Feb. 27, 1968 R. R. SEEDORF 3,370,690

SHEET HANDLER-STRIPPER

Filed Oct. 21, 1965 4 Sheets-Sheet 1

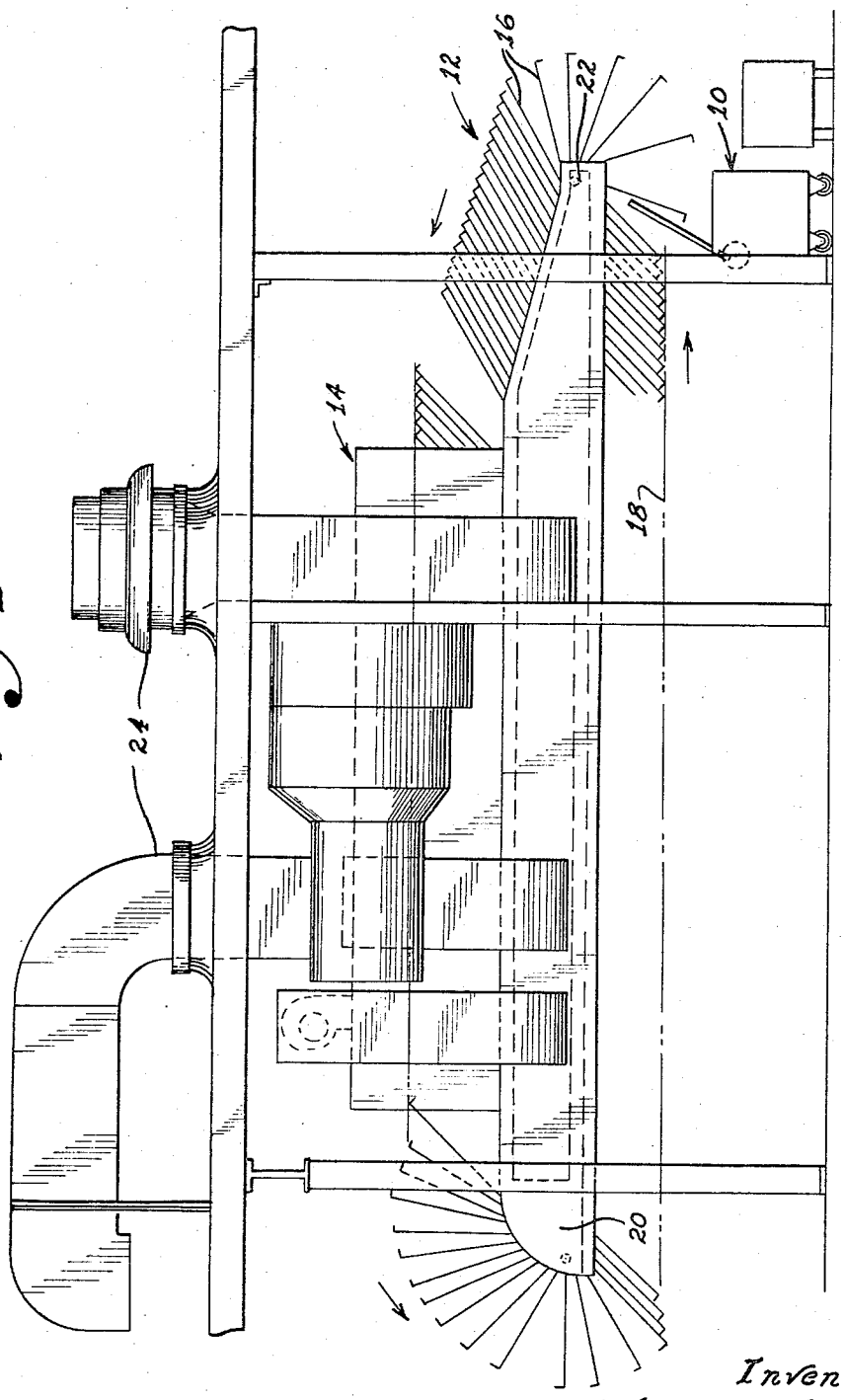


Fig. 1

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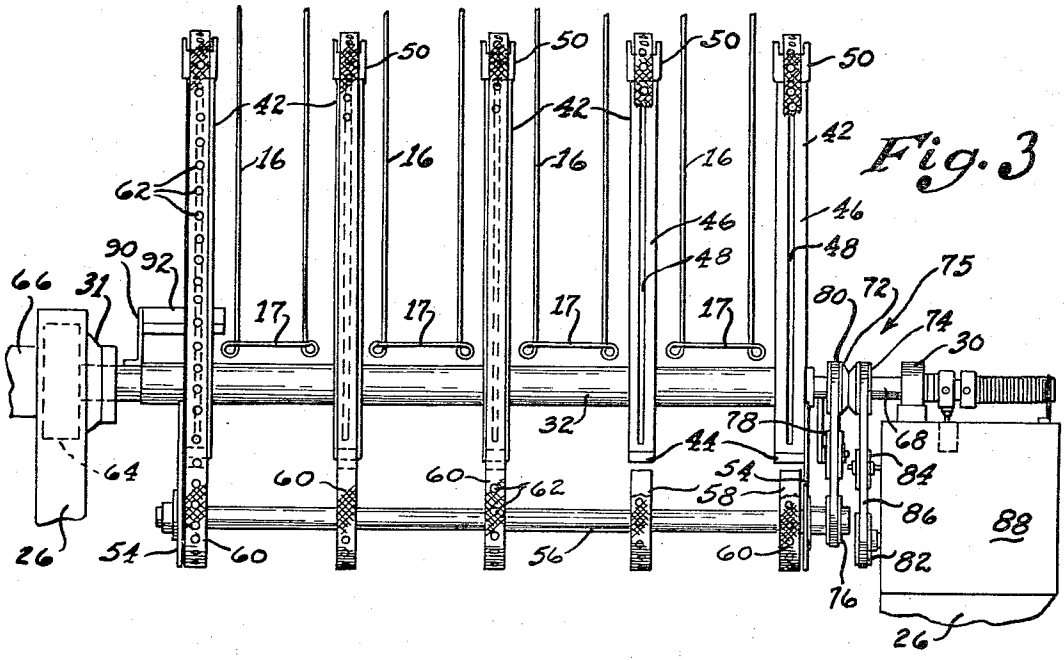

50
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Fig. 3

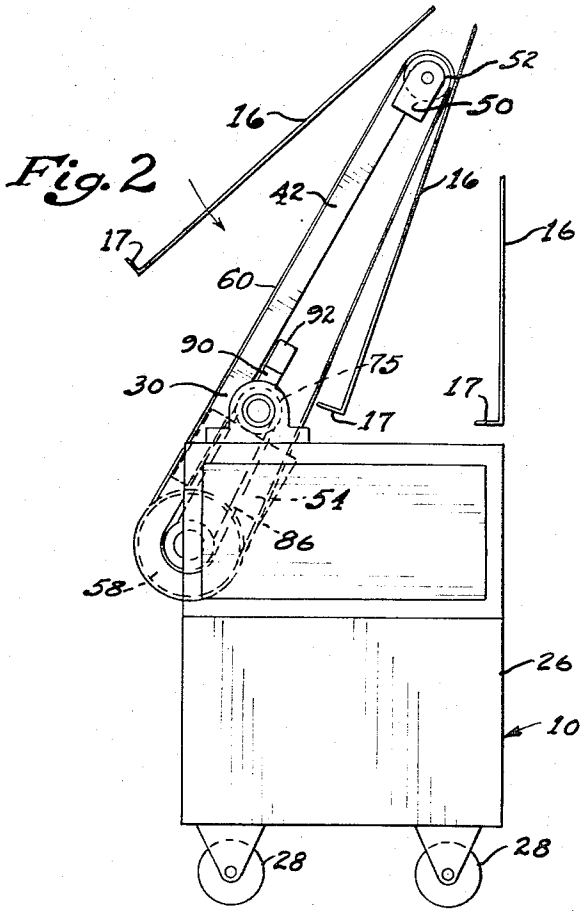

52
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92
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10
28

Fig. 2

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SHEET HANDLER-STRIPPER

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Fig. 4

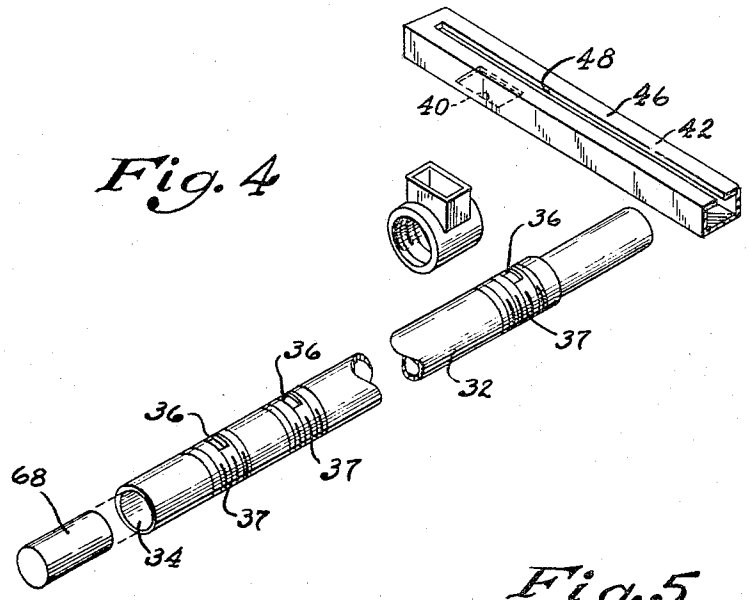


Fig. 5

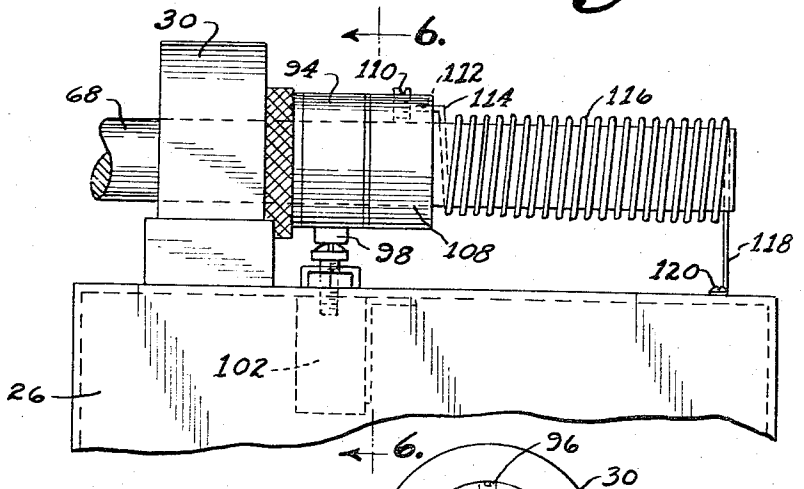
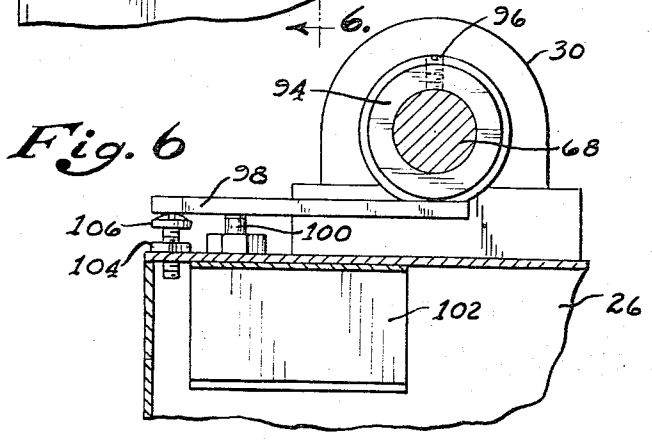


Fig. 6



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SHEET HANDLER-STRIPPER

Filed Oct. 21, 1965 4 Sheets-Sheet 4

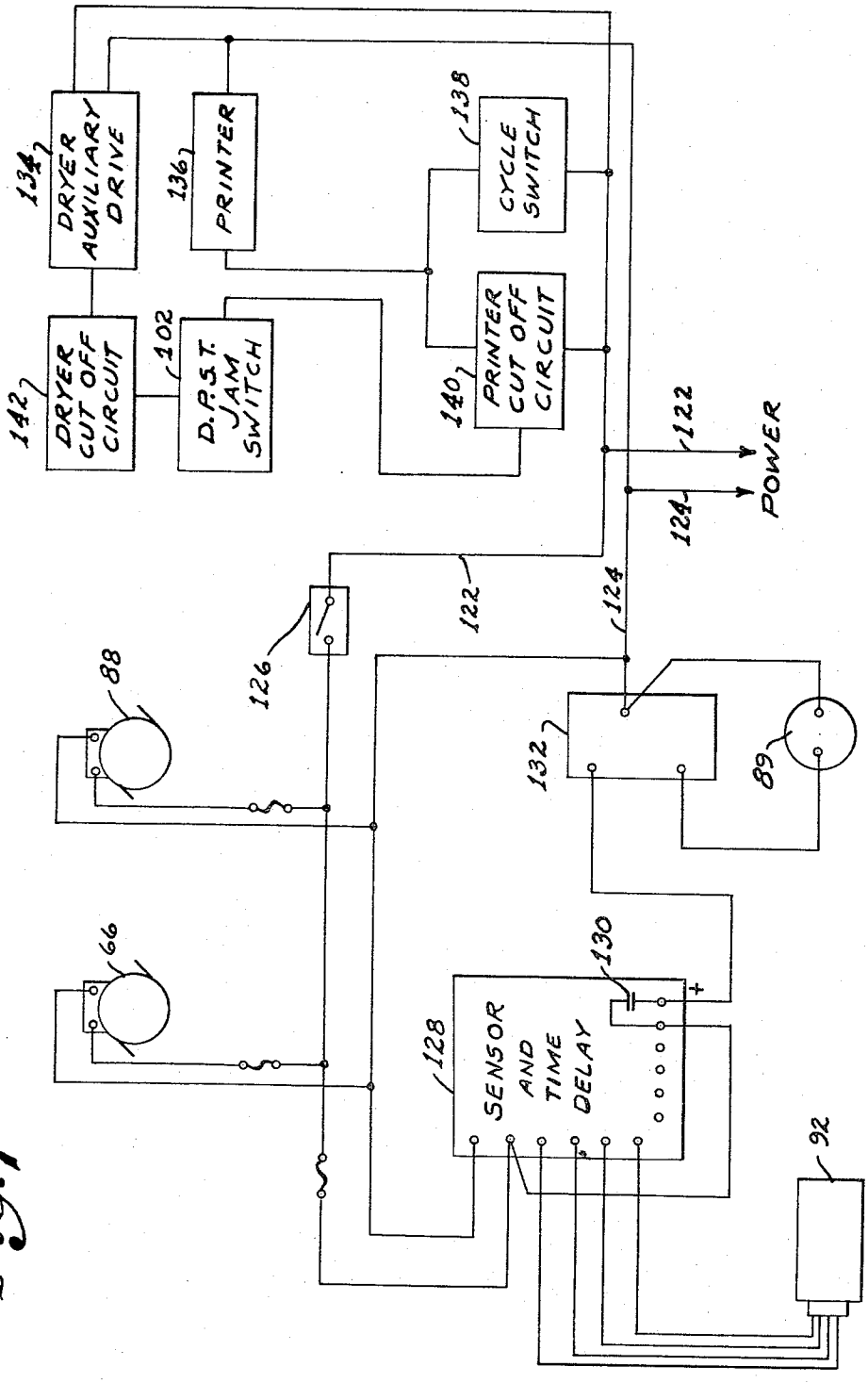


Fig. 7

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SHEET HANDLER-STRIPPER

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Filed Oct. 21, 1965, Ser. No. 500,074
13 Claims. (Cl. 198—20)

ABSTRACT OF THE DISCLOSURE

A sheet handler and stripper for use with a sheet dryer including a base having a shaft movably mounted thereon, a plurality of tubes communicating with a vacuum source secured to the shaft and having an opening along one side thereof, a perforated belt for each of the tubes having a run thereof substantially in contact with the opening therein, means for selectively driving the belts, and sensing means for operating the drive means for a predetermined time after a sheet holder of the sheet dryer passes the belt.

Background of the invention

It is conventional in sheet dryers to provide a conveyor with wickets for supporting sheets traveling through the dryer. Use of such wicket conveyors in sheet dryers has solved many of the problems attendant the drying of sheets as the wickets provide a generally satisfactory support for the sheets as they are passed through the dryer. As is well known, in a typical wicket conveyor, the wickets are supported on the conveyor at an angle in the range of about 45° to about 75° and are closely placed along the length thereof. This construction maximizes the number of sheets that can be dried during any given period of operation of the dryer, and accordingly, is a very practical construction from the standpoint of equipment size and the like.

However, such wicket conveyor constructions present various sheet handling problems in the loading and unloading of the wicket conveyor. In the case of loading the wicket conveyor, the problem is easily solved by feeding the sheets to be dried to the space between adjacent wickets by a rapidly moving conveyor, which method of feeding is well known in the art. In the case of unloading or stripping sheets from such wicket conveyors, the problem is not susceptible to so easy a solution. Many such wicket conveyors include on the end of each wicket remote from the point of attachment of the wicket to the conveyor, a transverse hook-like member which serves as a support to limit movement of the sheet on the wicket during such times as the wicket projects downwardly from the dryer conveyor. In such a case, use of a continuously moving conveyor as a stripper to engage the sheet upon the wicket and remove it from the space between that wicket and the adjacent wicket, would drive the sheet into the transverse or hook-like portion to be "hung-up" thereon and defy unloading or be crumpled thereagainst and ruin the sheet.

Summary of the invention

The principal object of the invention is to provide a new and improved sheet handler and stripper for sheet dryers of the wicket-type.

More specifically, it is an object of the invention to provide stripping means for unloading sheets from wickets such that the sheets will not be crushed against hook-like end portions on the wickets.

Another object of the invention is the provision of such a stripping means for unloading sheet dryers of the wicket type wherein conveying means are intermittently operable for a predetermined time period whereby the sheet to be unloaded may engage the conveying means while the latter is temporarily maintained stationary to be held thereby while the wicket conveyor moves the hook-like end portion of the wicket away from the edge of the sheet whereupon the conveying means is actuated to remove the sheet from the space between the wickets.

Another object of the invention is the provision of such a sheet handling and stripping device for use with wicket conveyors wherein the sheet to be unloaded from the wicket conveyor is subjected to a vacuum to draw the sheet against the conveying means.

Another object of the invention is the provision of a sheet handler and stripping device for use with sheet dryers of the wicket type wherein the sheet handler and stripper is responsive to jamming of sheets on the wicket conveyor or the sheet handler and stripper and includes means responsive to such jamming for terminating the operation of the wicket conveyor and other equipment, such as a printer, used therewith.

Other objects and advantages of the invention will be apparent from the following description taken in connection with the accompanying drawings.

Description of the drawings

FIGURE 1 is a side elevation of a form of the invention used in conjunction with a sheet dryer of the wicket type;

FIGURE 2 is an enlarged side elevation thereof;

FIGURE 3 is a side elevation thereof with certain of the belts broken away;

FIGURE 4 is an expanded view of a vacuum manifold arrangement;

FIGURE 5 is a side elevation of a fragment of a portion of a control therefor;

FIGURE 6 is a fragmentary vertical section taken approximately along the line 6—6 of FIGURE 5; and

FIGURE 7 is a combined schematic and block diagram of a control circuit.

Detailed description

An exemplary form of the invention, generally designated **10**, is shown in FIGURE 1 in conjunction with a sheet dryer of the wicket type, generally designated **12**. The sheet dryer **12** may be conventional or may be of the type disclosed in applicant's copending application Ser. No. 140,052, filed Sept. 22, 1961, now Patent No. 3,192,648, the details of which are herein incorporated by reference. The sheet dryer **12** includes a drying chamber, generally designated **14** through which a suitable endless conveyor is driven by a drive train connected to the drive of a printer **136** or by an auxiliary drive shown schematically at **134** in FIG. 7. The conveyor mounts a plurality of wickets **16** having transverse or hook-like ends **17**, and may be guided by conventional means such that the wickets **16** follow the path of travel indicated at **18**.

Preferably, for purposes that will be seen hereinafter, the ends of the conveyor are guided such that at some point during the reversal of the direction of each wicket **16**, each wicket **16** will "fall away" from the following wicket **16**. In the embodiment of the sheet dryer **12** shown in FIG. 1, it is intended that the conveyor supporting the wickets **16** be driven in a generally counterclockwise direction. As a result of the conveyor being driven in such a direction, it will be appreciated that the "falling away" occurrence described above will inherently take place at the left-hand end **20** of the sheet dryer **12** as the wickets **16** are conveyed from the upper run of the conveyor to the lower run thereof. However, at the right-hand end **22** of the sheet dryer **12**, the wickets **16** are moved from the lower run of the conveyor to the upper run thereof

and such action will not inherently occur. Accordingly, the wickets 16 are mounted on the conveyor in an angular relation somewhat less than 90° and the conveyor is made to undergo a rather abrupt change of direction. As a result of such construction, during about the first portion of the rotation of each wicket 16 at the right-hand end 22 of the sheet dryer 12, each wicket 16 will "fall away" in a downward arcuate path from the following wicket 16, as shown in FIG. 1, and subsequently be further rotated and elevated to the upper run of the conveyor. Additionally, the enclosure 14 of the sheet dryer 12 is provided with suitable ducts and blowers 24 to circulate drying air within the enclosure 14 to dry sheets carried by the wicket 16. The sheets to be dried may be fed to the wicket 16 by conventional means at the right-hand end 22 of the sheet dryer 12 as from a conventional printer, shown schematically at 136 in FIG. 7.

The sheet handler and stripper 10 for removing dried sheets from the wicket 16 may be placed adjacent the right-hand end 22 of the sheet dryer 12, as shown in FIG. 1, or if desired may be placed adjacent the left-hand end 20 of the sheet dryer 12, depending on the processing requirements for any given type of sheet.

Turning now to FIGURES 2 and 3, there is seen a more detailed view of the sheet handler stripper made according to the invention. Generally, the invention includes a base which may be portable and mounts a plurality of movable arms bearing intermittently movable sheet engaging belts provided with vacuum means for holding sheets on the belts and wicket sensing means for operating the belts in a predetermined manner to unload the wickets. More specifically, the sheet handler stripper 10 includes a base 26 which is mounted on a plurality of rollers or casters 28 so as to provide a portable structure. Such a construction is particularly advantageous insofar as it lends flexibility to the processing operation by simplifying movement of the sheet handler stripper 10 to either of the ends 20 or 22 of the sheet dryer 12. If desired, the base 26 may include suitable means for changing its height relative to the surface on which it is supported. On the upper end of the base 26 there is mounted a pillow block bearing 30 and a flange block bearing 31 which rotatably supports a shaft 32. The shaft 32 has a hollow center 34 and a plurality of notches 36 in its periphery which communicate with the hollow center 34. The shaft 32 is threaded, as at 37, about the area of each notch 36. A hollow rectangular saddle member 38 is mounted on an internally threaded sleeve 39. Each of the notches 36 is arranged to be surrounded by a sleeve 39 such that fluid communications may be established between the hollow center 34 of the shaft 32 of the hollow saddle of the saddle member 38. The threaded relationship between the shaft 32 and the sleeve 39 provides a fluid connection. Each mounting member 38 is received in a fluid tight relation within a rectangular opening 40 in the bottom surface of a rectangular tube 42. Each tube 42 has its ends sealed (as at 44 in FIG. 3) and includes a flat upper surface 46 having an elongated slot 48 therein which communicates with the center of the tube 42.

As best seen in FIGURES 2 and 3, a bifurcated yoke 50 is secured to the outer end of each of the tubes 42. Each of the bifurcated yokes 50 supports a rotatable sheave 52 such that the flat surface 46 of each tube 42 is essentially tangential to one point on the driving surface of the sheave 52.

The outer tubes 42 also support adjacent their lowermost ends, a pair of generally downwardly projecting plates 54. If desired additional plates may be secured to the other tube 42. The plates 54, in turn, journal a rotatable shaft 56 on which is mounted a plurality of sheaves 58. The sheaves 58 and the shaft 56 are rotatably supported on the end plates 54 such that the flat surface 46 of each tube 42 is essentially tangential to a point on the driving surface of each sheave 58.

As may be seen in FIG. 3, each sheave 58 is aligned with a tube 42 and the sheave 50 supported thereon. Each sheave 58 and sheave 50 are surrounded by an endless belt 60 having a plurality of apertures 62 therein. As a result of the construction just described, one run of each belt 60 will be substantially in contact with the flat surface 46 of each tube 42 and the apertures 62 in each belt periodically will be in fluid communication with the elongated slot 48 and ultimately the hollow center 34 of the shaft 32. The hollow center 34 of the shaft 32 communicates through suitable means, such as a rotary union, not shown, with a vacuum pump or centrifugal blower 64 mounted on the base 10. The blower 64 is driven by a suitable motor 66 and is mounted such that its intake is arranged coaxially with the shaft 32. By virtue of the foregoing construction, it will be obvious that when the motor 66 is energized, the blower 64 will evacuate the hollow center 34 of the shaft 32 and the tubes 42. As a result, a region of low pressure or partial vacuum will be present along the run of the belts 60 having the apertures 62 therein communicating with the slot 48 in the tubes 42 to hold sheets engaged by the belts 60 against the latter.

The shaft 32 also includes a step portion which is formed by the reception of the smaller, solid shaft 68 within the hollow center 34 at the end of the shaft 32. The relationship of the shaft 68 and the shaft 32 is such that the former element serves to seal one end of the shaft 32. Additionally, the shaft 68 provides an extension of the shaft 34 which is received within the pillow block 30 as seen in FIG. 3. About the portion of the shaft 68 intermediate the shaft 32 and the pillow block 30, there is mounted a 3-groove sheave 71 having grooves 72 and 74 and which is rotatable relative to the shaft 68. The groove 72 is aligned with a sheave 76 secured to the shaft 56 and with a suitable idler assembly 78. A belt 80 is trained about the groove 72 and the sheave 76 and the idler assembly 78 such that when the sheave 71 is driven, shaft 56 and the belts 60 will be driven. The groove 74 is aligned with a sheave 82 and an idler assembly 84. The sheave 82 is mounted on the output shaft of a drive motor 88, which is mounted on the base 26. A conventional magnetic clutch 89 is included in the motor assemblage 88. A belt 86 is trained through the groove 74 and about the sheave 82 and the idler assembly 84 such that when the sheave 82 is driven, the sheave 71 will also be driven.

The motor 88 and the magnetic clutch 89 operate to cause the belts 60 to undergo intermittent movement to unload sheets from the wickets 16 through intermittent energization of the clutch 89 in response to the passing of the wickets 16 by the belts 60. By means of an L-shaped bracket 90 secured to the shaft 32 adjacent one end thereof, there is mounted a sensor 92 which is operative to energize the magnetic clutch 89 to ultimately drive the sheave 72 and effect movement of the belt 60. The sensor 92 detects the present of each wicket 16 as it passes thereby. To accomplish this function, the sensor 92 may comprise a microswitch, an electric eye or a magnetic proximity detector. The sensor 92 is placed a distance from the run of the belts 60 which are substantially in contact with the flat surface 46 of the tubes 42, a distance at least equal to the length of the transverse end portions 17 of the wickets 16 such that the magnetic clutch 89 is actuated only after the wicket transverse end portions 17 have passed below the sheets engaging run of the belts 60.

Turning now to FIGURES 5 and 6, there is seen a structure for positioning the belts 60 relative to wickets 16 and for sensing jamming of the conveying structure to terminate printer and dryer operation. A bushing 94 is mounted on the shaft 68. The bushing 94 may be secured to the shaft 68 in a variety of positions by means of a set screw 96 threaded within the bushing 94 and arranged to firmly engage the shaft 68. Rigidly secured to the bushing 94, is an elongated switch actuator 98 which is in contact with the operator 100 of a double pole sin-

gle throw, normally open switch **102**, the latter being mounted on the base **26** and being maintained in a closed position by the actuator **98**. Adjacent the switch operator **100**, there is placed an adjustable movement limiting mechanism comprising a nut **104** secured to the base **26** and in which is received a threaded screw **106**. The screw **106** is arranged in the path of the switch actuator **98** and, as seen in FIG. 6, is arranged to limit the counterclockwise movement of the switch actuator **98**. As an ultimate result of this construction, the counterclockwise movement of the shaft **32** is also limited. However, when the shaft **32** is rotated in a clockwise direction, it will be obvious that the switch actuator **98**, which is arranged to close switch **102** during contact with the operator **100** thereof, will be rotated away from the screw **106** and the operator **100** thereby permitting the switch **102** to open. The screw **106** also serves as an adjustment for regulating the extent of such movement required to cause the switch **102** to open by adjustably limiting the extent of depression of the switch operator **100** by the actuator **98**. As will be seen hereinafter, the switch arrangement just described is used to terminate the operation of a printer and the dryer drive in the event that a sheet sticks to a wicket or a component of the sheet handler and stripper.

Referring to FIG. 5, a second bushing **108** surrounds the shaft **68** and may be secured thereto in a variety of positions by a set screw **110** threaded therein and adapted to firmly engage the shaft **68**. The bushing **108** is also provided with an aperture **112** in a side thereof which receives one end **114** of a spiral spring **116** coiled about the shaft **68**. The other end **118** of the spring **116** is secured to the base **26** by a screw **120**. The spring **116** is arranged to rotatably bias the bushing **108** and thus the shafts **68** and **32** in counterclockwise direction in reference to FIGURES 2 and 6 such that the switch actuator **98** is biased against the limit screw **105**. The construction just described permits adjustment of the angular relationship between the tubes **42** and the base **26** by varying the angular position of the switch actuator **98** on the shaft **68** and also permits adjustment of the degree of bias applied to the tubes **42** toward the position just mentioned by varying the position of the bushing **108** with respect to the shaft **68**. Additionally, as mentioned above, the construction permits the varying of the tube movement sensitivity of the switch **102** by varying the position of the screw **106**.

Accordingly, the tubes **42** may be placed such that the run of the belt **60** that is in substantially full contact with the flat surface **45**, will be approximately parallel to the wickets **16** as they pass thereby.

Turning now to FIG. 7, there is seen a form of a control circuit that may be used in practicing the invention. A pair of lines **122** and **124** are adapted to be connected to a source of power. The vacuum pump motor **66** and the drive motor **88** are connected across the lines **122** and **124** in parallel and are serially arranged with an "off-on" switch **126** in the line **122**. Additionally, in parallel with the motor **66** and **88** and in series with the switch **126**, a sensor and time delay control **128** is connected across the lines **122** and **124**. The sensor **92** is connected to the sensor and time delay control **128**. The control **128** also includes a switch **130** that is initially closed by the response of the sensor **92** to a passing wicket **16** and which is maintained closed for a predetermined time thereafter. Conventional means as, for example, a motor which is initially energized by a pulse from the sensor **92** driving a cam surface and which is maintained energized during and deenergized after a predetermined period of revolution by another switch (not shown) in contact with the cam surface may be used to actuate the switch **130**. In series with the switch **130**, and across the lines **122** and **124**, is a magnetic clutch control **132** of conventional construction. The magnetic clutch **89** is connected to the magnetic clutch control **132** and is arranged, upon energization of the magnetic clutch control **132** through the switch **130**, to cause the belts **60** to be driven.

The auxiliary dryer drive is indicated schematically at **134** and is connected across the lines **122** and **124**. A printer and control therefor for sequentially printing sheets to be used in conjunction with the sheet dryer **12** is schematically indicated at **136**. The printer **136** is connected directly to the line **124** and is connected to the line **122** through a pair of parallel circuits comprising a cycle switch **138** and a printer cut-off circuit **140**. The cycle switch **138** provides an alternative path for energization of the printer that is opened only when the printer has completed a cycle such that the latter cannot be stopped in mid-cycle. The printer cut-off circuit **140** is in turn controlled by the double pole single throw switch **102** through one pole thereof. The other pole of the double pole single throw switch **102** controls a cut-off circuit **142** for the dryer auxiliary drive **134**. The cut-off circuits **140** and **142** may comprise relay switches in the power supplies for the printer **136** and the dryer auxiliary **134** that are maintained closed so long as the switch **102** is closed. The dryer auxiliary drive **134** and the printer **136** additionally include separate manual "off-on" switches, not shown.

The operation of the exemplary form of the invention described is as follows. The sheet stripper and handler **10** is placed in an appropriate position relative to the sheet dryer **12**, as for example the position shown adjacent the right-hand end of the sheet dryer **12** as shown in FIG. 1. The set screws **96** and **110** in the bushings **94** and **108** respectively are loosened and the shaft **32** rotated within the bearings **30** and **31** such that the run of the belt **60** substantially in contact with flat surface **46** of the tubes **42** is approximately parallel to a wicket **16** from which a sheet is to be removed. Additionally, since the sheet dryer conveyor includes a plurality of side-by side wickets **16**, such as shown in FIG. 3, the base **26** is positioned such as to locate the belts **60** in between the wickets **16**. With the tubes **42** disposed in the proper angular relationship to the wicket **16**, the bushing **94** (see FIG. 6) is rotated in a counterclockwise direction until the actuator arm **98** contacts the limit screw **106**, thus closing the switch **102**. The set screw **96** is then tightened. The bushing **108** is then rotated in a clockwise direction against the bias of the spring **116** at least until there is sufficient bias exerted thereagainst to maintain the tubes **42** in the desired angular relationship with the wicket **16**. If it is desired that the tubes **42** be subjected to a greater bias such that a greater force exerted thereagainst is required to cause them to deviate from the preselected position, the bushing **108** may be further rotated in a clockwise direction. When the desirable bias is achieved, the set screw **110** is tightened to cause the bias of the spring **116** to be exerted against the shafts **68** and **32** and the tubes **42**.

At this point, the operation of the printer **136** may be initiated and the dryer **12** actuated, the conveyor being driven by the printer drive or the auxiliary drive **134**. The switch **126** is then closed to energize the vacuum pump motor **66**, the drive motor **88** and the sensor and clutch control circuitry. Printed sheets to be dried are conveyed from the printer **136** to the sheet dryer **12** and are loaded on the conveyor thereof to be passed through the sheet dryer **12** to be dried. As a result, each wicket **16** will support a sheet. The sheets are conveyed by the wicket **16** to the dryer enclosure **14** and eventually to the sheet handler and stripper **10**.

Referring specifically to FIG. 2, a wicket **16** bearing a sheet will be moved downwardly toward the belts **60**. At some point in such movement, the sheet will engage the belts **60** and be drawn thereagainst by the low pressure adjacent each aperture **62** in the belts **60**. At this point, the belts **60** are stationary. Further movement of the wicket **16** results in the wicket **16** "falling away" from the belts **60** such that the transverse end portion **17** of each wicket **16** is moved below the plane of the belts **60** and out of the path of the sheets during stripping

movement. Still further movement of the wicket **16** causes it to be positioned adjacent the sensor **92** which responds thereto to energize the time delay mechanism and close the switch **130** for a predetermined amount of time. The closing of the switch **130** causes the magnetic clutch control **132** to be energized to actuate the magnetic clutch **89** and cause the sheave **71** to be driven to move the belts **60**. The belts **60** then move the sheet out of the path of the following wicket **16** with the sheet held thereon by the pressure differential created by the aperture **62** communicating with the vacuum pump **64**. By virtue of the placement of the sensor **92** in relation to the sheet contacting run of the belts **60**, the transverse end portion **17** of each wicket **16** is below the surface of the sheet contacting run of the belts **60** before movement of the belts **60** is initiated and therefore will not obstruct movement of the sheets by the belts **60**. The period during which the switch **130** is closed is preselected such that movement of the belts **60** will be terminated prior to the contact thereof by a sheet carried on the following wicket **16**.

If for some reason, a sheet on a wicket **16** jams against the belts **60** or their associated structure, it will be appreciated, that further movement of the wicket **16** will cause the following wicket **16** to engage the sheet to cause the belts **60** and the arms **42** to be rotated clockwise about the pivotal support provided by the bearings **30** and **31**. Should a sheet stick to a wicket **16**, further movement of the sheet by the fouled wicket will cause similar movement of the arms **42**. In the event the drive **88** or the clutch **89** and associated circuitry of the sheet handler and stripper fail to initiate movement of the belts **60**, the following wicket **16** will engage the sheet to rotate the arms **42**. Such a rotation will cause the shafts **32** and **68** to be rotated clockwise to lift the switch actuator **98** off of the limit screw **106** and the operator **100** of switch **102** to permit the latter to open. The opening of the switch **102**, as noted previously, will immediately terminate operation of the dryer auxiliary drive **134** if used or will terminate operation of the printer upon completion of the printing cycle in which it is engaged when the alternative path provided by the cycle switch **138** is additionally opened, and thus stop the dryer conveyor when the latter is being driven by the printer **136**.

Having described a specific embodiment of my invention as required by 35 USC 112, I do not wish to be limited to the exemplary construction set forth, but rather, to have my invention construed according to the true spirit thereof as set forth in the following claims.

I claim:

1. In combination:

(a) means for sequentially receiving printed sheets including a movable wicket conveyor mounting a plurality of sheet handling wickets each having a hook-like end, and

(b) means for removing dried sheets from said wicket conveyor comprising intermittently operable stripper conveying means having a flat elongated conveying surface for engaging dried sheets carried by said wickets along substantially the entire length of the sheets to support the same along their length and for conveying dried sheets away from said wickets and means responsive to the presence of a wicket at a point adjacent said conveying means for actuating said conveying means after said hook-like end has passed said conveying surface for a predetermined time period sufficient to remove a dried sheet from said wicket conveyor and less than the period of time required for said movable wicket conveyor to carry the next subsequent wicket to said point adjacent said conveying means.

2. The combination of claim **1** wherein said flat elongated conveying surface comprises a run of an endless conveying structure, said endless conveying structure including means for permitting fluid communication through said run and a vacuum manifold substantially in contact with said run and communicating with said fluid communication means whereby dried sheets on said endless conveying structure are subjected to a vacuum to hold said sheets on said endless conveying structure.

3. In a sheet treating system, the combination comprising: first conveying means mounting a plurality of wickets, each of said wickets having a hook-like end portion and an elongated portion adapted to support a printed sheet for movement through a sheet treatment zone; second conveying means including at least two spaced belts disposed adjacent said first conveying means each having an elongated sheet engaging, conveying run and arranged so that each of said wickets may pass through a position between said belts with said elongated portion approximately parallel to said runs; means for driving said belts; and means for sensing the presence of a wicket at approximately said position for energizing said drive means for a time period less than the time period required for said first conveying means to move a subsequent wicket to said position.

4. The combination of claim **3** wherein said belts are fluid pervious, said combination further including a vacuum manifold associated with said run of each of said belts having an opening disposed adjacent said run.

5. The stripping means of claim **3** including a portable base mounting said second conveying means and said driving means, said sensing means comprising means mounted on said base.

6. The stripping means of claim **5** wherein said driving means further comprise a continuously operable motor a normally disengaged clutch operatively interposed between said second conveying means and said driving means, and means responsive to said sensing means for engaging said clutch for said predetermined time period, each of said driving means, clutch and clutch engaging means being mounted on said portable base.

7. A sheet handler and stripper for use with a sheet dryer of the wicket type comprising:

(a) a base,

(b) a shaft mounted on said base,

(c) a plurality of tubes secured to said shaft and adapted to have their interiors in fluid communication with a vacuum source,

(d) each said tubes including an opening extending therethrough into the interior of said tubes,

(e) a first sheave disposed at one end of each of said tubes,

(f) a second sheave disposed at the other end of each of said tubes,

(g) a plurality of perforated belts each trained about one of said first and second sheaves and having a run thereof substantially in contact with one of said tubes,

(h) drive means for selectively driving each of said belts; and

(i) wicket sensing means for operating said drive means for a predetermined time after a wicket passes said belt.

8. A sheet handler and stripper for use with a sheet dryer of the wicket type comprising:

(a) a base,

(b) a shaft movably mounted on said base,

(c) a plurality of tubes secured to said shaft and adapted to have their interiors in fluid communication with a vacuum source,

(d) each said tubes including an elongated slot extending therethrough into the interior of said tubes,

(e) a first sheave disposed at one end of each of said tubes,

(f) a second sheave disposed at the other end of each of said tubes,

(g) a perforated belt trained about said first and second

sheaves and having a run thereof substantially in contact with one of said tubes,

(h) drive means for selectively driving said belt,

(i) wicket sensing means for operating said drive means for a predetermined time after a wicket passes said belt,

(j) means for yieldable biasing said shaft in a predetermined position relative to said base, and

(k) means responsive to movement of said shaft from the position in which it is biased for deenergizing a sheet dryer of the wicket type.

9. A portable sheet handler and stripper for use with a sheet dryer of the wicket type comprising:

(a) a base,

(b) means mounting said base for selective movement thereof,

(c) a shaft pivotally mounted on said base and having a hollow center adapted to communicate with a vacuum source,

(d) a plurality of tubes secured to said shaft and having their interiors in fluid communication with said hollow center,

(e) each said tubes including a flat surface extending substantially the length thereof, said flat surface including an elongated slot extending therethrough into the interior of said tubes,

(f) a first sheave disposed at one end of each of said tubes,

(g) a second sheave disposed at the other end of each of said tubes,

(h) a perforated belt trained about said first and second sheaves and having a run thereof substantially in contact with said flat surface,

(i) motor means

(j) drive means including a selectively operable clutch interconnecting said motor means and one of said sheaves for selectively driving said belt,

(k) wicket sensing means for operating said clutch to drive said belt for a predetermined time after a wicket pases said belt,

(l) means for adjustably and yieldably biasing said shaft in a plurality of positions relative to said base, and

(m) means responsive to rotation of said shaft from the position in which it is biased for deenergizing a sheet dryer of the wicket type.

10. A sheet handler and stripper for use with a sheet dryer having a sheet holder comprising:

(a) a base,

(b) a shaft movably mounted on said base,

(c) a tube means secured to said shaft and adapted to have the interior thereof in fluid communication with a vacuum source,

(d) said tube means including an opening connecting the exterior thereof with the interior thereof,

(e) a perforated belt having a run thereof substantially in contact with the opening of said tube means,

(f) drive means for selectively driving said belt; and

(g) sensing means for operating said drive means for a predetermined time after a sheet holder passes said belt.

11. A sheet handler comprising:

(a) a base;

(b) wheel means supporting said base whereby said base may be moved from location to location as desired;

(c) tube means mounted on said base and adapted to have their interior in fluid communication with a vacuum source, said tube means including an elongated opening having edges and connecting the exterior thereof with the interior thereof;

(d) fluid pervious belts mounted for movement along said tube with a run thereof in contact with the edges of said opening;

(e) drive means for selectively driving said belt, said drive means being mounted on said base and movable therewith; and

(f) sensing means mounted on said base for sensing the presence of a sheet holder and for operating said drive means for a predetermined time period after a sheet holder is located at a point adjacent said belt.

12. Sheet handling means for use with a sheet heat treatment unit of the wicket type having a movable wicket conveyor mounting a plurality of wickets adapted to carry sheets to be treated through a heat transfer chamber, said sheet handling means comprising: intermittently operable conveying means including a movable surface for engaging said sheets and for conveying said sheets to a desired location relative to said wicket conveyor, means responsive to the presence of a wicket at a point adjacent said conveying means for actuating said conveying means for a predetermined time period sufficient to move a sheet to a desired position relative to the wicket and less than the period of time required for the wicker conveyor to carry the next subsequent wicket to said point adjacent said conveying means, and means for producing a vacuum only at said surface for holding sheets thereagainst.

13. The handling means of claim **12** wherein said movable surface comprises a run of an endless belt and wherein said vacuum means comprise means in said belt for permitting the passage of fluid through said belt and a vacuum manifold in continuous communication with said last named means.

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