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Herring et al.

[11] 3,733,068

[45] May 15, 1973

[54] DUAL STACK TO COMMON PATH DOCUMENT FEED APPARATUS AND METHOD

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[21] Appl. No.: **157,137**

[52] **U.S. Cl.** **271/9**, 271/11, 271/32, 271/52, 271/DIG. 4

[51] **Int. Cl.**.....**B65h 1/06**, B65h 3/08

[58] **Field of Search**.....271/9, 11, 29, 32, 271/15, 51–53, DIG. 4; 270/58

[56] **References Cited**

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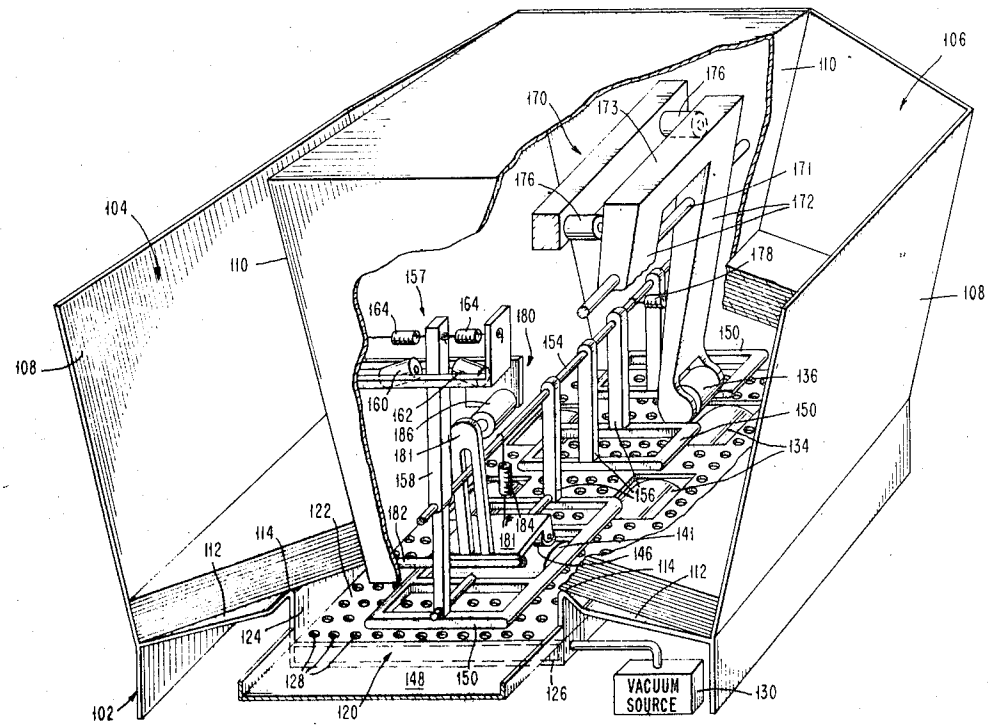
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[57] **ABSTRACT**

A compact, dual-hopper document-handling mechanism selectively feeds documents from either hopper into a common path. The width of the system is reduced to less than three times the width of a document because each hopper overhangs one of the sides of a common cornering station so that the bottom document in each hopper overhangs the cornering station. A vacuum attracts the overhanging portion of the bottom document in each hopper towards the cornering station. A document support interposed between the documents and the cornering station bedplate prevents at least one of the document from resting on feed means below the overhanging portion of each hopper. One of the documents is selected by positioning the document support to permit the vacuum to draw the selected document downward to rest on the feed means. The feed means is actuated to feed the selected document into the cornering station from the hopper, while the other feed means is rendered inoperative. A transport means then delivers the document from the cornering station into the common path.

11 Claims, 10 Drawing Figures



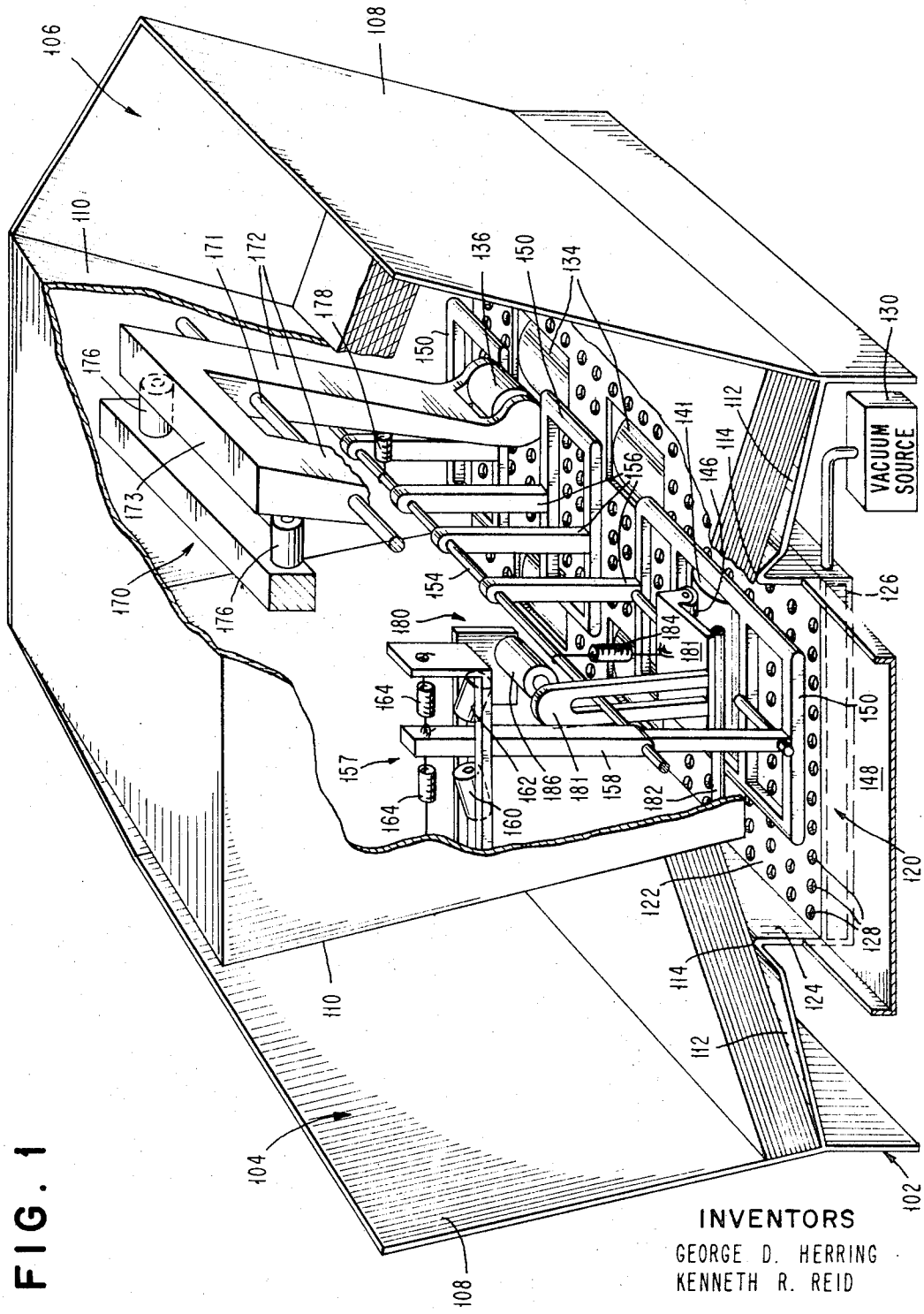


FIG. 1

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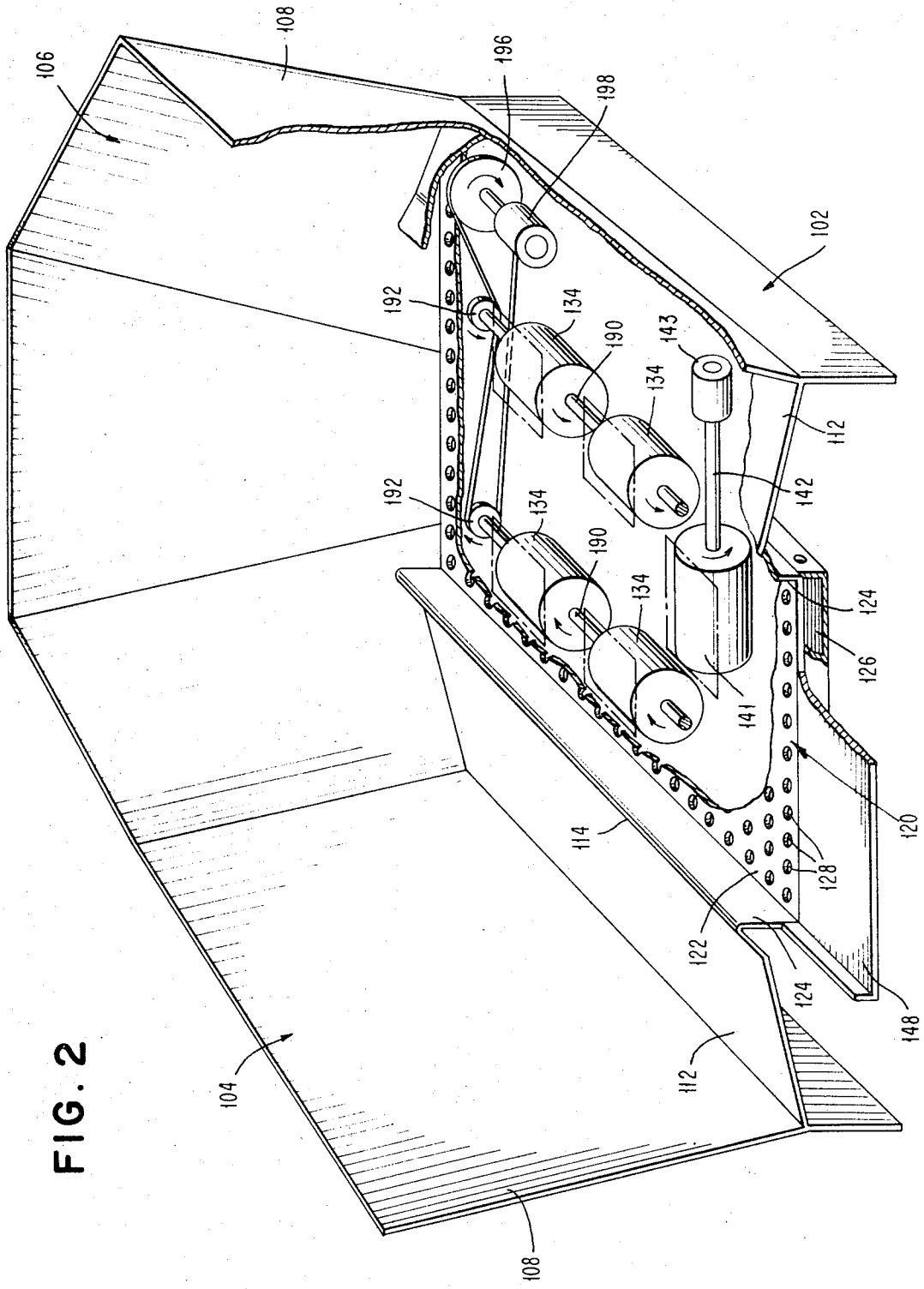

106
108
196
198
102
192
134
190
143
134
112
142
192
134
190
134
124
126
141
120
114
128
122
124
148
112
104
108

FIG. 2

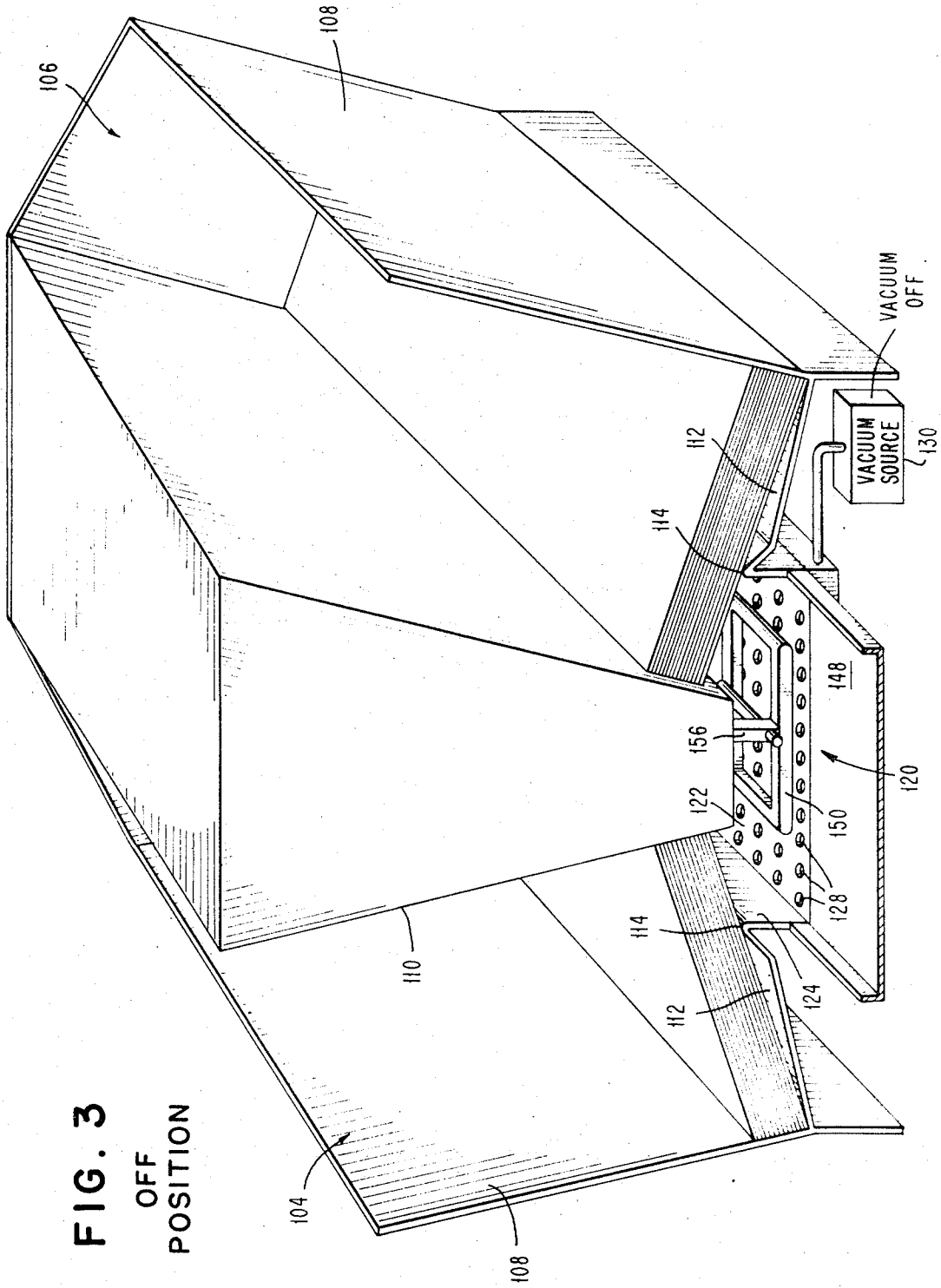


FIG. 3
OFF POSITION

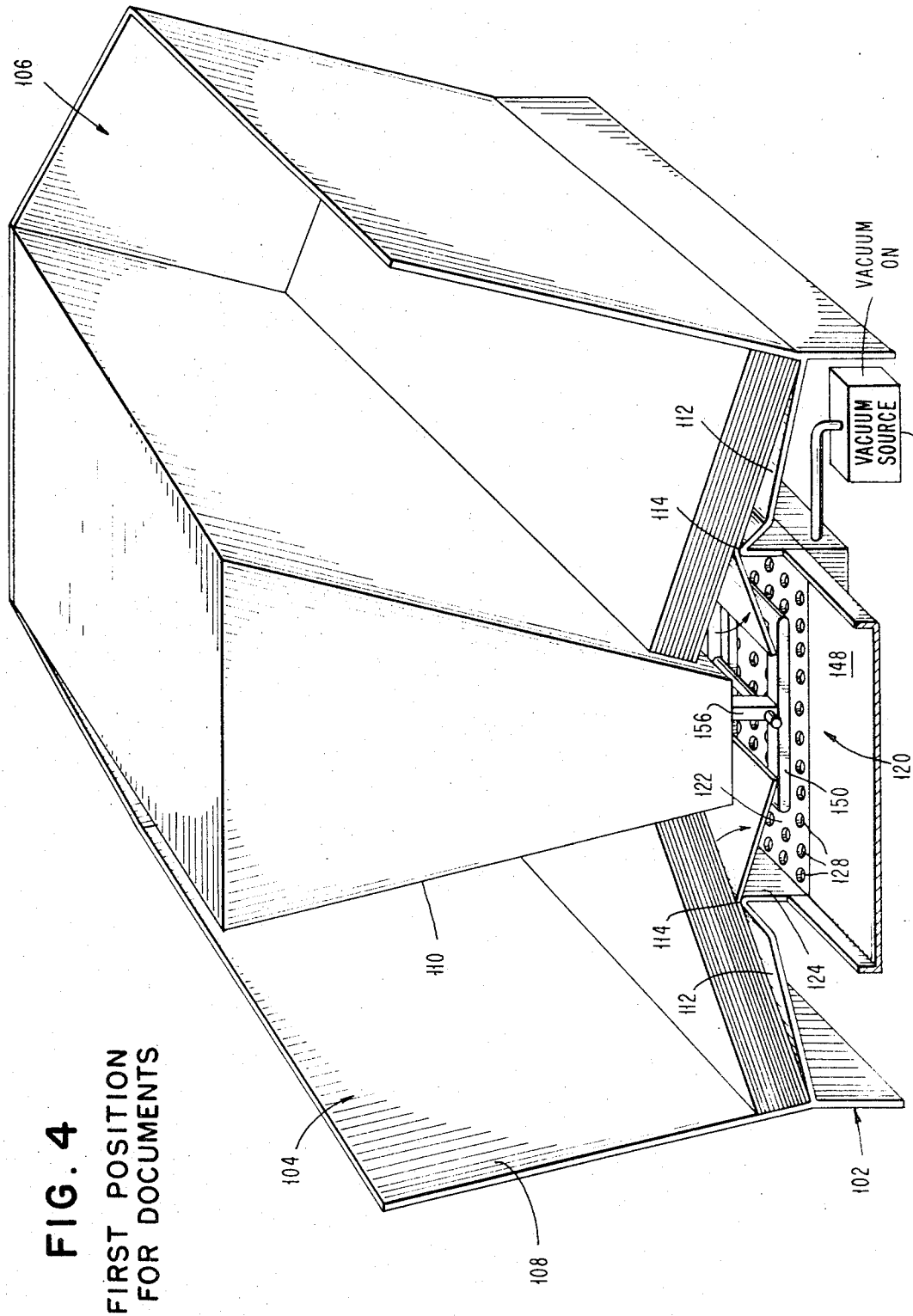


FIG. 4
FIRST POSITION FOR DOCUMENTS

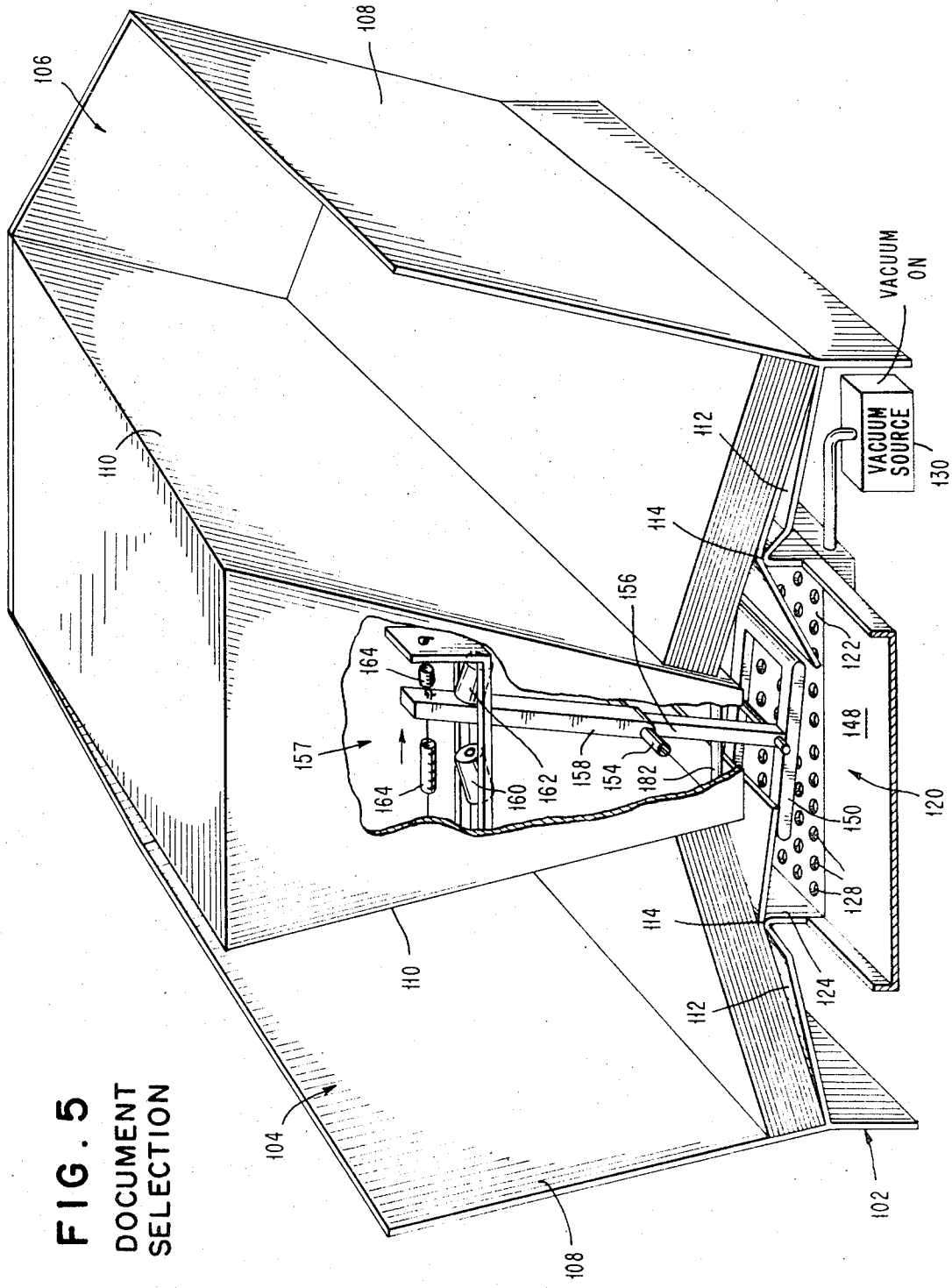


FIG. 5
DOCUMENT SELECTION

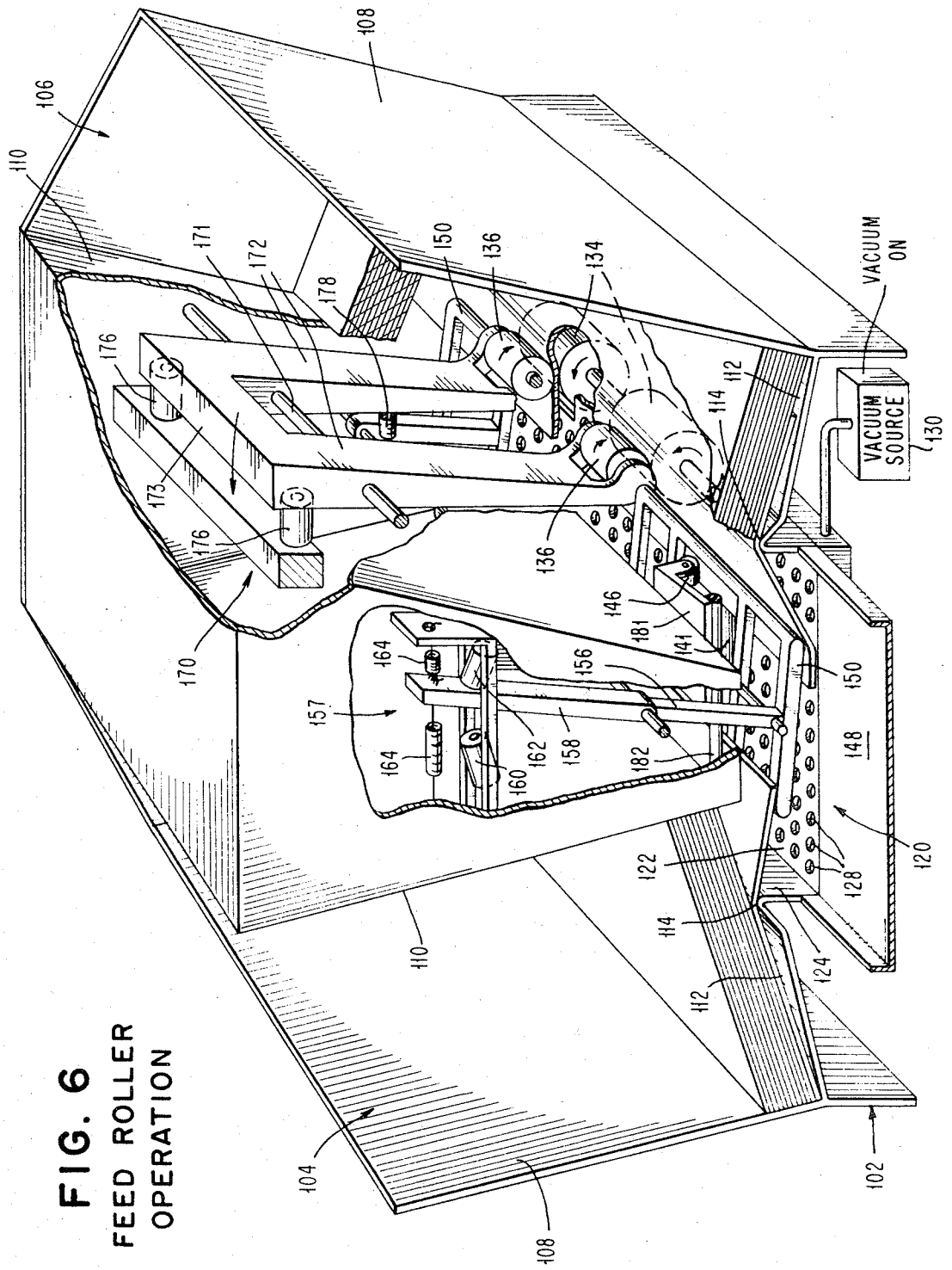


FIG. 6
FEED ROLLER OPERATION

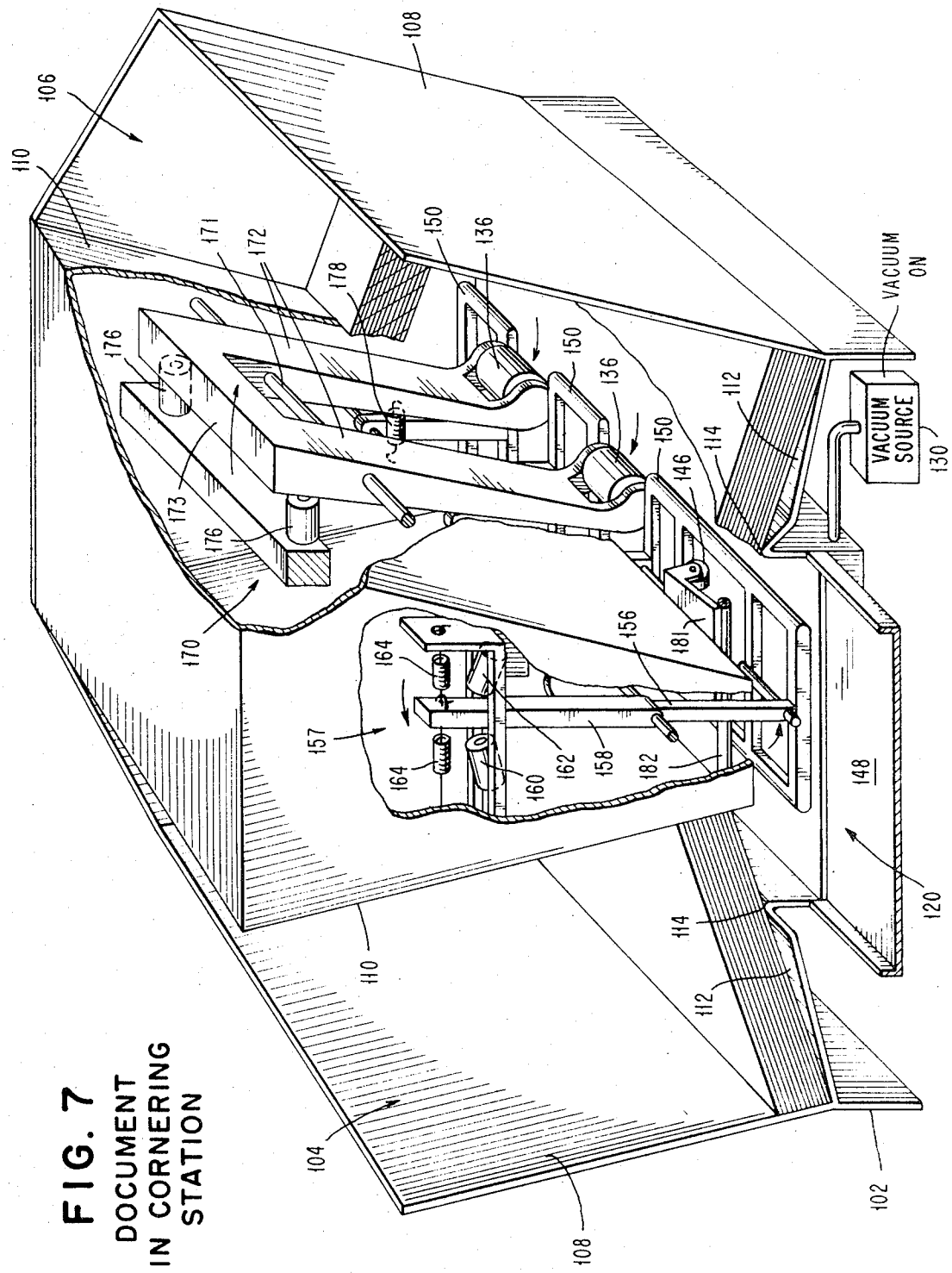


FIG. 7
DOCUMENT IN CORNERING STATION

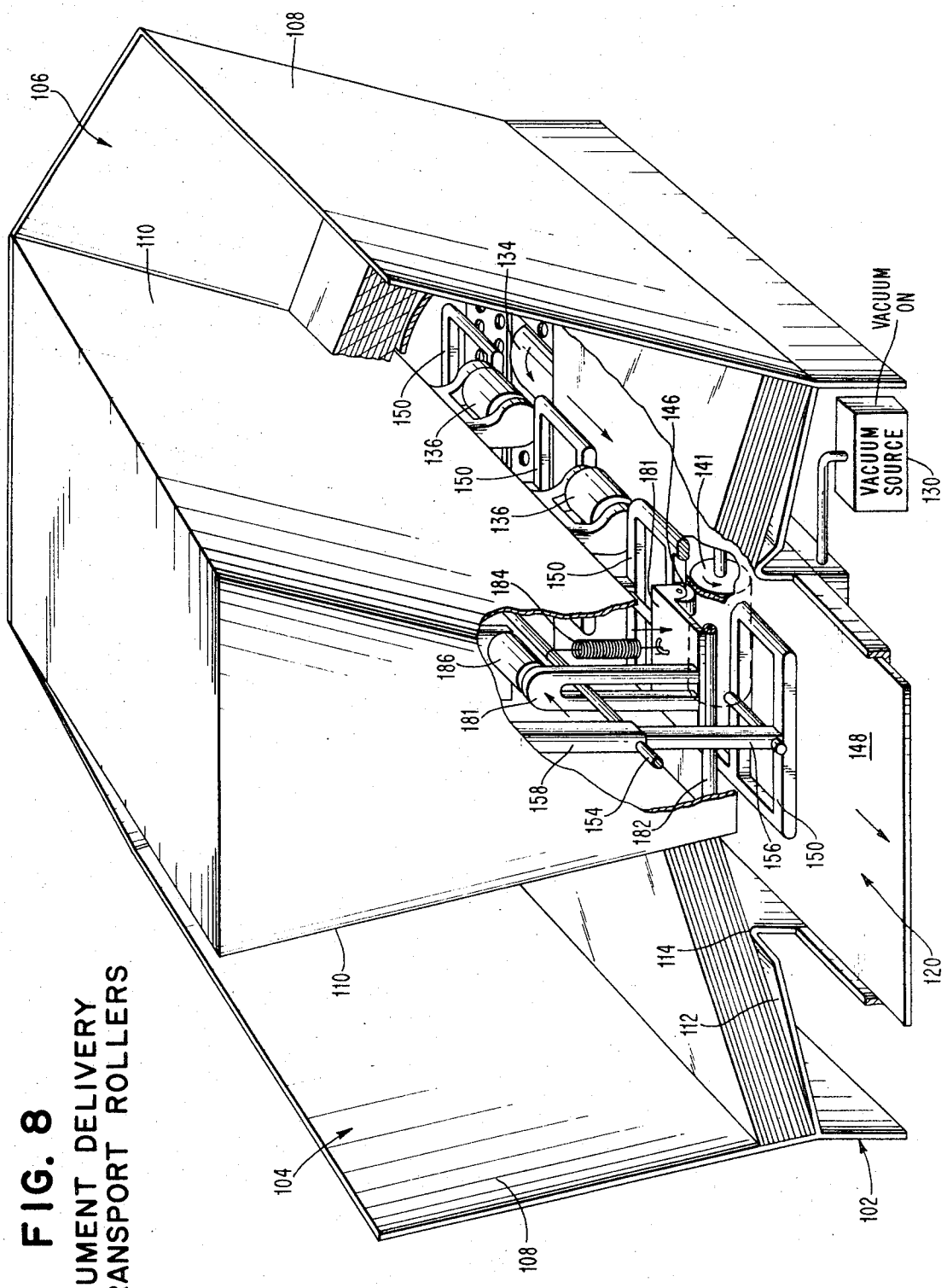


FIG. 8
DOCUMENT DELIVERY
BY TRANSPORT ROLLERS

FIG. 9

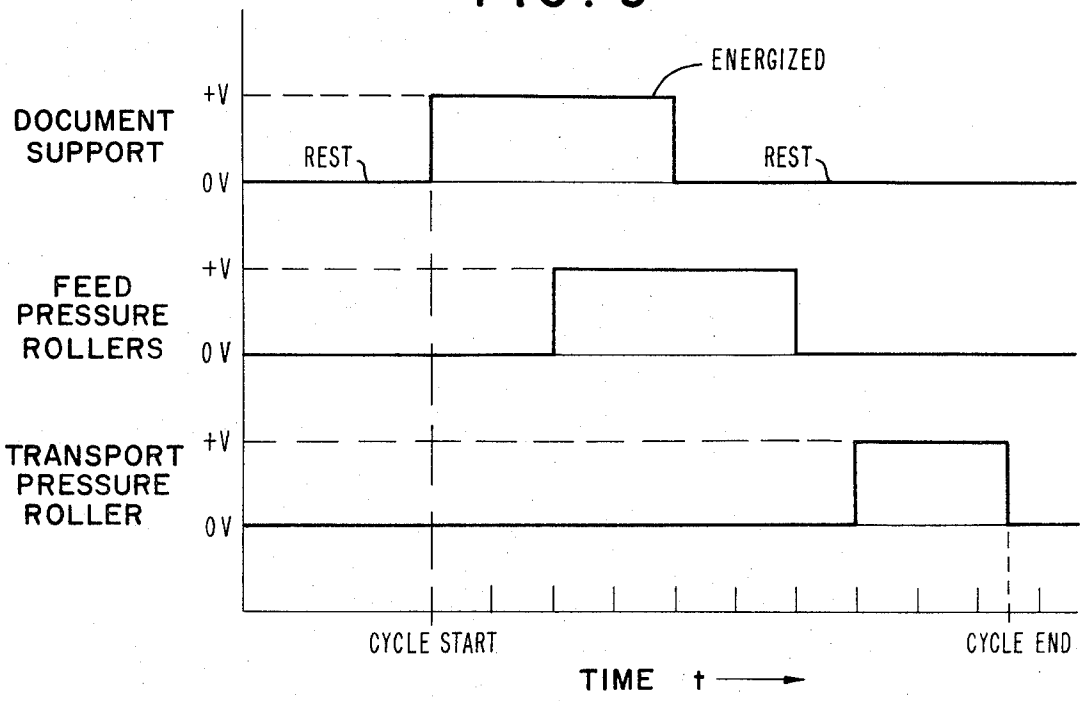
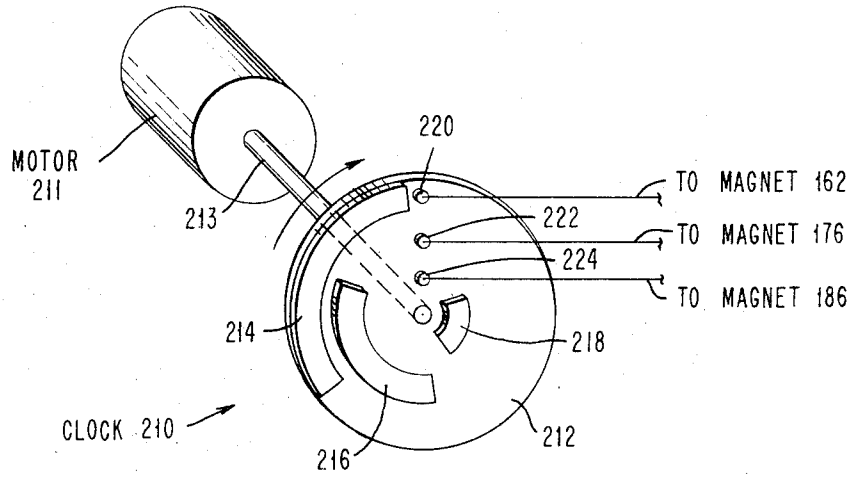

ENERGIZED
DOCUMENT SUPPORT
+V
0V
REST
REST
FEED PRESSURE ROLLERS
+V
0V
TRANSPORT PRESSURE ROLLER
+V
0V
CYCLE START
CYCLE END
TIME t

FIG. 10


MOTOR 211
213
220
TO MAGNET 162
222
TO MAGNET 176
224
TO MAGNET 186
214
218
CLOCK 210
216
212

DUAL STACK TO COMMON PATH DOCUMENT FEED APPARATUS AND METHOD

BACKGROUND OF THE INVENTION

1. Field of the Invention

The invention relates to the field of dual-hopper-to-common-path document feed mechanisms.

2. Prior Art

Single hopper document feed mechanisms have been found inadequate for many uses in which it is necessary to have more than one form processed in a common document path. Airline ticket and boarding pass systems must process both tickets and boarding passes, each of which is on a different form. To meet this need, dual-stack-to-common-path document feed mechanism have been developed. It has been known to use dual-stack-to-common-path document feed mechanisms in which a document stack is located on each side of a common cornering station. These mechanisms have used knife and throat block feed systems for feeding documents from each stack into sets of feed rollers which deliver the documents to the common cornering station. The use of the knife and throat feed systems results in a document feed mechanism which is at least as wide as the width of three documents plus two sets of feed rollers, since each stack and the cornering station must be as wide as a document. Because space is at a premium in many document handling installations, a requirement of modern document handling equipment is that it be built as compactly as possible. Reductions in the size of equipment using dual-stack-to-common-path document feed systems have been limited by the bulky nature of the present dual stack systems.

OBJECTS

A primary object of the present invention is to reduce the overall size of a hopper-to-common-path document feed mechanism.

SUMMARY

The above object is accomplished by providing a dual hopper mechanism in which each hopper overhangs a common cornering station. A selection system applies a vacuum to attract the overhanging portion of the lower most document in each stack toward a feed means and into contact with an interposed document support. A document is selected by moving the document support to allow the desired document to rest upon the feed means. The feed means under the selected document is then activated to feed the document from the hopper into the cornering station while the other feed means is rendered inoperative. The selected document is fed from the cornering station into the common path by a transport means. Both feed means and the transport means are preferably comprised of driven feed rollers and cooperating pressure rollers.

The foregoing and other objects, features and advantages of the invention will be apparent from the following, more particular description of a preferred embodiment of the invention as illustrated in the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a partially cut-away perspective view of the hopper emphasizing the pressure rollers and the document support.

FIG. 2 is a partially cut-away perspective view of the hopper emphasizing the cornering station and the feed and transport rollers.

FIG. 3 shows the positions of the documents when no vacuum is applied.

FIGS. 4–8 illustrate the various steps in selecting, feeding and delivering a document. FIG. 4 is the initial position of the document with the vacuum on.

FIG. 5 shows the position of the document support during selection of a document.

FIG. 6 shows the position of the feed pressure rollers and the document support during feeding of the selected document.

FIG. 7 shows the document support and the feed pressure roller returning to their normal position, subsequent to feeding the document into the corner station.

FIG. 8 shows the position of the transport pressure roller and the document during delivery of the document from the cornering station into the common path.

FIG. 9 shows the timing of the actuation of the document support, the feed pressure rollers and the transport pressure roller during a selection and delivery cycle.

FIG. 10 is a diagram of a mechanical clock capable of producing the timing of FIG. 9.

DETAILED DESCRIPTION OF A PREFERRED EMBODIMENT

The structure of the dual hopper of the invention is best seen in FIGS. 1 and 2. The dual hopper comprises a housing 102 which supports the components parts of the dual hopper feed system. The feed mechanism holds one stack of documents in each hopper 104 and 106. Each hopper has a back wall 108, a front document guide 110 and a bottom plate 112. The hopper bottom plates 112 each have raised front support edges 114 to reduce friction between the lower most document in a stack and bottom plate 112. Raised support edge 114 prevents the weight of the document stack from pressing the lower most document against the full surface of bottom plate 112. If so desired, the support edge 114 may be in the form of a freely rotatable roller.

Document hoppers 104 and 106 overhang a cornering station 120 defined by a bedplate 122 and two edge guides 124, one on each side of the bedplate 122.

A selecting means for selecting a document from one of the stacks and feeding it into the cornering station is comprised of a vacuum means for attracting at least the selected document toward bedplate 122 and a feed means for feeding the selected document into cornering station 120.

The vacuum means is comprised of a vacuum chamber 126 under bedplate 122, a vacuum source 130 for supplying a vacuum to chamber 126 and a plurality of vacuum ports 128 in cornering station bedplate 122 which communicate with vacuum chamber 126. The vacuum in chamber 126 draws air downward through vacuum ports 128. The air flow thus created attracts the lower-most document in each of the hopper, thus warping them toward the cornering station bedplate 122.

The feed means is preferably comprised of two sets of counter-rotating, driven feed rollers 134 and a pressure roller means cooperating with feed rollers 134. One set of feed rollers 134 is located under the overhanging portion of each hopper. Each set of feed rollers

134 is supported by an axle 190, to which a drive pulley 192 is fixedly attached. In order to drive the two sets of feed rollers in a counter-rotating fashion, a drive belt 194 passes around drive pulleys 192 and around a motor pulley 196 which is continuously driven by motor 198. The feed roller 134 rotate so that the top surface of the roller moves toward the center of the cornering station in order that a document pressed against the feed rollers will be fed from the overhanging hopper into cornering station 120. Feed rollers 134 are mounted so their upper surfaces are very slightly below the upper surface of bedplate 122 so that a document resting on bedplate 122 will not make contact with the feed rollers, unless the document is pressed downward by the pressure roller means. To avoid using rotary vacuum seals, axles 190 are located below vacuum chamber 126 and each of the feed rollers is within a shaftway through the vacuum chamber. Although, it is preferred that each feed roller set consist of two rollers to assure smooth, torqueless removal of the lower-most document from a hopper, it is understood that the single feed roller could be used and is included with the term a feed roller set.

The pressure roller means is comprised of two sets of pressure rollers 136 and an actuation means 170 for selectively actuating one set of rollers 136 into a pinching relationship with the corresponding set of feed rollers to feed the document into cornering station 120 from the stack. Each set of feed pressure rollers 136, of which only the set associated with hopper 106 is shown in the drawings, is supported above the cornering station 120 by actuation means 170. Each set of rollers 136 is supported on an L-shaped arm 172 which pivots about an axle 171. Arm 172 is made L-shaped to allow roller 136 to move under the documents in hopper 106 to press a selected document against feed rollers 134. Each arm 172 is actuated by a set of electromagnets. Arm 172 shown in the drawings is associated with stack 106 and actuated by electromagents 176. A portion 173 of arm 172 serves as an armature for electromagnets 176 and is attracted to magnets 176 when they are energized. As armature 173 is attracted toward magnets 176 the corresponding pressure rollers 136 move under the documents in the hopper and into a pinching relationship with the corresponding set of feed rollers 134. The feed pressure rollers associated with document stack 104 are not shown in the drawings and are actuated by a different set of magnets 174 (not shown) so that only one arm 172 and one set of roller 136 is actuated at a time.

While it is preferred to have a separate feed roller set and a separate actuation means 170 for each feed roller set, a single pressure roller set and a single actuation arm could be used to selectively actuate the single roller set into a pressure rollers associated with document stack 104 are not shown in the drawings and are actuated by a different set of magnets 174 (not shown) so that only one arm 172 and one set of roller 136 is actuated at a time.

While it is preferred to have a separate feed roller set and a separate actuation means 170 for each feed roller set, a single pressure roller set and a single actuation arm could be used to selectively actuate the single roller set into a pinching relationship with either feed roller set. Here again, the term "pressure roller set" includes a single pressure roller.

The selecting means further comprises (1) a document support 150 interposed between the feed means and the document attracted by the vacuum means and (2) an actuation means 157 for moving document support 150 to a position permitting the vacuum means to attract the selected document toward the feed means. Document support 150 is composed of three separate frames 152 which are preferably open to allow air to be drawn through the frames 152 into vacuum ports 128 to attract the lower most document in each of the hoppers. Document support 150 is made in the form of three frames to allow feed pressure rollers 136 to be actuated into a pinching relationship with feed rollers 134, while still permitting maximum support of the documents by document support 150. The three separate frames 152 are linked together by a control axle 154 from which they are suspended by frame support legs 156. All frame support legs 156 are fixedly attached to axle 154 and to the frames. Control axle 154 is supported by bearings in hopper housing 102. To prevent over crowding of the drawings, the axle support bearings are not shown. The document-support actuation means 157 is comprised of a control arm 158 fixed to axle 154, two electromagnets 160 and 162 and return springs 164. Control arm 158 may be an extension of a support leg 156 and extends upward from control axle 154. Electromagnets 160 and 162 are located adjacent to and on opposite sides of control arm 158. Energization of one of the control magnets attracts control arm 158 and moves document support 150 out from under one of the document stacks and further under the other document stack. Thus, actuating magnet 162 will move document support 150 out from under stack 106 and further under stack 104. Return spring 164 returns document support 150 to its rest position upon de-energization of the control magnet. Like control axle 154, electromagnets 160 and 162 and return spring 164 are supported by housing 102, but the supports are not shown to prevent overcrowding of the drawing.

The dual hopper feed system further comprises a transport means for delivering the selected document from cornering station 120 into common path 148. The transport means is comprised of a transport roller 141 and a pressure roller means. Transport roller 141 is mounted near the exit of cornering station 120 with its upper surface slightly below the upper surface of cornering-station bedplate 122 so that a document must be pressed down slightly by the pressure roller means in order to deliver the document from the cornering station into common path 148. Transport roller 141 is mounted on an axle 142 which is driven by a motor 143 so that the upper surface of transport roller 141 moves toward the exit of the cornering station. The pressure roller means is comprised of a pressure roller 146 and a pressure roller actuation means 180. The pressure roller actuation means 180 is comprised of a pressure roller support arm 181, and a support spring 184 and an actuation magnet 186. The support arm 181 is supported by an axle 182 about which the arm can pivot. Axle 182 is supported by housing 102. Spring 184 supports pressure roller 146 out of contact with the driven transport roller 141 until it is desired to deliver a document from cornering station 120 into common path 148. To deliver a document from the cornering station 120, electromagnet 186 is energized to attract the upper end of arm 181. As the upper end of arm 181 ap-

proaches electromagnet **186,** pressure roller **146** moves into a pinching relationship with transport roller **141** to press the document against the transport roller thereby delivering the document into common path **148.** After the document has been delivered to the common path, magnet **186** is de-energized and support spring **184** returns pressure roller **146** to its rest position.

The transport roller axle **142** is mounted below vacuum chamber **126** is avoid using rotary seals and transport roller **141** is mounted within a shaftway through vacuum chamber **126** to prevent excessive leakage of air into the vacuum chamber. Although, it is preferred to mount the transport means at the exit end of the cornering station **120,** the only requirement on the mounting of the transport means is that it be where it successfully delivers the document from the cornering station into common path **148.**

The timing of the actuation of document support **150,** feed pressure rollers **136** and transport pressure roller **146** can be varied significantly. It is preferred to actuate the document support and retain it in an actuated position until after the feed pressure rollers are actuated. The actuation of the feed pressure rollers **136** must be timed to allow sufficient time after the actuation of document support **150** for the selected document to be drawn toward feed rollers **134,** in order that upon actuation, the pressure rollers will pinch the selected document against the feed rollers. Document support **150** is deactuated after feed-pressure-roller actuation means **170** has been energized. This returns document support **150** to its rest position. Once the selected document has been fed into cornering station **120,** feed pressure roller actuation means **170** is deactuated and the pressure rollers return to their rest position. After the feed pressure rollers have been deactuated, transport pressure roller actuation means **180** is energized to actuate roller **146** and deliver the selected document from cornering station **120** into common path **148.** After the document has been delivered to common path **148,** transport pressure roller **146** is deactuated and returns to its rest position. The preferred timings are diagrammed in FIG. **9** and a simplified clock for producing them is diagrammed in FIG. **10.**

The simplified clock **210** in FIG. **10** consists of a rotatable disk **212** supported on a central shaft **213** which can be rotated by motor **211.** Three electrode **214, 216** and **218** are located on the disk **212** at different constant distances from the central shaft **213.** These electrodes are electrically energized by electric power connected to the central shaft **213.** Three brushes are positioned to obtain electrical power from electrode **214** during the first part of the feed cycle and is connected to energize electromagnet **162,** which selects a document from hopper **106.** The second brush **222** extracts power from electrode **216** during the middle of the cycle and is connected to electromagnets **176** to activate the feed pressure rollers associated with hopper **106** to feed the selected document into the cornering station. The third brush **224** extracts power from the electrode **218** during the last part of the cycle and is connected to magnet **186** to actuate transport pressure roller **146** to deliver the document to common path **148.** Another similar disk can be used for energizing electromagnet **160** to select a document from hopper **104** and to energize electromagnets **174** to actuate the feed pressure rollers associated with hopper **104.** Alternatively, a single disk can be used and the leads connected to brushes **220** and **222** can be switched between electromagnets **160, 176** and magnets **162** and **174** in accordance with which hopper is to be selected. The clock in FIG. **10** is for illustrative purposes and is not intended to be limiting. It is clear that the timing of the energizing of the magnets may be controlled by a digital control with or without sensors to determine the position of the document. If desired, sensors can be installed to anticipate the full withdrawal of the selected document from the hopper and to control the de-energizing of the feed-pressure-roller magnets to release the document as soon as it has been extracted from the hopper and thus reduce the chance of damaging the selected document by attempting to continue to feed the document into the cornering station after the document has already struck the cornering station guide edge opposite the hopper from which it was withdrawn.

OPERATION OF THE PREFERRED EMBODIMENT

FIGS. **3** through **8** of the drawings illustrate successive steps in a document feed cycle of the preferred embodiment of the invention.

In FIG. **3,** the document feed mechanism is shown loaded with two stacks of documents and is ready to be turned on. Initially, no vacuum is applied to vacuum chamber **126.** In preparation for feeding documents, the mechanism is turned on, to energize motors **143** and **198** and vacuum source **130.** Motor **143** continuously rotates transport roller **141** so that any document pressed against it by transport pressure roller **146** will be delivered from cornering station **120** into common path **148.** Motor **198** continuously drives the two sets of feed rollers **134** so that a document pressed against a set of feed rollers **134** by one of the feed pressure roller sets will be fed from the hopper into the cornering station. The vacuum in chamber **126** draws air down through vacuum ports **128** in the cornering station bottom bedplate **122** to create air flow which attracts the bottom document in each hopper into contact with document support **150** as shown in FIG. **4.**

To illustrate the operation of the document feed mechanism during a feed cycle, the feeding of a document from hopper **106** will be followed from selection through delivery to common path **148.** A timing diagram for a feed cycle is shown in FIG. **9** and reference to it will be an aid in understanding the operation of the invention. The bottom document in hopper **106** is selected by energizing magnet **162** to attract the control arm **158** toward that magnet. Movement of arm **158** toward magnet **162** moves document support frame **150** away from stack **106** and further under stack **104** as shown in FIG. **5,** allowing the bottom document in hopper to be drawn toward bedplate **122** while preventing the bottom document in hopper **104** from being drawn toward the bedplate.

While magnet **162** remains energized to hold document support **150** under hopper **104** and out from under hopper **106,** electromagnets **176** are energized. These magnets attract armature **173** of the pressure roller arm **172** associated with the hopper **106** to move pressure rollers **136** down toward the feed rollers and **134** under hopper **106.** Pressure rollers **136** move under the documents remaining in hopper **106** and pinch the selected document against feed rollers **134.** Since, the feed rollers rotate continuously, the document is drawn from hopper **106** into cornering station

120 as is shown in FIG. 6. Pressure rollers 136 apply sufficient pressure to assure that the document will be drawn from hopper 106, but not sufficient pressure to crumple the document between the feed roller and cornering station edge guide 124 under stack 104. Once the feeding of the selected document has begun, magnet 162 holding document support 150 clear of stack 106 is de-energized to allow support 150 to return to its rest position. Once the selected document is in cornering station 120, magnets 176 are de-energized and pressure roller arm 172 and rollers 136 are drawn back to their rest position by return spring 178.

Unless the selected document is quite porous or contains many apertures insufficient air will be drawn through the document into vacuum ports 128 to attract the new bottom document in hopper 106 because ports 128 are blocked by the selected document. Similarily, the vacuum will no longer attract the bottom document in hopper 104 toward the cornering station bedplate. Therefore, if the documents in hopper 104 are resilient, the bottom document in hopper 104 will return to its no vacuum position, as shown in FIG. 7.

To deliver the selected document from cornering station 120 into common path 148, magnet 186 is energized. Energization of magnet 186 attracts transport pressure roller arm 181, forcing pressure roller 146 into a pinching relationship with driven transport roller 141. The selected document is pinched between these roller, thus expelling the document from the cornering station and into common path 148 where other transport means assume control of the document's movements. Once the document has been delivered to common path 148, magnet 186 is de-energized and transport pressure roller 146 is returned to its rest position by spring 184. As the selected document is removed from cornering station 120 by transport roller 141, vacuum ports 128 become exposed and the new bottom document in each stack is attracted toward document support 150. The feed mechanism is now ready to begin another select cycle.

Feeding a document from hopper 104 is in all respects similar to feeding a document from hopper 106, except that magnet 160 is energized instead of magnet 162 and magnets 174 are energized instead of magnets 176.

It is to be noted that frame 150 not only acts to select the proper document, but also acts as a control means to prevent document jams by rendering simultaneous feeding of two documents impossible.

If desired, instead of applying a steady vacuum to vacuum ports 128 in bedplate 122 and instead of having a document support 150, document selection may be controlled by gating the vacuum which attracts the bottom document in a stack. This may be accomplished in several ways. The vacuum chamber 126 may be divided in half length wise down the center of cornering station 120 and a vacuum applied only to the half of the chamber under the stack being selected. This will attract only the selected document which can be fed using the same pressure roller system as in the preferred embodiment. Alternatively, the single vacuum chamber 126 can be retained and vacuum ports 128 may be valved as by a slide valve so that only the ports under the desired document are opened. This also will attract only the desired document which can be fed by the pressure roller system as in the preferred embodiment.

While the invention has been particularly shown and described with reference to a preferred embodiment and variations thereof, it will be understood by those skilled in the art, that various other changes in form and detail may be made therein without departing from the spirit and scope of the invention.

We claim:

1. A compact mechanism for handling documents comprising:
- a cornering station having the width of the documents to be transported;
- two document hoppers, each overhanging the cornering station;
- the width of the cornering station and the two hoppers being less than three times the width of the documents to be transported;
- selecting means for selecting a document from one of the hoppers and feeding it into the cornering station while rendering the other hopper inoperative, and;
- transport means for delivering the selected card form the cornering station into a common document path.

2. The mechanism of claim 1 wherein:
- the cornering station is defined by a bedplate and two document-edge guides, one guide on each side of the bedplate, and;
- the selecting means is comprised of a vacuum means for attracting at least the selected document toward the bedplate, a control means to prevent the unselected document from being attracted to the bedplate, and a feed means for feeding the selected document from the stack into the cornering station.

3. The mechanism of claim 2 wherein the vacuum means attracts the bottom document in each hopper toward the bedplate and the selecting means further comprises:
- a document support interposed between the attracted documents and the feed means for preventing the attracted documents from resting on the feed means, and;
- means for selectively moving the document support to a position permitting the vacuum means to move the selected document toward the feed means, while preventing the unselected document from moving toward the feed means.

4. The mechanism of claim 3 wherein:
- the bottom of each hopper is inclined with respect with the bedplate;
- a support edge on each hopper bottom plate supports the documents at a mid point, and;
- the bottom document in each stack is warped downwardly by the vacuum means and into contact with the document support.

5. The mechanism of claim 3 wherein the document support is a frame member disposed between the attracted documents and the bedplate and said frame member is selectively actuatable to move further under the non-selected document and out from under the selected document to permit the selected document to be attracted toward the feed means, while preventing attraction of the unselected document.

6. The mechanism of claim 3 wherein the feed means is comprised of:

two counter-rotating driven feed roller sets one set under the overhanging portion of each hopper, and;

pressure roller means cooperating with the feed rollers, the pressure roller means being selectively actuatable into a pinching relationship with either feed roller set to press the selected document against the feed roller set to feed the document into the cornering station.

7. The mechanism of claim **6** wherein the pressure roller means is comprised of one pressure roller for each feed roller.

8. The mechanism of claim **6** wherein the transport means is comprised of:

a driven transport roller, and;

a cooperating transport pressure roller actuatable into a pinching relationship with the transport roller to press the selected document against the transport roller to deliver the document into the common path.

9. A compact mechanism for handling documents comprising:

a cornering station defined by a bedplate and two document-edge-guides, one guide on each side of the bedplate;

two hoppers overhanging the cornering station, each for holding a stack of documents to be transported;

a vacuum means for attracting the lower most document in each stack toward the cornering station bedplate;

two sets of counter-rotating driven feed rollers below the cornering station bedplate;

a document support interposed between the attracted documents and the feed rollers for preventing the attracted documents from resting on the feed rollers;

means for selectively moving the document support to a position permitting the selected document to move toward the feed rollers;

cooperating pressure roller means selectively actuatable into a pinching relationship with either set of feed roller to press the selected document against the corresponding set of feed rollers to feed the document into the cornering station;

feed pressure roller actuation means for actuating the feed pressure roller means;

a driven transport roller below the cornering station bedplate;

a cooperating transport pressure roller actuatable into a pinching relationship with the transport roller to press the selected document against the transport to deliver the document into a common document path, and;

transport pressure roller actuation means for actuating the transport pressure roller.

10. A method of introducing documents into a common document path from either of two stacks overhanging a cornering station, comprising the steps of:

applying a vacuum to the bottom document in each stack toward a feed means and into contact with a document support interposed between the documents and the feed means;

moving the document support to a position permitting the document to be selected to move toward the feed means;

feeding the selected document from the stack into the cornering station, and;

delivering the selected document from the cornering station into the common document path.

11. A method of introducing documents into a common document path from either of two hoppers overhanging a cornering station, comprising the steps of:

applying a vacuum to attract the bottom document in each hopper toward a driven feed rollers and into contact with a document support interposed between the documents and the feed rollers;

moving the document to a position permitting the document to be selected to move toward the feed roller;

applying pressure to the selected document to hold it in a driven relationship with the driven feed roller, thereby feeding the document from the hopper into the cornering station, and;

pressing the selected document against a driven transport roller, thereby delivering the selected document into the common path.

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