United States Patent [19]

Bryson et al.

[11] **3,881,716**

[45] **May 6, 1975**

[54] **COMBINED NEWSPAPER PRESS AND STUFFER, AND METHOD OF FORMING NEWSPAPERS THEREWITH**

[75] Inventors: **Robert Andrew Bryson; James C. Wise,** both of Easton, Pa.

[73] Assignee: **Harris-Intertype Corporation,** Cleveland, Ohio

[22] Filed: **Feb. 17, 1972**

[21] Appl. No.: **227,184**

[52] **U.S. Cl.** **270/12;** 270/54; 270/58

[51] **Int. Cl.** **B41f 13/64**

[58] **Field of Search** 270/12–15, 270/45–51, 54–55, 57–58, 17–19; 271/DIG. 7

[56] **References Cited**

UNITED STATES PATENTS

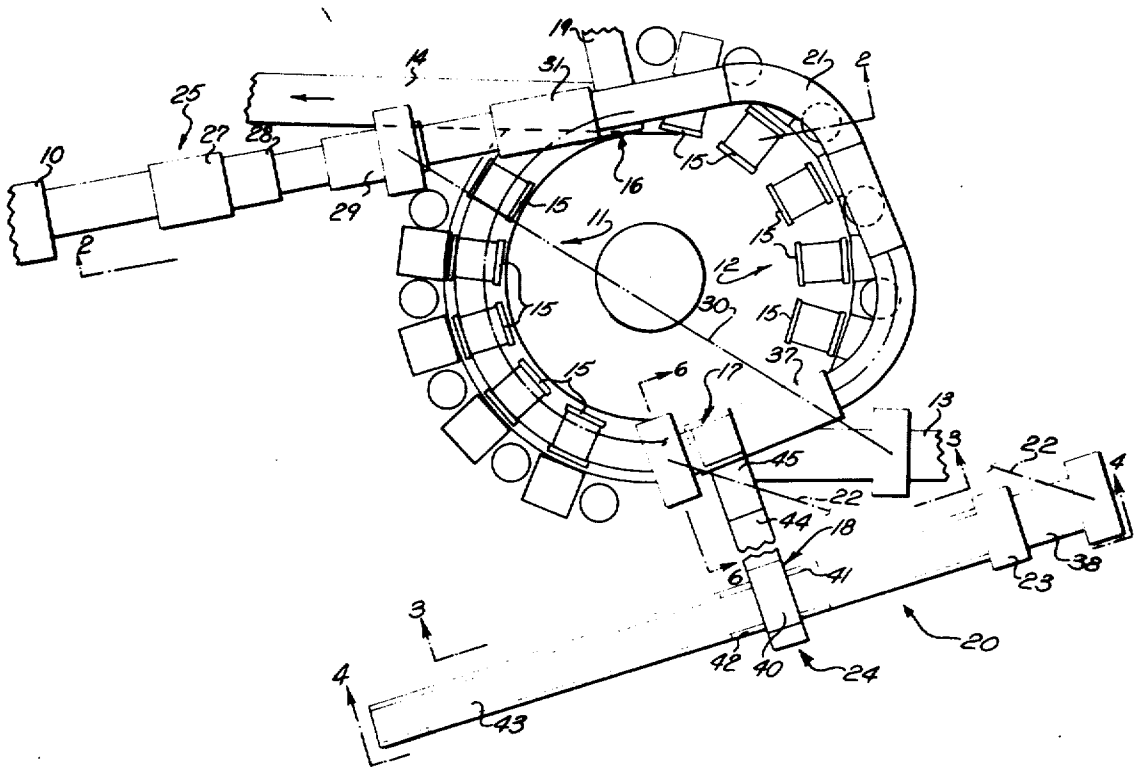
1,833,311	11/1931	Winkler et al.	270/57
2,159,987	5/1939	Hartmann et al.	270/55
2,461,573	2/1949	Schweizer	270/55
2,634,971	4/1953	Schweizer	270/57 X
3,395,913	8/1968	Delvecchio	270/58 X
3,467,371	9/1969	Britt et al.	270/58
3,522,942	8/1970	Hepp	270/55
3,580,563	5/1971	Bassett	270/58
3,690,650	9/1972	Maier et al.	271/89
3,709,480	1/1973	Schulze	270/58

Primary Examiner—Robert W. Michell
Assistant Examiner—A. Heinz

[57] **ABSTRACT**

Plurality of newspaper stuffers, each of which has one or more feeding hoppers with preprinted newspaper sections, are adapted to receive printing press output of freshly-printed news sections in at least one hopper of each stuffer, to enable online formation of final assembled newspaper product. Control means are provided to divert press output between different stuffers, as needed. System includes means for storing excess press output in an accumulator section and recirculating same to a stuffer on demand, e.g., when the press stops production, or when press supply is insufficient to meed demand of stuffer adjacent to accumulator.

18 Claims, 6 Drawing Figures



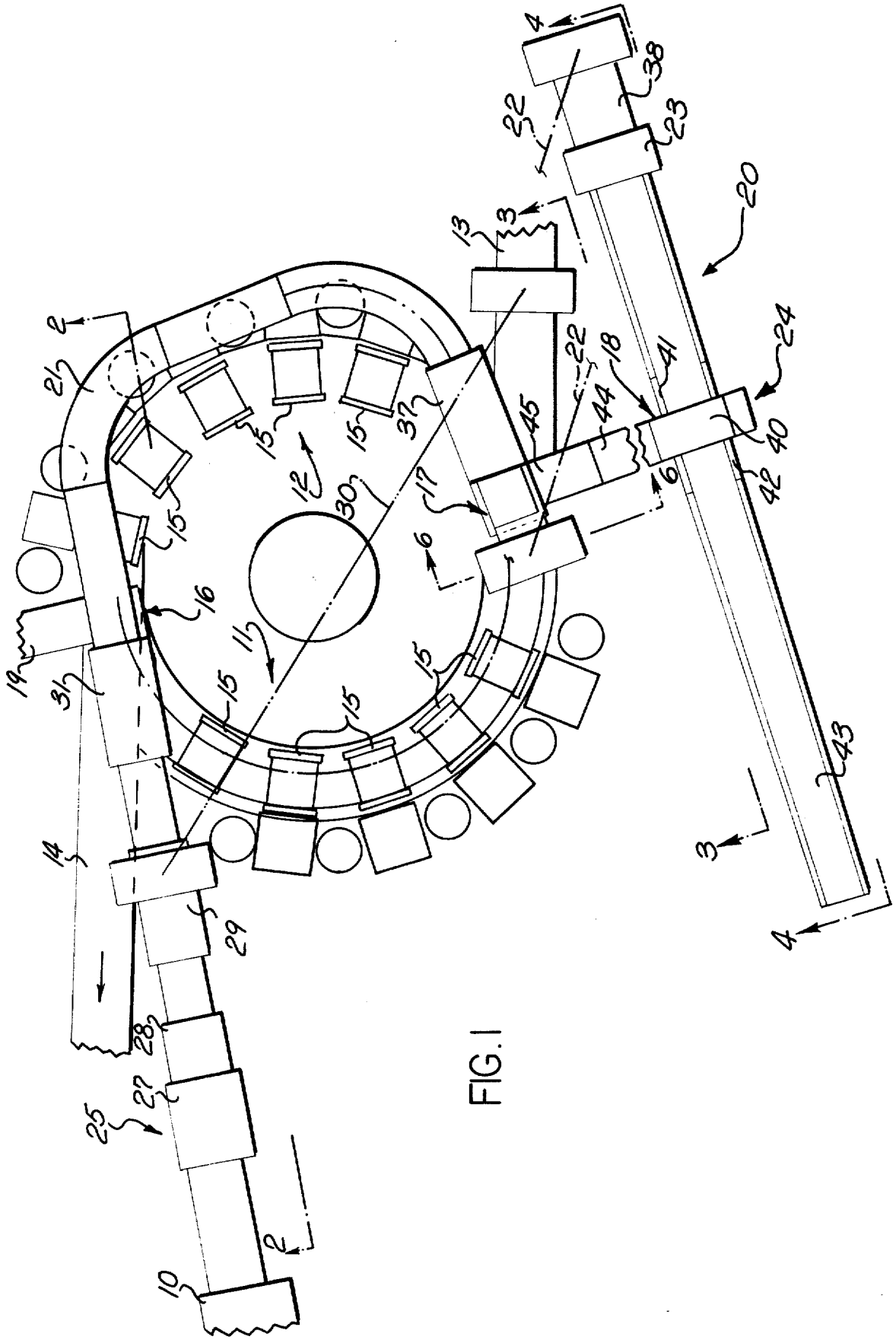

4
38
22
23
20
13
3
2
21
22
18
41
24
44
45
40
42
37
15
12
30
17
6
16
11
19
31
14
29
28
27
25
2
10
43
3

FIG. 1

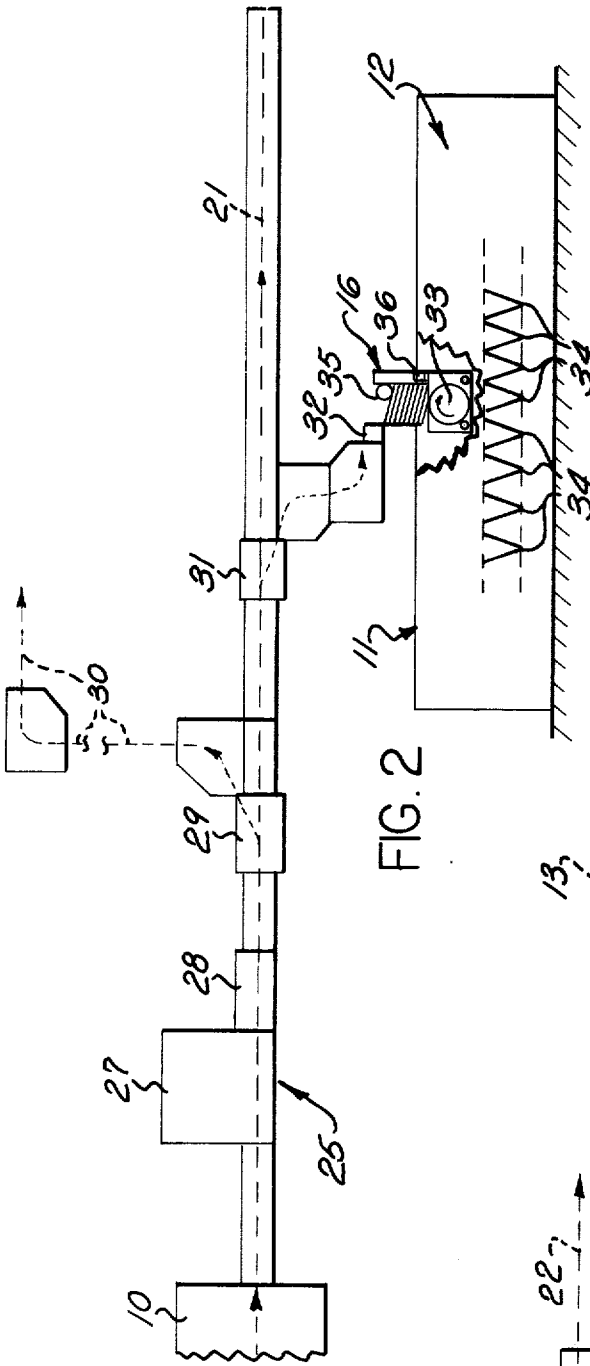


FIG. 2

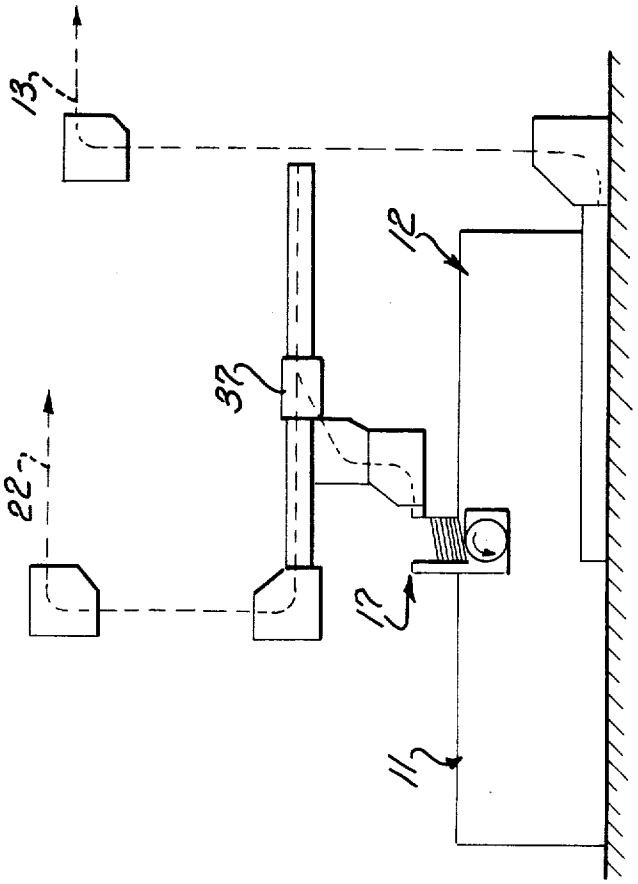


FIG. 3

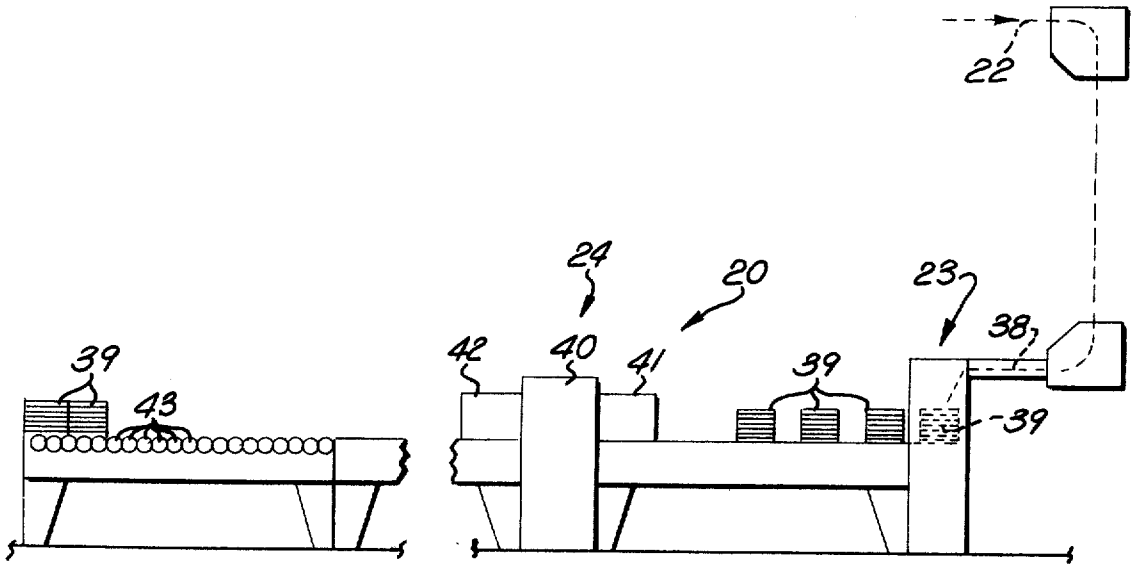


FIG. 4

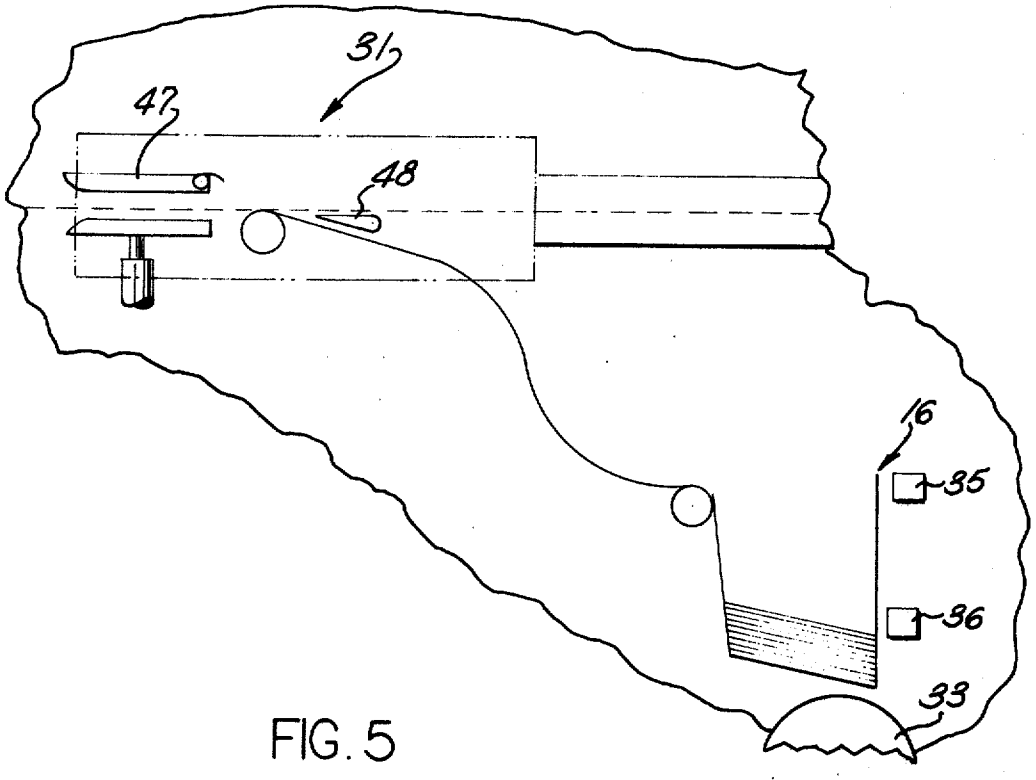


FIG. 5

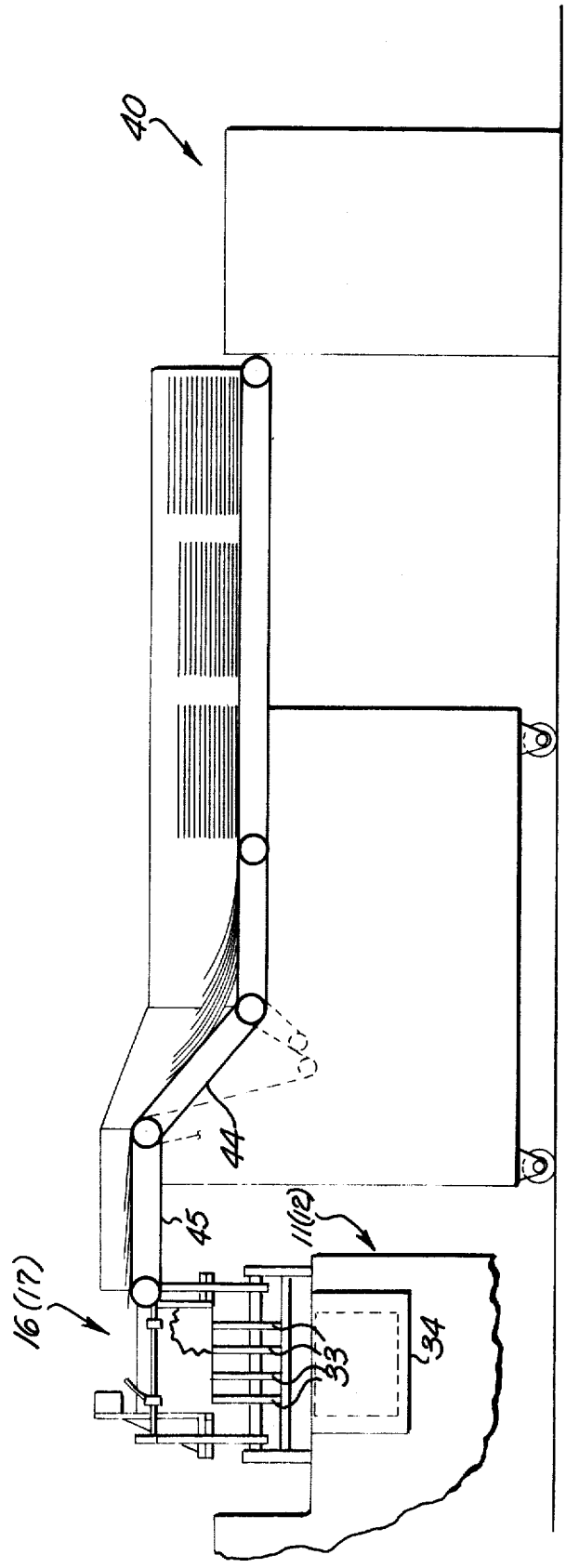


FIG. 6

COMBINED NEWSPAPER PRESS AND STUFFER, AND METHOD OF FORMING NEWSPAPERS THEREWITH

BACKGROUND OF THE INVENTION

The invention relates primarily to the art of associating newspaper sections, commonly referred to as "stuffing" in the trade. Conventionally, stuffers are hand-loaded machines which are separate from a newspaper press and which are considerably slower, in terms of output, than high speed printing presses. In addition, the frequency with which a stuffing machine must be stopped to correct feeding and other malfunctions has made it difficult to combine, as a commercial matter, a press and stuffer. Once a high speed press has commenced operating, it should not be stopped when problems occur in a downstream machine to which it is connected, nor should it speed be reduced just because the downstream machine is unable to attain press output speed.

SUMMARY OF THE INVENTION

A newspaper printing press has connected to its output side two or more newspaper stuffers. Each stuffer has a plurality of feeding stations or hoppers, one of which is adapted to receive freshly-printed newspaper sections from the press, and the others of which are arranged to feed preprinted sections. The preprinted sections are combined with the press product to produce the final newspaper. In the preferred embodiment disclosed, the press product is formed as the "jacket" or outside section of the newspaper, and the preprinted sections are "stuffed" into the jacket. Controls are provided to selectively feed the press product to either one or both of the stuffers on demand, ad these controls include gating means to divert newspapers from a given exit path from the press. In addition, at least one of the stuffers is provided with an accumulator section to which any excess press product is diverted, and which, in the preferred form, is adapted to recirculate the accumulated product back to that stuffer on demand. The controls include means for diverting the press product away from its hopper at one of the stuffers in the event that hopper is filled to capacity, as well as means to discontinue feeding from that hopper upon reaching a predetermined minimum reserve or supply of newspaper sections therein. The latter feature provides a "prime" in such hopper, readying it for each start-up upon resumption of a supply of freshly-printed newspaper sections thereto from the press.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a simplified plan view of a rotary stuffing machine having a pair of separate stuffer sections, the stuffing machine being connected to the output side of a newspaper printing press.

FIG. 2 is an elevational view taken substantially along lines 2—2 of FIG. 1, illustrating a first stuffer hopper and different paths which may be taken by newspapers as they leave the press.

FIG. 3 is an elevational view taken substantially along lines 3—3 of FIG. 1 illustrating a hopper of a second stuffer section, and the paths which may be taken by newspapers to and from the second stuffer.

FIG. 4 is an elevational view of an accumulator section associated with the second stuffer, and is taken substantially along lines 4—4 of FIG. 1.

FIG. 5 is a more detailed view of the hopper of FIG. 2 and means for either receiving or diverting newspapers as they approach the hopper.

FIG. 6 is an elevational view of a hopper-loader, and is taken substantially along lines 6—6 of FIG. 1.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Shown schematically in the plan view of FIG. 2 is a printing press 10 which provides freshly-printed newspaper sections to one or both of two newspaper stuffers 11 and 12, at which the freshly-printed product is combined with previously-printed inserts to form a completed newspaper. Finished newspapers having the stuffer 11 are carried to a stacker (not shown) along a conveyor 13, while those prepared at stuffer 12 are carried to another stacker (not shown) along conveyor 14.

The stuffers 11 and 12 in the preferred embodiment comprise two 180° sectors of a rotary stuffer of the type shown in U.S. Pat. No. 2,634,971 granted to Schweizer on Apr. 14, 1953. It is to be understood that the stuffers are provided with a series of hoppers 15, each of which is hand-filled by an operator standing at the outer periphery of the rotary stuffer. Stuffer 11 is also provided with an automatically-filled hopper 16 which receives freshly-printed product from the press 10, while the second stuffer 12 is provided with a similar automatically-filled hopper 17. During normal operation, newspaper sections coming from the press 10 will be deposited into both hoppers 16 and 17. From hopper 16, these newspaper sections will be dropped individually into the standard pocket 34 of the rotary stuffer. As disclosed in the aforementioned U.S. Pat. No. 2,634,971, these pockets travel counterclockwise as viewed in FIG. 1, and receive additional inserts of preprinted newspaper sections from one or more of the hoppers 15, and then travel to the stacker along the route of conveyor 13. Similarly, printed newspaper sections received from the press by hopper 17 are placed in the pockets 34 to form the jacket or outside section for a number of inserts received from the hand-filled hoppers 15 as they travel their semi-circular paths, and the completed newspapers formed in the stuffer 12 are fed to another stacker system along conveyor 14. In the embodiment shown, the rotary stuffer pockets are arranged to continually travel counterclockwise. As completed newspapers are emptied from the pockets onto conveyors 13 and 14, the pockets are adapted to immediately begin receipt of new newspapers along the next-following stuffer. In this fashion, a single rotary newspaper stuffer of the type shown, divided into separate stuffing sections, can be used to multiply its output according to the number of sections into which it is divided, and can therefore keep up with a much higher production printing press. While the preferred embodiment illustrates a rotary-type stuffer, it can be appreciated that the concepts disclosed herein, in large measure, are applicable also to straight-line suffers. In essence, the rotary type shown couldbe referred to as a "series" or "tandem" stuffer, whereas the straight-line version could be referred to as stuffers in "parallel."

Newspaper printing presses and newspaper stuffers are both relatively high-priced pieces of equipment. In addition, they are expensive to operate because of the highly-skilled labor required to make them perform properly. For greatest efficiency, their down-time, i.e., time during which they are stopped during preparation

for operation or correction of malfunction, should be kept to a minimum. A typical problem with in-line equipment generally is that machine stoppage due to malfunction in one section causes the entire line to be shut down. The present invention comtemplates the use of either the printing press **10** or the stuffers **11** and **12** independently of each other, if necessary. It further contemplates utilization of the press and stuffers in combination, and, if either the press or stuffers are stopped, provision is made for continued operation of the other during at least part of the time the stopped machine is idle. Whenever the stuffers are used independently of the press, stuffer sections **11** and **12** can be combined into one 360° machine to produce newspapers double the number of sections of either stuffer section alone.

Specifically, a malfunction which causes stoppage of the printing press is compensated for in part for a time by previously creating excess capacity of freslhy-printed product in an accumulator section **20.** The accumulator **20** acts as a buffer zone to permit continued feed to the hopper **17** of the stuffer **12** even though the press **10** has stopped. This will be described in more detail later.

Furthermore, in accordance with the disclosure of copending U.S. Pat. application Ser. No. 131,257, filed Apr. 5, 1971, now U.S. Pat. No. 3,825,246, a malfunction in either of stuffers **11** and **12** is corrected at the other stuffer. Generally, let us assume that one of the inserts to be deposited in a jacket formed at hopper **16** fails to be fed into the jacket at one of the hoppers **15.** Upon sensing this "miss," the sequentially following hoppers **15** of stuffer **11** will avoid feeding additional inserts to the improperly formed newspaper. The pocket containing the improperly formed newspaper will then bypass being deposited onto the conveyor **13,** continue moving past hopper **17** without receiving a new freshly-printed jacket, and will bypass other hoppers **15** of the stuffer **12** until it reaches that hopper corresponding to the one in stuffer **11** at which the missed newspaper insert was detected. The remainder of that newspaper will then continue to be formed at that and any additional hopper **15,** and finally delivered to conveyor **14.**

Since newspaper readers do not ordinarily object if they receive two identical inserts, the stuffers **11** and **12** can be arranged to ignore feeding "doubles" as a misfeed, and deliver such improfperly formed newspaper along with the rest. Such readers to object to sections being missed, and these are repaired at the next stuffer. In the event a "miss" occurs a certain few times in succession at a given hopper, the stuffers preferably shut down automatically, and the product printed by the press **10** is made to bypass the stuffers and be sent directly to the stackers. Since the repair of improperly formed newspapers just described is the subject of another application and is just one further advantage of a "series" type of stuffer operation, the foregoing brief description should suffice for a complete understanding of this aspect of the invention.

In normal startup operation of the machine, the press product is first conveyed directly to hopper **16** of stuffer **11.** When hopper **16** is completely charged or filled, the press product is diverted beyond hopper **16** along a conveyor **21,** and is now fed to hopper **17.** Ideally, the stuffer cycle rate will be set slightly faster than the printing press rate, to allow for random "misses" as mentioned previously in connection with the repair of newspapers at stuffers **11** and **12.** In this fashion, the hoppers **16** and **17** would absorb the entire production of the press **10.** During this time, the press product is alternately diverted past and directly to hopper **16** to maintain both hoppers **16** and **17** in fully-charged condition. Hoppers **16** and **17** thereby each receive one-half of the freshly-printed newspaper sections from the press **10.**

If desired, the press can be run faster than can be accommodated by the hoppers **16** and **17,** in which case, the excess on conveyor **21** is diverted past hopper **17** and along a path indicated by the line **22** (by suitable means, not shown) to an accumulator **20** at which the product is piled. After one stack has been formed at a stacker **23,** it is ejected therefrom in a leftward direction as viewed in FIG. **1,** and travels toward a hopper loader **18.** Completed stacks will be conveyed to a traffic control section **24** one after the other, and will remain between the traffic control **24** and stacker **23** until the entire length of that section is occupied by stacks. Once this latter condition is sensed, the stacks will be made to move onto the hopper loader **18** to fill it to capacity. If both hopper loader **18** and the conveyor section of the accumulator **20** to the right of the traffic control **24** are filled, stacks will then begin to move leftwardly past the hopper loader **18.** At the end of the accumulator, they can be removed manually by an operator and stacked on skids. The system is preferably arranged so that, upon trip-off of the press for any reason, any stacks accumulated in the accumulator **20** or in the hopper loader **18** are immediately fed into hopper **17** so as to continue operation of the stuffer **12** during the press shutdown. In accomplishing this, any stacks in the accumulator to the left of the hopper loader **17** are first fed rightwardly and then along the hopper loader **18** into the hopper **17.** After the section of the accumulator **20** to the left of the hopper loader **18** is emptied, any stacks in the righward section of the accumulator are fed along hopper loader **18** and the hopper loader is then cleared out completely. At that time, and after the charge in hopper **17** is almost completely diminished, the hoppers will discontinue feeding and the stuffer will stop, unless of course, the hopper loaders **18** and **19** are manually supplied with stacks.

Both hoppers **17** and **16** are adapted to always have a "prime" charge of newspapers, so that they can immediately resume feeding when the equipment restarts. This allows stuffers production during the period it takes for product to get from the press to the stuffers, and also eliminates the needless detection of "misses" during that period.

Whenever the stuffers discontinue operation, stream switches **31** and **37** are adapted to divert the press product to the accumulator **20** until it is completely filled to capacity. Then, upon resumption of stuffer operation the accumulator can be made to completely clear itself and the hopper loader **18** by feeding directly to hopper **17** on demand basis. The amount of time taken to do this will depend on the speed differential between the press and stuffers.

Referring now to FIGS. **2** through **6,** which explain in greater detail the principal components of the machine, it will be seen that freshly-printed newspaper sections exit from the press **10** folded-edge forward, and are initially acted upon by a stream conditioner **25,** a stream

crusher 27 and a stream aligner 28. Such components are standard equipment on newspaper presses, and require no further discussion. As a stream of newspapers passes from left to right in FIG. 2 along the dotted line, it reaches a stream switch 29, and can then continue to move horizontally to the stuffers 11 and 12, or can be diverted upwardly to a stuffer bypass conveyor 30. The bypass conveyor 30 comes into play only when the stuffer is not being utilized while the press is printing. It will be noted by referring back to FIG. 1 that the stuffer bypass conveyor 30 may be directly connected to the conveyor 13, so that when the press is used independently of the stuffer, a portion of the already existing conveyor system is employed.

When the stream of printed product is to go to the stuffers, it will continue horizontally past the stream switch 29 to a second stream switch 31. Switch 31 is controlled to first divert newspaper sections downwardly toward hopper 16. The product is fed into hopper 16 by a hopper feeder 32, shown in greater detail in FIG. 5. Newspapers in the hopper 16 are taken one at a time by a drum 33, and deposited into the conventional pockets 34 which circulate beneath the hoppers 15, 16 and 17 in accordance with aforementioned U.S. Pat. No. 2,634,971. Once the newspaper section has been dropped into a given pocket 34, the pocket is opened automatically in V fashion, whereupon it serves as the jacket for all other inserts provided by the other hoppers 15 to make the completed newspaper. By reference to FIG. 5 it will be seen that a maximum pile height sensor 35 is provided to maintain hopper 16 filled to the proper height. When the sensor 35 indicates that hopper 16 has a sufficient charge of newspapers, it causes actuation of the stream switch 31 in order to divert the stream of newspapers behind the switch 31 along the horizontal path shown in FIG. 2. The stream switches 29 and 31 are conventional in the art and are typically formed with means such as snubbers which temporarily arrest the stream along its side edges to provide a slight gap in the stream. A deflector or diverter gate crosses the gap to send to continuing stream of newspapers along the path selected. In addition to the pile height sensor 35, there is also provided a minimum pile sensor 36 which is arranged to discontinue feeding from hoppers 16 and 17 when the supply of newspapers in the hopper has reached the low level of the sensor 36. As mentioned previously, this is to provide the newspaper "prime" in the hoppers 16 and 17 upon resumption of operation after a shutdown.

Let us now assume that the hopper 16 has been filled to capacity, and the steam now bypasses the hopper 16 and is moving along conveyor 21 toward hopper 17 of stuffer 12. At hopper 17, a stream switch 37 similar to switch 31 is provided to divert the newspaper stream either along a downward path toward the hopper 17 or across to the accumulator 20. Feeding of the newspaper jackets from hopper 17 is similar to that described in connection with hopper 16, and thus will not be repeated. Hopper 17 is also provided with a maximum pile height sensor similar to 35, such that when an adequate supply of newspapers has arrived at the hopper 17, the stream switch 37 diverts the stream leftwardly as viewed in FIG. 3, then upwardly and over, along the path 22 to the stacker 23 of the accumulator 20. As previously mentioned, stacks formed at the stacker 23 are fed to the hopper loader or to the leftward end of the accumulator section 20 for hand removal of stacks.

As shown in FIG. 4 the stacker 23 has a stacker feeder 38 which forms stacks 39. About midway between the stacker feeder and the leftward end of the accumulator, is shown a diverter 40 and flow gates 41 and 42 which together from the traffic control 24. At the far left end of FIG. 4 is shown a roller conveyor 43 and the end of which stacks can be removed by hand and placed on skids. The stacks 31 removed from the roller conveyor 43 may be taken to the hopper loader 19 and hand fed to that hopper loader for automatic feeding to the hopper 16 for completion of the formation of newspapers after the press is shut down upon completion of printing.

Additional details of the hopper loaders 18 and 19 are shown in FIG. 6, and are the subject of U.S. Pat. application Ser. No. 81,742, filed Oct. 19, 1970 now U.S. Pat. No. 3,674,258. Generally, stacks 39 are deposited from the accumulator onto a conveyor belt, and move leftwardly as shown in FIG. 6 until they reach a special belt conveyor system 44 which causes the stacks 39 to topple rearward and "fan out" so as to be fed as shown on the conveyor 45. From conveyor 45, the shingled stream is fed into hoppers 16 and 17, and from there the drums 33 deposit the jackets into the pockets 34 of the stuffers 11 or 12.

A representative automatically-filled hopper and hopper feeder are shown in FIG. 5. The pile height sensors 35 and 36 are operative to actuate a snubber 47 and a deflector or gate 48 which is arranged to divert the stream of newspapers downwardly along the path 50 to the pocket 16.

Various techniques may be developed in the use of this preferred embodiment of the invention. Additionally, while it is preferred that the press product be made to form the jacket of the newspaper, it may just as well be an insert into a prepared jacket. It should be noted that the press and stuffers need not be driven synchronously, and that their speed relationship is left to operator experience and judgment, depending on many factors such as condition of jackets and inserts, number of stuffed sections, anticipated misfeeds, anticipated press stoppage due to various problems, etc.

While the invention has been described with reference to a specific embodiment, neither the illustrated embodiment nor the terminology employed in describing it is intended to be limiting; rather, it is intended to be limited only by the scope of the appended claims.

Having described our invention, we claim:

1. A method of associating sheet material articles in a continuous operation by freshly printing first selected sheet material articles and assembling at least one of the first articles with a second preprinted sheet material article, said method comprising the steps of:

printing and conveying first sheet material articles in an overlapped, shingled stream along a first path,

forming a stack of said first sheet material articles at a first station,

feeding the first sheet material articles individually from the stack at said first station to a continuous conveyor and conveying it toward a first delivery station,

combining a second preprinted sheet material article with the freshly-printed first sheet material article while being conveyed toward the first delivery station,

diverting first freshly-printed sheet material articles in the overlapped stream out of said first path and

into a second path, conveying the first freshly-printed sheet material articles in an overlapped shingled stream along said second path to a second station,

forming another stack of the first freshly-printed sheet material articles at said second station whenever an adequate supply of the first freshly-printed sheet material articles exists at said first station,

feeding the first sheet material articles individually from the other stack at said second station to a continuous conveyor and conveying it toward a second delivery station,

combining a second preprinted sheet material article with the freshly-printed sheet material article while being conveyed to said second delivery station, and

alternating the conveying of the first freshly-printed sheet material articles along said first and second paths as required to maintain an adequate supply of the first freshly-printed sheet material articles in the respective stacks at said first and second stations.

2. A method as defined in claim 1 further including the steps of,

measuring the stack supply of the first sheet material articles at said first station, and

effecting said diverting step upon measurement that a sufficient predetermined stack size exists at the first station.

3. A method of associating sheet material articles in a continuous operation by freshly printing first selected sheet material articles and assembling at least one of the first articles with a second preprinted sheet material articles, said method comprising the steps of:

printing and conveying first sheet material articles in an overlapped shingled stream along a first path,

forming a stack of said first sheet material articles at a first station,

feeding the first sheet material articles individually from the stack at said first station to a continuous conveyor and conveying it toward a first delivery station,

diverting first freshly-printed sheet material articles in the overlapped stream out of said first path and into a second path,

forming another stack of the first freshly-printed sheet material articles at a second station whenever an adequate supply of the first freshly-printed sheet material articles exists at said first station,

feeding the first sheet material articles individually from the other stack at said second station to a continuous conveyor and conveying it toward a second delivery station,

combining a second preprinted sheet material article with the freshly-printed sheet material article while being conveyed to said second delivery station,

alternating the conveying of the first freshly-printed sheet material articles along said first and second paths as required to maintain an adequate supply of the first freshly-printed sheet material articles in the respective stacks at said first and second stations.

measuring the stack supply of the first freshly-printed sheet material articles at the second station,

diverting the first freshly-printed sheet material articles to an accumulator station in response to the measurement that a sufficient predetermined stack exists at said second station, and

accumulating the first freshly-printed sheet material articles at the accumulator station.

4. In a combined printing press and sheet material collating mechanism having at least two independent collating sections, each of which has a continuous conveyor movable past a plurality of stationary feed hoppers spaced along the path of said conveyor and wherein feeding means is provided at each stationary feed hopper for feeding individual sheet material articles from the stationary feed hopper to the continuous conveyor,

first conveying means for transporting first printed sheet material articles from said press to one hopper of a first collating station and depositing it therein in a stacked relationship for feeding therefrom to its respective continuous conveyor,

second conveying means for transporting the first printed sheet material articles to one hopper of the second collating section and depositing them therein in a stacked relationship for feeding to its respective continuous conveyor,

gating means connected with said first and second conveying means for selectively directing the first printed sheet material articles toward either said one hopper of the first section or toward said one hopper of the second section,

pile height sensing means associated with the stack of first printed sheet material articles in said one hopper of said first section,

control means responsive to said sensing means for selectively operating said gating means to direct the first printed sheet material articles toward said one hopper of the second station,

minimum pile height sensing means associated with said one hopper of said first section, and

control means responsive to said minimum pile height sensing means for discontinuing feeding of the first printed sheet material articles from said one hopper upon detection that the height of the stack of the first printed sheet material articles in said one hopper has been reduced to a predetermined minimum level.

5. In a combined printing press and sheet material collating mechanism having at least two independent collating sections, each of which has a continuous conveyor movable past a plurality of stationary feed hoppers spaced along the path of said conveyor and wherein feeding means is provided at each stationary feed hopper for feeding individual sheet material articles from the stationary feed hopper to the continuous conveyor,

first conveying means for transporting first printed sheet material articles from said press to one hopper of a first collating station and depositing it therein in a stacked relationship for feeding therefrom to its respective continuous conveyor,

second conveying means for transporting the first printed sheet material articles to one hopper of the second collating section and depositing them therein in a stacked relationship for feeding to its respective continuous conveyor,

gating means connected with said first and second conveying means for selectively directing the first printed sheet material articles toward either said one hopper of the first section or toward said one hopper of the second section,

pile height sensing means associated with the stack of first printed sheet material articles in said one hopper of said first section,

control means responsive to said sensing means for selectively operating said gating means to direct the first printed sheet material articles toward said one hopper of the second section, and

control means for the feeding means for each hopper whereby a missed or stopped feed at any one hopper successively interrupts feed of the individual first printed articles from subsequent hoppers of the same invention.

6. In a combined printing press and sheet material collating mechanism having at least two independent collating sections, each of which has a continuous conveyor movable past a plurality of stationary feed hoppers spaced along the path of said conveyor and wherein means is provided at each stationary feed hopper for feeding individual sheet material articles from the stationary feed hopper to the continuous conveyor,

first conveying means for transporting first printed sheet material articles from said press to one hopper of a first collating station and depositing it therein in a stacked relationship for feeding therefrom to its respective continuous conveyor,

second conveying means for transporting the first printed sheet material articles to one hopper of the second collating section and depositing them therein in a stacked relationship for feeding to its respective continuous conveyor,

gating means connected with said first and second conveying means for selectively directing the first printed sheet material articles toward either said one hopper of the first section or toward said one hopper of the second section,

pile height sensing means associated with the stack of first printed sheet material articles in said one hopper of said first section,

control means responsive to said sensing means for selectively operating said gating means to direct to first printed sheet material articles toward said one hopper of the second section,

an accumulator conveyor having storage capacity for said first printed sheet material articles, and

second gating means for selectively diverting the first printed sheet material articles either to said one hopper of said second section or to said accumulator conveyor.

7. In a combined newspaper printing press and newspaper stuffer for printing and assembling a freshly-printed newspaper section with at least one preprinted section,

said stuffer having circulating pockets and stationary bottom-feed hoppers spaced along the path of circulation of the pockets and having at least two independent stuffing sections,

first conveying means for transporting a stream of printed sections from said press to one hopper of a first stuffing section and depositing them therein for feeding to said pockets,

second conveying means, a receiving portion of which lies intermediate said one hopper of the first stuffing section and one hopper of a second stuffing section,

gating means along said first conveyor means for selectively diverting printed sections to either said one hopper of the first stuffing section or said second conveying means,

means for delivering completed papers from each stuffing section comprising a delivery conveyor cooperating with each stuffing section,

an accumulator conveyor having a storage capacity for newspaper sections, and

gating means along said second conveying means for selectively diverting printed sections either to said one hopper of said second stuffer section or to said accumulator conveyor.

8. The invention set forth in claim **7** including means for converting a stream of newspaper sections on said accumulator conveyor into vertical stacks.

9. The invention set forth in claim **8** wherein said accumulator conveyor is associated at a discharge end thereof with means to return accumulated stacks of newspaper sections to said one hopper of said second stuffing section.

10. In a combined newspaper printing press and newspaper stuffer for printing and assembling a freshly-printed newspaper section with at least one preprinted section,

said stuffer having circulating pockets and stationary bottom-feed hoppers spaced along the path of circulation of the pockets and having at least two independent stuffing sections;

first conveying means for transporting a stream of printed sections from said press to one hopper of a first stuffing section and depositing them therein for feeding to said pockets,

second conveying means, a receiving portion of which lies intermediate said one hopper of the first stuffing section and one hopper of a second stuffing section,

gating means along said first conveyor means for selectively diverting printed sections to either said one hopper of the first stuffing section or said second conveying means,

means for delivering completed papers from each stuffing section comprising a delivery conveyor cooperating with each stuffing section,

the freshly-printed sections form the jacket of each completed newspaper, into which jacket the preprinted newspaper sections from other hoppers are inserted, and

control means is provided for a feeding means for each hopper, whereby a missed or stopped feed at any one hopper successively interrupts feed from subsequent hoppers of the same stuffing section to a pocket or pockets containing an improperly formed newspaper.

11. In a combined newspaper printing press and newspaper stuffer for printing and assembling a freshly-printed newspaper section with at least one preprinted section,

said stuffer comprising a rotary machine having circulating pockets and stationary bottom-feed hoppers spaced about the periphery thereof, and being divided in at least two sectors,

first conveying means for transporting a stream of printed sections from said press to one hopper of a first sector and depositing them therein for feeding to said pockets,

second conveying means, a receiving portion of which lies intermediate said one hopper of the first sector and one hopper of a second sector,

gating means along said first conveying means for selectively diverting printed sections to either said one hopper of the first sector or said second conveying means,

means for delivering completed newspapers from each sector comprising a delivery conveyor cooperating with each stuffer sector,

an accumulator conveyor having storage capacity for newspapers sections, and

gating means at the end of said second conveying means for selectively diverting printed sections either to said one hopper of said second sector or to said accumulator conveyor.

12. The invention set forth in claim **11** including means for converting a stream of sections on said accumulator conveyor into vertical stacks.

13. The invention set forth in claim **12** wherein said accumulator conveyor is associated at a discharge end thereof with means to return accumulated stacks of newspaper sections to said one hopper of said second sector.

14. In a combined newspaper printing press and newspaper stuffer for printing and assembling a freshly-printed newspaper section with at least one preprinted section,

said stuffer comprising a rotary machine having circulating pockets and stationary bottom-feed hoppers spaced about the periphery thereof, and being divided in at least two sectors,

first conveying means for transporting a stream of printed sections from said press to one hopper of a first sector and depositing them therein for feeding to said pockets,

second conveying means, a receiving portion of which lies intermediate said one hopper of the first sector and one hopper of a second sector,

gating means along said first conveyor means for selectively diverting printed sections to either said one hopper of the first sector or said second conveying means,

means for delivering completed newspaper from each sector comprising a delivery conveyor cooperating with each stuffer sector,

an accumulator conveyor having storage capacity for newspaper sections,

gating means at the end of said second conveying means for selectively diverting printed sections either to said one hopper of said second sector or to said accumulator conveyor,

the freshly-printed sections form the jacket of each completed newspaper, into which jacket the preprinted sections from other hoppers are inserted, and

control means is provided for a feeding means for each hopper, whereby a missed or stopped feed at any one hopper successively interrupts feed from subsequent hoppers of the same sector to the pocket or pockets containing an improperly-formed newspaper.

15. A method of making newspapers in a continuous operation by freshly printing newspaper jackets and inserting into each jacket a plurality of preprinted newspaper sections, comprising the steps of:

delivering folded jackets to a first jacket-collecting station,

feeding and opening collected jackets one at a time,

conveying the opened jackets toward a first delivery station,

inserting preprinted newspaper sections into each jacket while being conveyed to the first delivery station,

measuring the supply of jackets at said first collecting station,

diverting freshly-printed jackets toward a second jacket-collecting station upon measurement that a sufficient predetermined jacket supply exists at said first collecting station,

feeding and opening collected jackets in said second collecting station one at a time,

conveying said opened jackets toward a second delivery station,

inserting preprinted newspaper sections into said opened jackets while being conveyed to said second delivery station,

measuring the supply of jackets at said second collecting station,

diverting freshly-printed jackets toward an accumulator station upon measurement that a sufficient predetermined supply exists at said second collecting station,

forming an accumulation of jackets at said accumulating station, and

feeding accumulated jackets to said second jacket-collecting station upon measurement that the supply of jackets at said second collecting station is below the predetermined supply.

16. A method according to claim **15** wherein the jacket accumulation is formed as stacks, and further including the step of:

converting the stacks of accumulated jackets into a shingled stream prior to reintroduction to said second collecting station.

17. A method of making newspapers in a continuous operation by freshly printing newspaper jackets and inserting into each jacket a plurality of preprinted newspaper sections, comprising the steps of:

delivering folded jackets to a first jacket-collecting station,

feeding and opening collected jackets one at a time,

conveying the opened jackets toward a first delivery station,

inserting preprinted newspaper sections into each jacket while being conveyed to the first delivery station,

measuring the supply of jackets at said first collecting station,

diverting freshly-printed jackets toward a second jacket-collecting station upon measurement that a sufficient predetermined jacket supply exists at said first collecting station,

feeding and opening collected jackets in said second collecting station one at a time,

conveying said opened jackets toward a second delivery station,

inserting preprinted newspaper sections into said opened jackets while being conveyed to said second delivery station, and

inhibiting feeding and opening of jackets at said first and second collecting stations upon measurement that a predetermined minimum supply remains thereat.

18. In a combined printing press and sheet material handling mechanism having at least two independent

sections each of which is adapted to deliver assembled sheet material therefrom at discharge ends thereof and each of which has a continuous conveyor and stationary feed hoppers spaced along the path of said conveyor,

said hoppers being adapted to sequentially deposit sheet material on their respective conveyors,

first conveying means for transporting printed material from said press to one hopper of a first section and depositing it therein for feeding to its respective continuous conveyor,

second conveying means for transporting printed material to one hopper of a second section and depositing it therein for feeding to its respective continuous conveyor,

gating means connected with said first and second conveying means for selectively directing printed sheet material toward either of said one hopper of the first section or toward said one hopper of the second section,

means for delivering assembled sheet material from each section at discharge ends thereof,

an accumulator conveyor having a storage capacity for freshly-printed sheet material, and

gating means along said second conveying means for selectively diverting printed sheet material either to said one hopper of said second section or to said accumulator conveyor.

* * * * *