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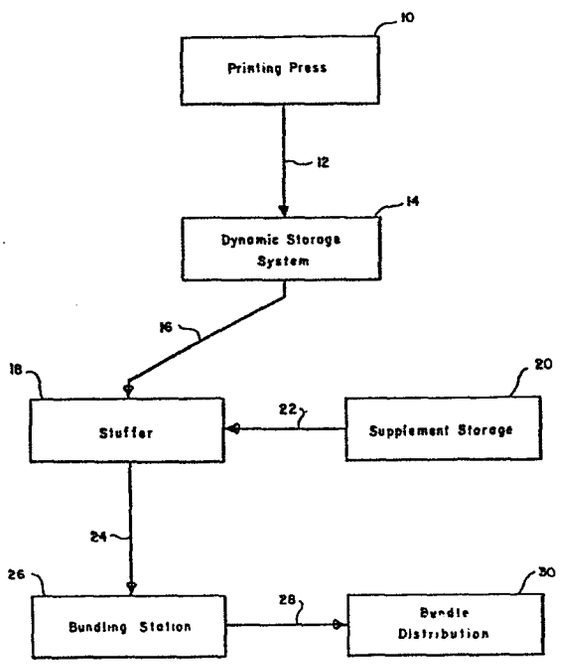
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(54) **Process for handling newspapers.**

(57) An improved method of processing newspapers during the period of their advance from the printing press (10) to a location where they are loaded as bundles of predetermined quantities for delivery to their intended destinations. This method of processing includes a storage system (14) for creating a reserve of newspapers which will permit an uninterrupted flow thereof in the event of unintentional press interruption or will permit the press to operate and feed the storage system (14) should other devices of the processing system, such as the supplemental inserter (18), bundling (26) or bundle distributing (30) device, be interrupted.



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PROCESS FOR HANDLING NEWSPAPERS

Background of the Invention

The improved method of processing newspapers according to the invention pertains to a completely automatic system for handling the newspapers from the time they leave the press until they are loaded as bundles into adequate transportation to effect delivery thereof to their intended destinations.

United States Patent No. 3,881,716 discloses a method of handling newspapers which includes an accumulator for receiving newspapers from the press and storing them in static form in the event the stuffers or other downstream devices should stop and interrupt the flow of newspapers that normally bypass the accumulator.

The process according to the invention is considered a definite advance in the art, for the newspapers, as they leave the press, are directed into and through the storage device whereby they are processed in the order that they were printed.

Summary of the Invention

The method of processing newspapers as taught by the invention causes the newspapers, as they leave the press, to be conveyed into a dynamic storage system which creates a reserve that is adapted to compensate for unintentional press interruption as well as interruption of any of the processing devices disposed downstream of the storage system. From the storage system the newspapers are

advanced to a pocket conveyor or stuffer whereat they receive supplemental inserts after which they are deposited into stacks of preselected quantities and then wrapped and tied. The final step is that of distributing the wrapped bundles to preselected positions from which they will be delivered to their intended destinations.

It is a general object of the invention to provide an improved method of processing newspapers which requires no manual intervention from the time the papers leave the press until they are ready in bundle form for delivery to their intended destinations.

A further object is to provide a system for processing newspapers which includes a storage device that will permit a continued flow of papers through the system in the event of unintentional press interruption, or will continue to accept papers from the press should other devices of the system downstream of said storage device be interrupted.

These and other objects of the invention will become more fully apparent by reference to the appended claims and as the following detailed description proceeds in reference to the drawing wherein:

Brief Description of the Drawing

The single figure of drawing is a diagrammatic view of the system for processing newspapers according to the invention.

Description of the Preferred Embodiment

Referring now to the figure of drawing, numeral 10 identifies the printing press from which the newspapers in well known jacket form emanate. A conveyor 12 causes the papers emanating from the press to enter a dynamic storage system 14. The newspapers leave the storage system 14 in the order which they entered by means of a conveyor 16 that is effective in delivering them to a so-called stuffer 18 formed by a pocket-type conveyor. The newspaper jackets are individually deposited into the separate pockets of this conveyor and, with said jackets open, tney are adapted to receive preprinted supplemental inserts. These

preprinted supplemental inserts are delivered to the stuffer 18 from a supplement storage apparatus 20 by means of a conveyor 22.

From the pocket conveyor of the stuffer 18 the newspapers are deposited onto a conveyor 24 which delivers them to a bundling station 26. At the bundling station the newspapers are deposited in stacks of predetermined numbers and the stacks are then wrapped and tied into bundles.

The bundles leave the bundling station by means of a conveyor 28 and are delivered to a bundle distribution location 30 whereat they are in readiness for delivery to their intended destinations. In the preferred embodiment, these bundle distribution locations are in the form of mobile delivery vans.

It should be understood that a single dynamic storage system may be configured to receive newspapers from two or more printing presses and deliver them to one or more Stuffers. Alternately, the newspapers received from a single printing press may be processed by the dynamic storage system to two or more stuffers. These examples indicate the unique flexibility available in the invention for making the best combined use of upstream and downstream equipment having different performance capabilities.

Although the present invention has been described in connection with a preferred embodiment, it is to be understood that modifications and variations may be resorted to without departing from the spirit and scope of the invention as those skilled in the art will readily understand. Such modifications and variations are considered to be within the purview and scope of the invention and the appended claims.

I CLAIM:

1. A method of controlling the flow of newspapers leaving a printing press and preparing the same for their intended destinations which includes the steps of:

(a) conducting newspapers emanating from the press into a dynamic storage system to create a reserve that can compensate for unintentional interruption of the newspaper flow upstream and downstream of said storage system;

(b) unloading the newspapers from said storage system and advancing them in an overlapped stream to individual pockets of a pocket conveyor;

(c) inserting supplements within each newspaper while in said pocket conveyor;

(d) removing the newspapers from the pocket conveyor and restacking them in stacks of preselected quantities;

(e) wrapping and tying the stacks into bundles of preselected quantities; and

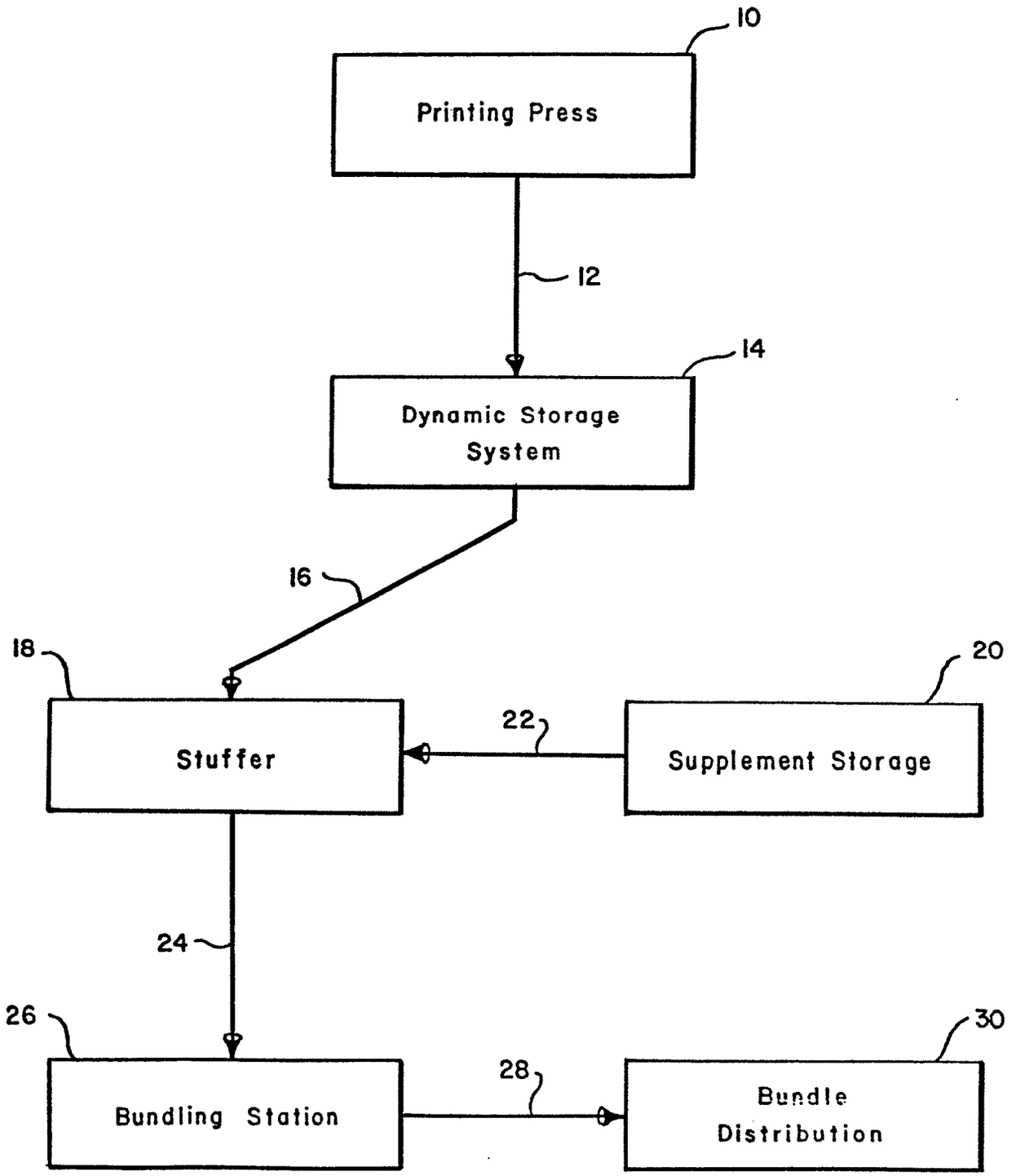
(f) distributing the wrapped bundles to preselected positions for delivery to their intended destinations.

2. The method of claim 1 wherein said dynamic storage system includes a plurality of conveyor influenced containers for receiving a predetermined quantity of newspapers in superposed relation therein.

3. The method of claim 2 wherein the unloading of newspapers defines a stream forming device for sequentially removing the lowermost newspaper from a container.

4. The method of claim 1 wherein the inserting of supplements includes a device for opening the newspaper for receiving said supplement therein.

5. The method of claim 1 wherein the distributing of the wrapped bundles defines a conveying apparatus operatively associated with a plurality of devices for effecting transportation of said bundles to their intended destinations.


10
Printing Press
12
14
Dynamic Storage System
16
18
20
Stuffer
22
Supplement Storage
24
26
30
Bundling Station
28
Bundle Distribution

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EUROPEAN SEARCH REPORT

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Application number

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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)
D,Y	US-A-3 881 716 (BRYSON et al.) *Column 1, lines 37-50; column 2, lines 9-17,24-44; column 3, lines 5-24, line 61 - column 4, line 37; column 5, lines 21-29; claims; figures*	1-5	B 41 F 13/68 B 65 H 5/30
Y	US-A-4 295 643 (DE LA VEGA) *Column 2, lines 1-6, line 63 - column 3, line 3, column 6, line 66 - column 7, line 45; claims 1-4,9-11; figures*	1-5	
A	DE-A-1 486 847 (HEPP) *Page 4, paragraphs 1, paragraph 2 - page 5, paragraph 1; page 9, paragraph 1; claim 3*	1-5	
A	US-A-4 168 828 (McLEAR) *Column 2, lines 12-20; column 4, lines 25-45; figure 1*	1-5	TECHNICAL FIELDS SEARCHED (Int. Cl. ³) B 41 F B 42 D B 65 H

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	23-02-1983	RECHLER W.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

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