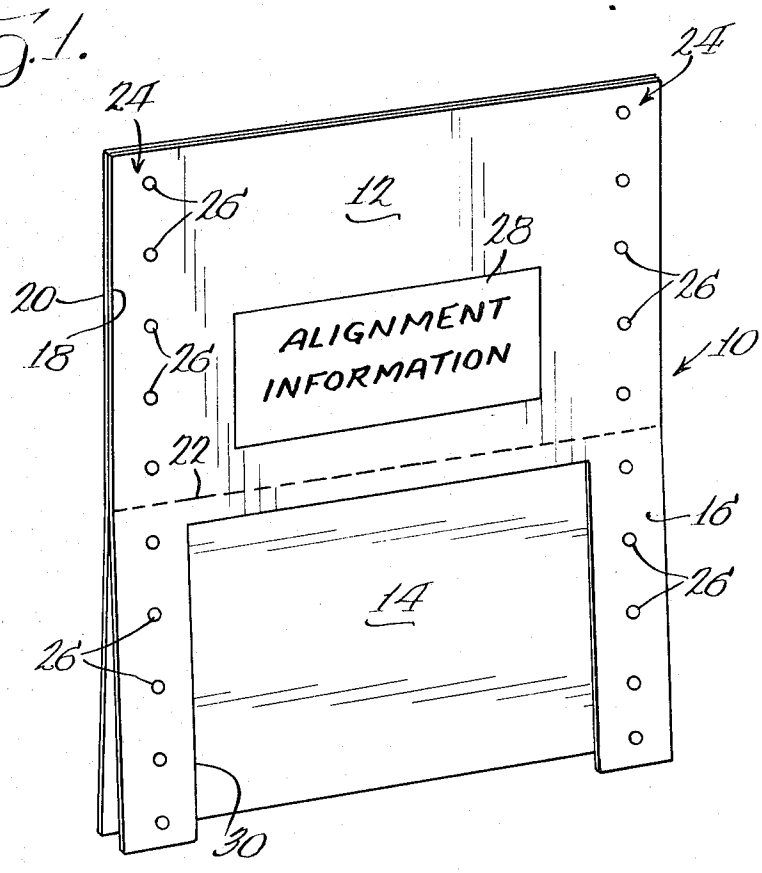

PRINTER
32
40
36
44
12
10
38
40
46
16
42
42
34

Fig. 1.


24
24
26
12
28
20
18
26
ALIGNMENT INFORMATION
26
10
22
16
14
26
26
30

CONTINUOUS FORMS LEADER

BACKGROUND OF THE INVENTION

This invention relates to a leader for use in the processing of continuous business forms assemblies.

The most pertinent prior art known to the applicant includes U.S. Pat. No. 3,462,054 to Foor.

Increasingly, business forms of all sorts are being processed in computerized operations by reason of the more rapid and accurate processing permitted by present day computers. Frequently, such processing includes the inscription of information on individual form lengths of a continuous business forms assembly by a high speed printer which, in turn, is operated by a computer.

In such operations, typically the endmost form length of a continuous business forms assembly is manually introduced into the printer and manipulated until such time as the print hammers of the printer are oriented properly with respect to the particular areas of the form length on which information is to be inscribed. Once such orientation has been achieved, the processing operation is initiated and requires little or no manual attention until the operation is terminated.

One difficulty attendant such a process is that normally the endmost form length of a continuous forms assembly is rendered non-usable by the manual alignment process. Specifically, as alignment is sought to be achieved, the printer may be manually jogged to determine whether alignment has been achieved. Of course, if alignment has not been achieved, the information will be improperly located on the form rendering the same non-usable.

In many data processing operations, this difficulty is not a serious one as the individual form length is relatively inexpensive and may simply be discarded if unusable. However, in some types of data-processing, it is impossible to discard an unusable form length without causing a great deal of additional effort, normally, bookkeeping.

For example, many stock transfers are processed by computers and stock certificates issued after being imprinted by a printer operated by a computer. Frequently, stock certificates are manufactured in continuous form, i.e., each certificate constitutes an individual form length of a continuous business forms assembly, with each individual form length being prenumbered. Of course, when such an individual form length must be discarded, it is necessary to perform a bookkeeping operation indicating that a certificate bearing a particular number has been voided.

In such cases, the usual method of manually aligning the endmost individual form length of a continuous forms assembly in a printer is unsatisfactory because of the additional record keeping generated if the form must be discarded after being rendered unusable by the alignment process.

SUMMARY OF THE INVENTION

It is the principal object of the invention to provide a new and improved leader for use with continuous business forms assemblies allowing alignment of the continuous business forms assembly with data processing apparatus in such a way that no individual form lengths of a continuous forms assembly are rendered unusable.

The exemplary embodiment of the invention achieves the foregoing object through a structure including a Y-shaped member, at least the legs of which are formed of flexible material. According to a preferred embodiment, the Y-shaped member is formed by two sheets of flexible material bonded together through a part of their area of contact to define the base of the Y and unbonded throughout the remainder of their area of contact so as to define flexible and separable legs which may be separated to receive the endmost form length of a continuous business forms assembly.

At least one edge of the Y-shaped member is provided with feeding means complementary to the feeding means employed with the printer to be used in processing the continuous forms assembly. Conventionally, a series of pin feed holes will be employed for this purpose on at least one margin and, more usually, on opposed margins.

One of the legs of the Y-shaped member includes an enlarged cut out or notch to expose the face of the individual form length received between the legs for inscription of information by the printer. The width of the Y-shaped member is substantially equal to the width of the continuous business forms assembly with which it is to be used (the width of the continuous business forms assembly being that dimension transverse to the longitudinal extent of the assembly).

Normally, the Y-shaped member forming the leader will have a length on the order of two form lengths.

In use, the endmost individual form length of a continuous forms assembly is placed between the legs of the leader and oriented so that pin feed holes in its margins are aligned with the pin feed holes in the margins of the leader. With the form thus held in place with respect to the leader, the base of the leader is then manually fed into the printer and oriented to achieve proper alignment. Once such alignment has been achieved, the data processing operation may be initiated. The first printing on an actual form will occur on the endmost form length of the assembly located between the legs of the leader and only after proper alignment has been achieved. Thus, all individual form lengths processed with the leader are usable, eliminating costly bookkeeping operations required in those instances where the destruction of an individual form length due to its unusability is of consequence as in stock transfer operations.

Other objects and advantages of the invention will become apparent from the following specification taken in conjunction with the accompanying drawings.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a leader made according to the invention; and

FIG. 2 is a perspective, somewhat schematic view of a continuous business forms assembly being processed through a printer through the use of a leader made according to the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

An exemplary embodiment of a leader for use in the processing of continuous forms assemblies and made according to the invention is illustrated in the drawings and with reference specifically to FIG. 1, is seen to comprise an inverted, Y-shaped member, generally

designated **10**. The Y-shaped member **10** includes a base **12** and legs **14** and **16**.

According to a preferned embodiment of the invention, the leader defined by the Y-shaped member **10** is defined by a pair of sheets **18** and **20** of flexible material as, for example, high density polyethylene. The two sheets **18** and **20** are located in contact with each other and in the area of the base **12**, are bonded together by any suitable means, while in the area of the legs **14** and **16**, are unbonded so that the legs may be separated. In this respect, the boundary between the two areas is designated at **22**.

The longitudinal margins of the leader are provided with feeding means, generally designated **24**. The precise form of feeding means employed will depend upon the nature of the feeding means in the equipment on which the continuous business forms are to be processed and, conventionally, will include a plurality of apertures **26** spaced on equal centers and commonly known in the art as pin feed holes. The particular spacing between the apertures **26** will correspond to the spacing between similar holes in the margins of the continuous forms assembly with which the leader is to be used and the spacing of feed pins on the feeding mechanism of the data processing apparatus.

The base **12** may also be inscribed with any suitable indicia **28** indicating alignment information. The particular information so located on the base **12** will be dependent upon the particular type of data processing equipment being employed and/or the print locations on the continuous forms to be processed.

Finally, the leader includes, in the forwardmost leg **16** thereof, an enlarged cut out or notch **30**. The purpose of the notch **30** is to expose the face of an individual form length of the continuous form located between the legs **14** and **16** so that the same may be suitably inscribed as by a printer.

Referring now to FIG. **2**, use of the leader will be described in greater detail. Data processing apparatus, and, specifically, a high speed printer, generally designated **32** is provided for inscribing the individual form lengths of a continuous forms assembly, generally designated **34**. Associated with the printer **32** is a feeding means, generally designated **36**. As illustrated, the feeding means **36** includes a driven roll **38** having radially extending feeding pins **40** which may be received in the apertures **26** in the leader as well as apertures **42** in the longitudinal margins of the continuous forms assembly **34**. When the roll **38** is driven in the direction of an arrow **44**, the leader and the continuous forms assembly will be driven through the printer **32**. While not shown herein, it is normally conventional to provide more than one such roller **38** in a typical printer.

As can be seen from FIG. **2**, the width of the leader is substantially equal to the width of the continuous forms assembly **34**, the width of the latter being that dimension transverse to the longitudinal extent of the form. In use, the endmost form **46** of the continuous forms assembly **34** is located between the legs **14** and **16** of the leader. Normally, the end edge of the form length **46** will be brought into substantial abutment with the boundary **22** between the legs and the base of the leader and in such a fashion that the apertures **42** are in alignment with the apertures **26** in the legs **14** and **16** of the leader. The end of the continuous business forms assembly **34** will then be frictionally held within the leader allowing the base **12** to be fed into the printer and manually oriented until proper alignment has been achieved. In this respect, it is preferred that the length of the base **12** be sufficient to allow it to be simultaneously engaged with at least two of the feed rolls **38** commonly provided in the printer.

Once the base **12** has been properly oriented with respect to the printing mechanism of the printer **32**, as may be determined from the alignment information **28** located on the base **12**, the processing operation may be initiated. The endmost form **46** in the assembly **34** will then be properly inscribed at the designated positions through the notch **30** in the leg **16**. As a result, there will be no unusable individual form lengths of the assembly resulting from the operation thereby eliminating costly bookkeeping and the like when the nature of the forms is such that their destruction must be recorded.

It will also be appreciated that the use of the leader may be a substantial advantage even when the nature of the forms being processed is not such as to require costly bookkeeping operations if an individual form length is destroyed. For example, where the nature of the forms is such that they are relatively flimsy, the added stiffness offered through the use of the leader may be of material assistance in achieving proper alignment.

I claim:

1. A leader for use with continuous business forms comprising: a generally Y-shaped member formed of a flexible material and adapted to receive an endmost individual form length of a continuous business form and hold the same between the legs thereof, said Y-shaped member having a width approximately equal to the dimension of the continuous forms assembly with which it is to be used transverse to the longitudinal extent of the continuous forms assembly, and means along at least one margin of said Y-shaped member for cooperating with a feeding means on business form processing machinery whereby said leader may be fed through business form processing machinery; one of said legs including an enlarged notch whereby information can be inscribed on the form length of a continuous business form received and grasped between said legs.

2. A leader according to claim **1** wherein said Y-shaped member is defined by two sheets of flexible material bonded together.

3. A leader for use in initiating the feed of a continuous business form through a printing apparatus or the like, said leader comprising: a member defined by two sheets of flexible material and in substantial abutment with each other and bonded together throughout a portion of their area of contact and being unbonded through the remainder of their area of contact to define flexible and separable legs which are adapted to be separated to receive the endmost individual form length of a continuous business forms assembly and hold the same, said member having aligned pin feed holes extending along opposite margins thereof for registry with pin feed holes along the margins of a continuous business forms assembly, one of the legs of said member including an enlarged cut out portion so that a substantial area of the face of an individual form length of a continuous business forms assembly received and held between said legs is exposed to permit inscription of information thereon by a printing apparatus.

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