

(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

**EP 0 764 601 A3**

(12)

**EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:  
**11.06.1997 Bulletin 1997/24**

(51) Int Cl.<sup>6</sup>: **B65H 1/14**

(43) Date of publication A2:  
**26.03.1997 Bulletin 1997/13**

(21) Application number: **96650041.5**

(22) Date of filing: **19.09.1996**

(84) Designated Contracting States:  
**AT BE CH DK ES FR GB GR IE IT LI NL PT SE**

- **Ring, Colin**  
**Malahide, County Dublin (IE)**
- **Purcell, John**  
**Ashbourne, County Meath (IE)**

(30) Priority: **19.09.1995 IE 950730**

(71) Applicant: **Denman Limited**  
**Dublin 17 (IE)**

(74) Representative: **O'Brien, John Augustine et al**  
**Cruickshank & Co.**  
**1 Holles Street**  
**Dublin 2 (IE)**

(72) Inventors:  
 • **Roberts, Joseph**  
**Bayside, Dublin 13 (IE)**

(54) **Book manufacture**

(57) A pallet 2 with a stack 3 of printed sheets in position is loaded onto a support platform 10 having four lifting lugs 11 located adjacent the corners of the pallet 2. A drive shaft 15 drives separate drive chains 16, one connected to each lifting lug 11. A free end 21 of each chain 16 is provided with a counterweight 22 to ensure that the chain 16 is in contact with the associated

sprockets over which the chain 16 is trained. A segment shaped guide 25 is positioned over a main driven sprocket to ensure that the chain is retained in positive engagement. Guide means for guiding the stack 3 into an aligned position on the support platform 10 is provided by guide strips 40 and side angle shaped guide arms 45 including a lower inturned portion. Manufacturing efficiency is optimised.

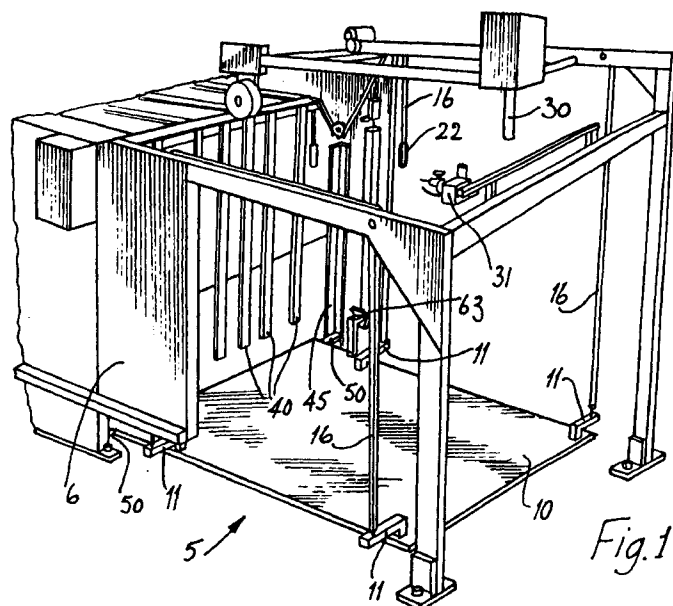


*Fig. 1*

**EP 0 764 601 A3**



European Patent  
Office

# EUROPEAN SEARCH REPORT

Application Number  
EP 96 65 0041

| 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.6) |
| Y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | GB 2 270 306 A (MACEY MACH CO INC K S) 9 March 1994                           | 1,3-7                            | B65H1/14                                     |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | * the whole document *<br>---                                                 | 12-17                            |                                              |
| Y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | US 3 966 192 A (JESCHKE WILLI) 29 June 1976                                   | 1,3-7                            |                                              |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | * the whole document *<br>---                                                 |                                  |                                              |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | CH 674 977 A (RUENZI KURT) 15 August 1990                                     | 1                                |                                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | * the whole document *<br>---                                                 |                                  |                                              |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | US 4 588 180 A (BALLESTRAZZI ARIS ET AL) 13 May 1986                          |                                  |                                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | * the whole document *<br>-----                                               |                                  |                                              |
| The present search report has been drawn up for all claims                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                               |                                  | TECHNICAL FIELDS SEARCHED (Int.Cl.6)         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                               |                                  | B65H<br>B42C                                 |
| Place of search                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                               | Date of completion of the search | Examiner                                     |
| THE HAGUE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                               | 16 December 1996                 | HENNINGSSEN, O                               |
| <p><b>CATEGORY OF CITED DOCUMENTS</b></p> <p>X : particularly relevant if taken alone<br/> Y : particularly relevant if combined with another document of the same category<br/> A : technological background<br/> O : non-written disclosure<br/> P : intermediate document</p> <p>T : theory or principle underlying the invention<br/> E : earlier patent document, but published on, or after the filing date<br/> D : document cited in the application<br/> L : document cited for other reasons<br/> &amp; : member of the same patent family, corresponding document</p> |                                                                               |                                  |                                              |

EPO FORM 1503 03.92 (P04C01)



European Patent Office

**CLAIMS INCURRING FEES**

The present European patent application comprised at the time of filing more than ten claims

- ☐ All claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid.
- namely claims:
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

**LACK OF UNITY OF INVENTION**

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions, namely:

See sheet -B-

- ☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid,
- namely claims:
- ☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims,
- namely claims: 1-7,12-17



European Patent Office

EP 96650041 - B -

**LACK OF UNITY OF INVENTION**

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions, or groups of inventions, namely:

1. Claims 1-7,12-17 : Method for guiding and lifting a platform with a stack up to a single sheet delivery mechanism.
2. Claims 8-11 : Sequence of processes for making books.