(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number: **0 095 574**
A2

(12) EUROPEAN PATENT APPLICATION

(21) Application number: **83103388.1**

(22) Date of filing: **07.04.83**

(51) Int. Cl.³: **B 65 H 31/00**

(30) Priority: **27.05.82 US 382540**

(43) Date of publication of application: **07.12.83 Bulletin 83/49**

(84) Designated Contracting States: **CH DE GB LI SE**

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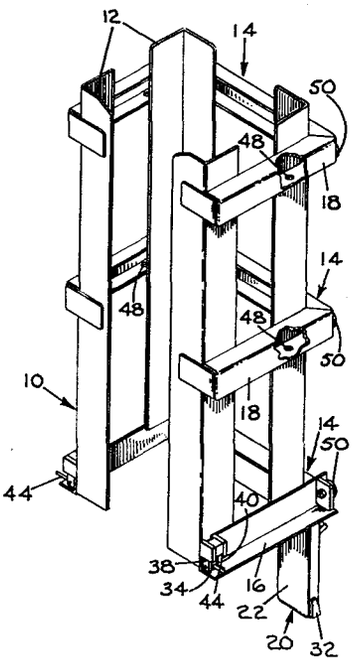
(54) Newspaper storage container.

(57) A container for receiving newspapers entering a newspaper live storage buffer from a printing press. The container is formed by vertically extending corner members having interconnecting elements fixed in spaced relation along the longitudinal length thereof. The bottom of the container defines a gate member hinged to one side of the container and which is operatively associated with a latching lever. The latching lever is effective in holding the gate member in position for receiving and maintaining a load of newspapers within the container and of releasing the gate member to effect the unloading of the newspapers.



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"NEWSPAPER STORAGE CONTAINER"

Background of the Invention

Field of the Invention. The newspaper storage container according to the invention is a significant element in a completely automatic storage buffer system for handling newspapers as they leave a printing press. Many such containers are utilized in the buffer system and are effective in receiving and maintaining a reserve supply of newspapers that is capable of compensating for unintentional shut-down of the press as well as other devices downstream of the storage buffer which are responsible for further processing of said newspapers.

United States Patent 3,881,716 discloses an apparatus for 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 storage container comprising the invention is considered a definite advance in the art, for the newspapers as they leave the press, are directed to the buffer system's loading apparatus where the containers are loaded one at a time. From the loading apparatus the filled containers are conveyed to an unloading apparatus where they are unloaded one at a time and advanced for further processing. By loading and unloading newspapers in this manner, they are processed in the order that they were printed.

Summary of the Invention

The newspaper storage container comprising the invention includes four vertically extending corner members disposed in spaced and opposed relation which are connected one to the other by means of interconnecting

elements fixed to and disposed in spaced relation along the length of said corner members. The upper end of the container is open for receiving newspapers and the lower end is provided with a gate member defining the bottom of the container and is pivotably connected or hinged on one side to the lower most interconnecting element. The gate member is operatively associated with a pair of spring biased latching levers which are effective in holding said gate member in a position for receiving and maintaining a load of superposed newspapers therein. Additionally these latching levers are provided with means for releasing the gate member whereby it will swing to a position to permit the removal of the newspapers from the container.

It is a general object of the invention to provide a storage container for a newspaper live storage buffer that is adapted to receive, maintain and thence release a load of superposed newspapers without intervention on the part of an operator.

A further object is to provide a storage container of simplified construction, inexpensive to manufacture and with long life expectancy.

Other objects and advantages 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 figures of drawing wherein:

Brief Description of the Drawings

Fig. 1 is a perspective view of the newspaper storage container according to the invention;

Fig. 2 is a view in side elevation of the lower end of the container showing the open and closed positions of the gate member;

Fig. 3 is a top view of the gate member;

Fig. 4 is a side view of a portion of the container showing the latching lever; and

Fig. 5 is a view of the latching lever as seen looking in the direction of the indicating arrows of line 5-5 in Fig. 4.

Description of the Preferred Embodiment

Referring now to Fig. 1 the newspaper storage container according to the invention is identified generally by numeral 10 and includes four vertically entending corner members 12 disposed in spaced and opposed relation. These corner members 12 are connected one to the other by means of interconnecting elements depicted generally by numeral 14. There are a total of three interconnecting elements one of which is disposed about the bottom of the container and depicted by numeral 16. The other two are identified by numeral 18, with one being located adjacent the top of the container and one approximately midway between the top and bottom. Those interconnecting elements depicted by numeral 18 are fabricated by a plurality of interconnected channel members and the lowermost element 16 is fabricated from interconnected angle brackets.

The bottom of the container 10 is formed by a gate member identified generally by numeral 20 and as shown in Fig. 3 it includes a pair of spaced parallel plate members 22.

One end of each of these plate members 22 is fixed to one side or leaf 24 of a hinge 26 and the opposite side or leaf 28 of said hinge is fixed to a structural member 30 which interconnects the angle brackets of the lower interconnecting element 16. As shown in Fig. 2 this structural member 30 is in the form of square tubing. The outer sides of the plate members 22 adjacent their free ends, are each provided with lug members 32 fixed thereon which as shown in Fig. 5 are adapted to be engaged by a latching lever 34. Each container 10 is provided with two latching levers and since they are both identical and perform the same function, it is only considered necessary here to describe one of these levers. With reference to Fig. 4, the latching lever 34 is pivotably mounted on a pin 36 the ends of which are assembled in block members 38 and 40 that are fixed in spaced relation on the angle brackets of the lowermost element 16. As shown in Figs. 4 and 5, a torsion type

spring 42 is assembled on pin 36 and is operatively connected to the latching lever 34 so as to continually urge the latter in a counter-clockwise direction as viewed in Fig. 5. A release pin 44 has one end fixed in the latching lever 34 and extending laterally from the latter it provides means of pivoting said latching lever in a clockwise direction as viewed in Fig. 5. Movement of the latching lever 34 in a clockwise direction is accomplished automatically in the newspaper storage buffer system for which the containers are intended and is effective in releasing the gate member 20 so that it will swing from the dotted line position to the phantom line position shown in Fig. 2. In the dotted line position of Fig. 2, the gate member 20 is effective in maintaining a load of superposed newspapers within the container 10 and when caused to swing to the phantom line position the newspapers can be removed from said container.

In the newspaper storage buffer system a large number of these containers 10 are utilized and a portion of their travel within said system is on roller type conveyors. The roller elements of such conveyors are caused to engage the underside of the angle brackets of the interconnecting element 16 and define raceways 46 (Figs. 2, 4 and 5). The containers 10 are also provided with openings 48 located on the underside of the interconnecting elements 18 (Fig. 1) and serve as a means for locating the containers in positions for receiving and unloading newspapers therefrom as well as another form of conveying the containers from one location to another. These openings 48 are adapted to receive pin elements forming a part of carrier arms associated with the buffer system.

The containers travel in relatively close proximity through the buffer system and to cushion engagement one with the other, each container is provided with a plurality of resilient hampers 50 (Fig. 1) assembled on one side thereof.

Although the present invention has been described in connection with a preferred embodiment, it is to be understoood 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.

WE CLAIM:

1. A storage container for a newspaper live storage buffer adapted to receive newspapers from a printing press, said container comprising:

(a) elongated corner members vertically disposed in spaced and opposed relation;

(b) means defining interconnecting elements fixed to and disposed in spaced relation along the length of said corner members;

(c) a gate member defining the bottom of said conveyor having one side thereof pivotably connected to one of said interconnecting elements;

(d) latching means operatively associated with one of said interconnecting elements for maintaining said gate member in a position for receiving and retaining a load of superposed newspapers within said container; and

(e) means for releasing said latching means to effect the unloading of the newspapers from said container.

2. The storage container according to claim 1 wherein said interconnecting elements define a plurality of interconnected rib members fixed to the outer surfaces of said corner members.

3. The storage container according to claim 1 wherein said latching means includes:

(a) a latching lever pivotably mounted on the interconnecting element to which said gate member is connected; and

(b) biasing means operatively connected to said latching means for continually urging the latter to a position for maintaining newspapers within said container by said gate member.

4. The storage container according to claim 3 wherein said releasing means defines a laterally extending pin member fixed in said latching lever for pivoting the latter to a position to cause said gate member to swing away from its newspaper retaining position.

5. The storage container according to claim 1 wherein at least one of said interconnecting elements includes means for locating said container in positions for receiving and releasing newspapers therefrom.

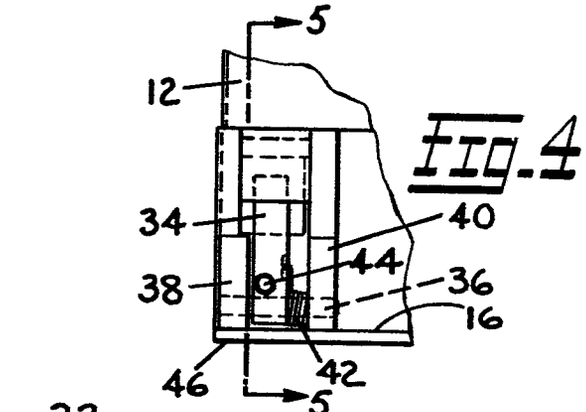

Fig. 4

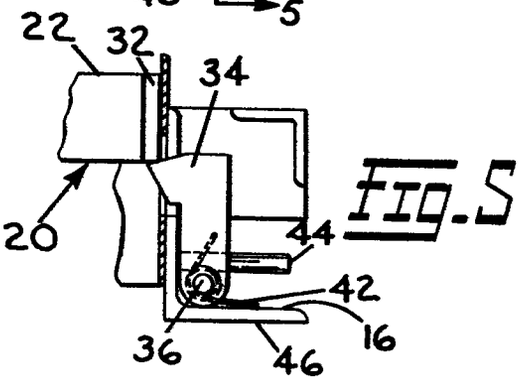

Fig. 5

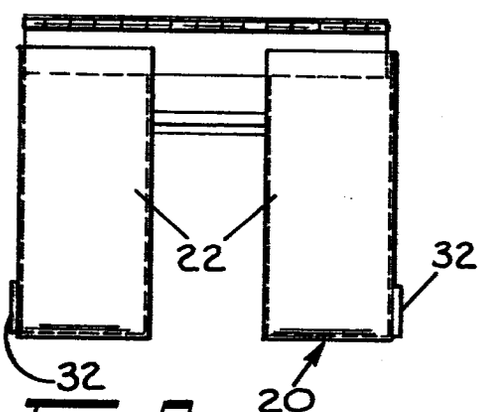

Fig. 3

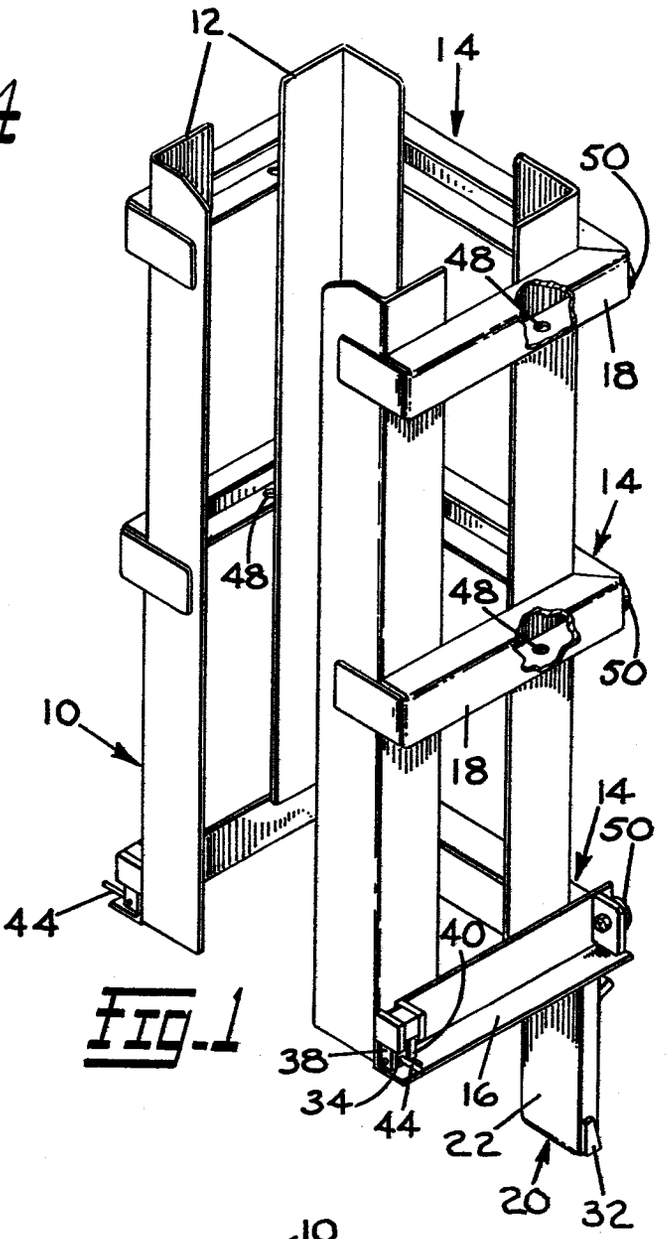

Fig. 1

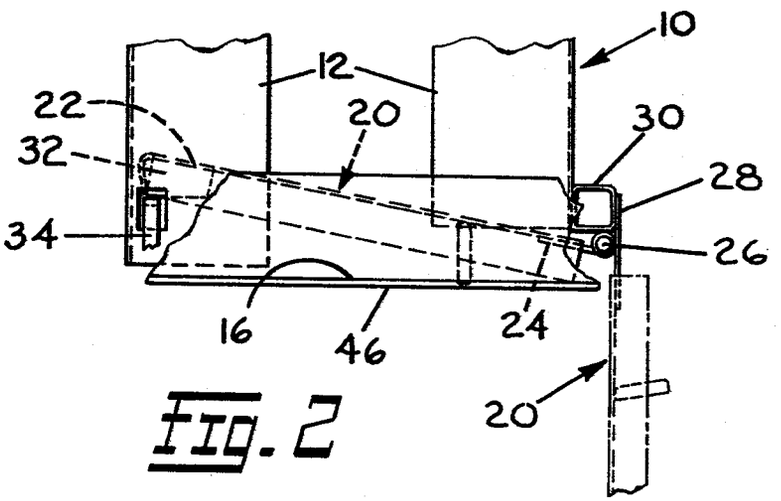

Fig. 2