Dec. 4, 1945. W. H. WAKEFIELD 2,390,478

THREAD ACCUMULATOR FOR WEFT REPLENISHING LOOMS

Filed June 3, 1944 3 Sheets-Sheet 1

Fig. 1

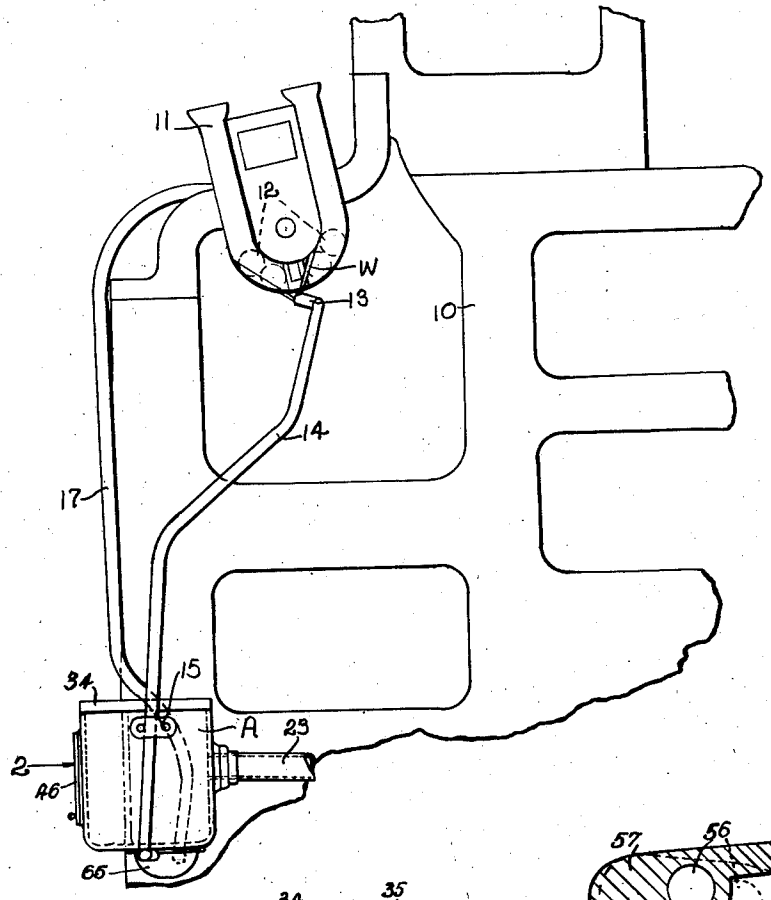


Fig. 3

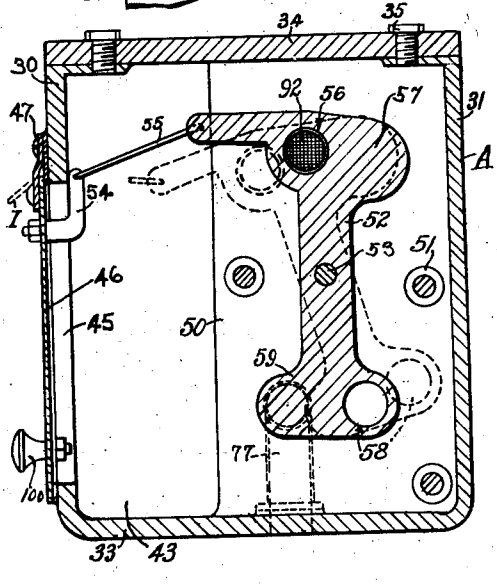
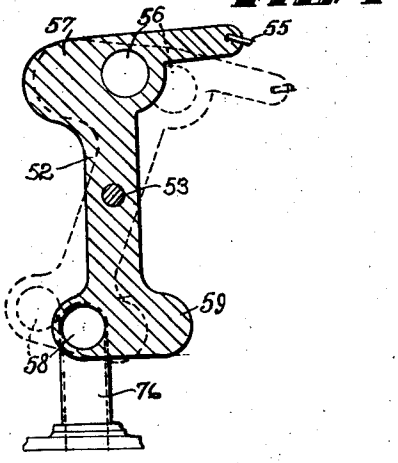


Fig. 4



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Fig. 1a

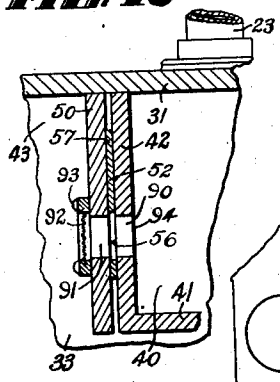


Fig. 2

Fig. 5

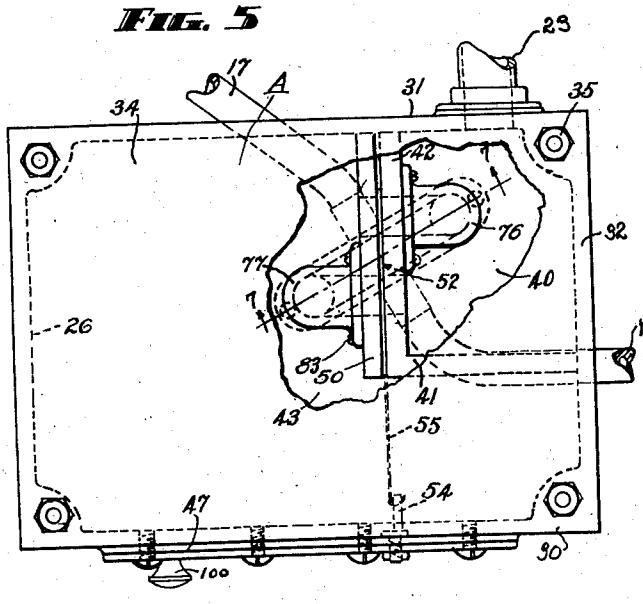
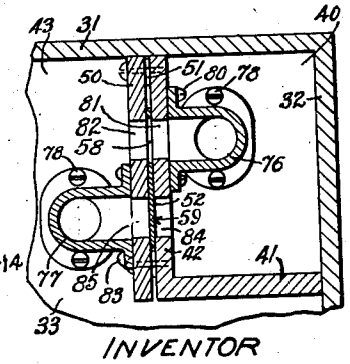


Fig. 12



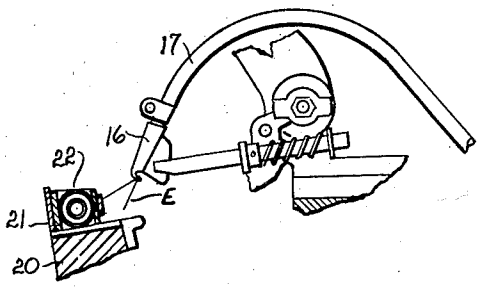
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THREAD ACCUMULATOR FOR WEFT REPLENISHING LOOMS

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FIG. 6



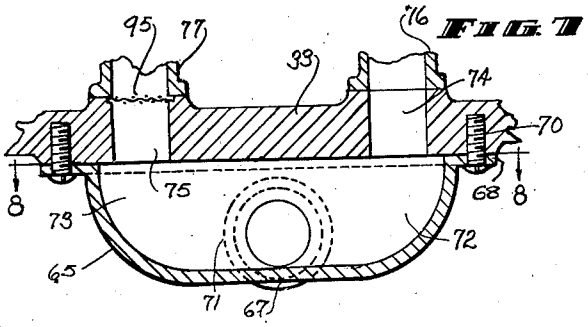


FIG. 7

FIG. 9

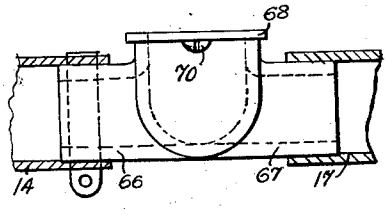


FIG. 8

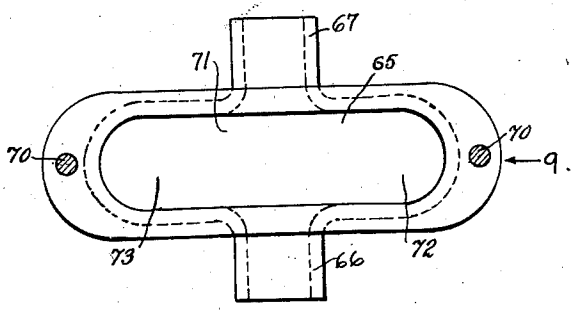


FIG. 11

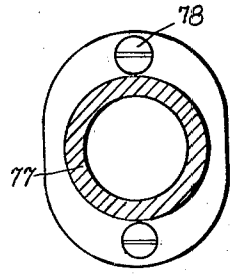
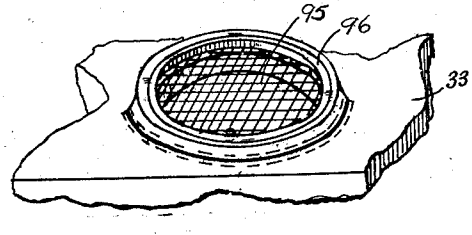


FIG. 10



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THREAD ACCUMULATOR FOR WEFT REPLENISHING LOOMS

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Application June 3, 1944, Serial No. 538,568

15 Claims. (Cl. 139—247)

This invention relates to improvements in pneumatic thread control systems for weft replenishing looms and it is the general object of the invention to provide a pneumatic waste thread collector the door of which can be opened for the removal of accumulated threads without destroying the partial vacuum within the system.

When a bobbin is changed in a weft replenishing loom there are generally two threads which must be removed, one connected to the outgoing bobbin and extending from the selvage into the shuttle box, and the other being attached to a thread holder and connected to the incoming bobbin. Both threads are eventually cut at the selvage, and it has been proposed heretofore to remove both of these threads after they are released at the selvage by pneumatic suction means including an accumulator in which the threads collect. From time to time it is necessary to open the accumulator to remove the weft ends, and when this is done the pneumatic system is open to the air and the partial vacuum is temporarily destroyed. If at this time the loom should have a weft replenishing operation or if one or another of the threads is cut so that it should be removed, the system will fail because of the temporary destruction of the partial vacuum.

It is an important object of my present invention to provide a pneumatic thread removing system including in its construction a thread collector or accumulator so constructed that when it is opened for the removal of waste threads an auxiliary thread passage is brought into action to remove a thread which may be released by the loom during the time that the accumulator is open.

It is desirable that all of the threads be accumulated at a common point, whether they are drawn into the system under normal conditions or whether they enter the system while the accumulator is open, and it is another object of my invention to provide means by which a thread which enters the system when the accumulator is open is led to a temporary position from which it is later drawn into the accumulator. In the operation of this feature of my invention all of the waste threads collect in the same part of the accumulator and there is no opportunity for threads which enter the system while the accumulator is open to reach inaccessible places from which they cannot readily be removed.

It is a further object of my present invention to provide a pneumatic thread accumulator with a valve which is moved from normal position to abnormal position when the accumulator is open. When moving to normal position the valve opens a main air path along which the waste threads move directly into the accumulator, but when moving to abnormal position the valve closes the main path and opens an auxiliary path which draws thread to a temporary position. After the valve returns to its normal position the thread moves from the auxiliary path to the main path and into the accumulator.

With these and other objects in view which will appear as the description proceeds, my invention resides in the combination and arrangement of parts hereinafter described and set forth.

In the accompanying drawings, wherein a convenient embodiment of my invention is set forth,

Fig. 1 is a side elevation of part of a weft replenishing loom having my invention applied thereto,

Fig. 2 is an enlarged front elevation of the thread accumulator looking in the direction of arrow 2, Fig. 1,

Fig. 3 is a vertical section on line 3—3 of Fig. 2, showing the valve which controls the main and auxiliary thread paths, and indicating part of the inclosed auxiliary air path in dotted lines,

Fig. 4 is a view similar to a part of Fig. 3 but looking from the opposite direction and showing the valve and indicating part of the main air path,

Fig. 5 is a plan view looking in the direction of arrow 5, Fig. 2, parts being broken away to show the valve and the main and auxiliary compartments,

Fig. 6 is a view showing the thread remover or extractor as viewed from the center of the loom,

Fig. 7 is an enlarged vertical section through the thread receiver and floor of the accumulator and taken on line 7—7 of Fig. 5,

Fig. 8 is a horizontal section on line 8—8 of Fig. 7,

Fig. 9 is an end view looking in the direction of arrow 9, Fig. 8,

Fig. 10 is a perspective view showing a part of the floor of the accumulator and the screen associated with the auxiliary path,

Fig. 11 is an enlarged horizontal section on line 11—11, Fig. 2, and

Figs. 12 and 13 are detail horizontal sections on lines 12—12 and 13—13, respectively, of Fig. 2.

Referring particularly to Fig. 1, I have shown a loom frame 10 which supports a reserve bobbin magazine 11 supplied with reserve bobbins 12 from which weft ends W extend to a thread holder 13. The latter is connected to a thread remover or pipe 14 which extends downwardly and is attached as at 15 to a thread accumulator

or collector mechanism designated generally at A. The loom is also provided with a thread extractor shown more particularly in Fig. 6 and including a head 16 connected to the upper end of a conduit or pipe 17 which extends down to the accumulator A. The lay 20 shown in Fig. 6 carries a shuttle 21 in which is located a bobbin 22 the replacement of which by one of the bobbins 12 in the magazine 11 leaves the two threads which must be removed.

During a replenishing operation one of the bobbins from the magazine is inserted into the shuttle and the bobbin 22 is expelled downwardly from the shuttle in the usual manner. The weft end W of the bobbin transferred from the magazine extends from the thread holder 13 into the shuttle and will eventually be cut at the selvage of the cloth and be free so that it can be drawn into the thread holder 13. The thread E of the outgoing bobbin extends from a point on the lay under the magazine toward the selvage and when this latter thread is cut at the selvage it will be drawn into the extractor head 16. The threads E and W are controlled much in the same manner as that set forth in Turner Patent No. 2,199,354.

The accumulator A is hollow and ordinarily sealed against the atmosphere and by means of an air pump or fan not shown subatmospheric pressures are created within the accumulator through pipe 23 so that the threads can be drawn thereinto pneumatically.

Except as noted hereinafter the matter thus far described may be similar to constructions already proposed and of itself forms no part of my present invention.

In carrying my present invention into effect I construct the accumulator A in such a way that threads collected in it can be removed without destroying the partial vacuum which operates to draw threads from the thread holder 13 and extractor 16 into the accumulator. Referring more particularly to Figs. 2 to 5, I have shown a bracket 25 attached to the loom frame 10 and connected to the inner side wall 26 of the accumulator A so that the latter will be held in fixed position. As shown more particularly in Fig. 5 the accumulator has front and back walls 30 and 31, respectively, and an outer side wall 32. A bottom 33 is located a short distance above the floor and a top 34 is fastened to the accumulator as at 35 and ordinarily closes the upper part of the latter.

As viewed in Fig. 5 the rear right part of the interior of the accumulator is provided with a relatively small auxiliary compartment 40 the back and right sides of which as viewed in Figs. 5 and 12 are formed in part by the rear wall 31 and the outer side wall 32. The front part of compartment 40 is defined by a vertical wall 41 while the left side of the compartment is provided by a backwardly and forwardly extending vertical wall 42. The walls 41 and 42 extend from the floor to the cover, and together with walls 31 and 32 make compartment 40 airtight except as noted hereinafter. The pipe 23 communicates with the compartment 40 through rear wall 31 and maintains sub-atmospheric pressures within the compartment. The remainder of the interior of the accumulator forms a main thread compartment 43 in which the waste threads collect.

The front wall 30 has an aperture 45 which is normally closed by a preferably transparent door 46 hinged as at 47 to the wall 30. The door is ordinarily held closed by the sub-atmospheric pressures within the compartment 43 but can be opened when necessary to permit removal of waste threads.

A second or false wall 50 is secured to side wall 42 of compartment 40 and is spaced therefrom a slight distance as suggested in Fig. 5 by any appropriate means, such as spacing washers 51, see Fig. 3. Located between walls 42 and 50 is a flat valve 52 pivoted as at 53 with respect to the walls 42 and 50. A fitting 54 on the door 46 is connected by rod 55 to the upper end of the valve so that whenever the door is opened the valve will be swung angularly about its pivot. The upper part of the valve has a port 56 behind which extends a solid vane 57, and the lower part of the valve below the pivot 53 is provided with a second port 58 in front of which extends a solid vane 59. When the valve is swung pivotally the ports 56 and 58 are moved from their normal position for a purpose to be described.

The valve 52 is for the purpose of controlling the air paths through the accumulator and operates normally to maintain a main air path open and an auxiliary path closed, but when the door is open the condition with respect to the paths is reversed. The air paths pass through a thread receiver 65 shown more particularly in Figs. 7, 8 and 9. This receiver has tubes 66 and 67 which are connected, respectively, to the thread remover pipe 14 and the thread removing extractor conduit 17. The receiver has a flange 68 secured to the bottom 33 of the accumulator as at 70, and has a cavity 71 therein which, as shown more particularly in Fig. 7, provides main and auxiliary thread passages 72 and 73, respectively. Holes 74 and 75 in the bottom 33 register, respectively, with the passages 72 and 73.

Extending upwardly from the floor 33 are two hollow heads 76 and 77 communicating at their lower ends, respectively, with the holes 74 and 75 and held in fixed position on the bottom 33 by screws or the like 78 shown in Fig. 11. The upper end of the main head 76 is bent horizontally and secured as at 80 to the wall 42 in register with holes 81 and 82 in the walls 42 and 50, respectively, see Fig. 12. The auxiliary head 77 is bent horizontally at its upper end and secured as at 83 to wall 50 and registers with holes 84 and 85 formed in walls 42 and 50, respectively.

The upper parts of the walls 42 and 50 are provided, respectively, with holes 90 and 91, see Fig. 13, which are aligned and serve as a pneumatic communication between the main and auxiliary compartments of the accumulator. If desired one of these openings, such as 91, see Fig. 13, may be provided with a screen 92 held on wall 50 at 93 to prevent passage of threads from the main to the auxiliary compartment. The holes 90 and 91 and the screen 92 provide a screened port designated generally at 94 between the two compartments.

The upper end of hole 75 is provided with a screen 95 which may be carried by a ring 96 set in the bottom 33 and held in position by the head 77. The screen 95 permits air to pass upwardly from the hole 75 through the head 77 but prevents the passage of threads, and together with the hole 75 and passage 73 forms a thread trap.

Under normal operating conditions the door of the main compartment is closed and the valve 52 is in the position shown in full lines in Figs. 3 and 4 with its port 56 aligned with the holes 90 and 91 so that the main and auxiliary compartments are in pneumatic communication with each other. Also, under these conditions port 58 is aligned with holes 81 and 82 so that passage 72,

hole 74 and head 76 are in pneumatic communication with the main compartment. The solid vane 59 of the valve is across the holes 84 and 85 and the auxiliary compartment is disconnected pneumatically from the head 77. Air therefore cannot be drawn through the passage 73 or the hole 75. Under these normal conditions a stream of air moves down from each thread remover 14 and 17, enters the thread receiver 65 and follows along the main air path upwardly through passage 72 and hole 74 and through head 76 and port 58 into the main compartment 43, and thence out through the screen 92 and port 56 into the auxiliary compartment 40. If a thread is released by the loom incident to a replenishing operation under these conditions it will be drawn into the thread receiver 65 and will then follow along the main air path as far as the screen 92, where it will be stopped and remain in the main compartment 43. Since the door is closed under these conditions sub-atmospheric pressures are maintained in compartment 43.

After a sufficient number of threads have accumulated in the main compartment to require their removal, the door 46 will be opened by knob 100 to afford access to the main or thread compartment 43, being raised to some such position as indicated at I in Fig. 3. At this time the connector 55 swings the valve or controller 52 from the full to the dotted line positions of Figs. 3 and 4 and alters the paths of air through the accumulator. When the door is open and the valve is in the dotted line position of Fig. 3, for instance, the solid vane 57 thereof moves across the aligned openings 90 and 91, thereby shutting off the auxiliary compartment 40 from the main compartment and the atmosphere through the open door. At the same time the solid vane 59 moves across the aligned openings 81 and 82, thereby interrupting the main air path, and away from openings 84 and 85, thereby opening communication between the interior of head 77 and the auxiliary compartment 40. Under these conditions the air moves along the auxiliary path from the thread receiver 65 up through passage 73 and hole 75, screen 95, head 77, and through the aligned openings 84 and 85 into the auxiliary compartment. Since the latter has been sealed from the atmosphere by the vane 57 of the valve 52 this last traced air path is preserved despite the fact that the door 46 is open. The valve 52 is thus seen to serve as a controller for both the main and auxiliary air paths and determines into which compartment a thread shall go. The passage 72, hole 74, head 76 and aligned holes 81 and 82 constitute a primary path between either remover 14 or 17 and the main compartment, while passage 73, hole 75, head 77 and aligned holes 84 and 85 constitute a secondary or auxiliary path leading from the removers to the auxiliary compartment.

If, while the door is open a thread should be received from either of the thread removers 14 or 17 it will enter the receiver 65 and move along the auxiliary recess 73 but will be prevented from entering the head 77 by screen 95. It will thus be held trapped below the screen 95 until the door is closed and normal conditions are reestablished, at which time the thread will drop from the screen into the recess 73 and follow along the main air path into compartment 43.

While I have shown the screen 95 it is not essential in all features of my invention, inasmuch as the thread which may enter the receiver 65 when the door is open can pass into the auxiliary compartment and in fact can pass from the latter through the fan. I wish it to be understood therefore that so far as certain features of my invention are concerned, such as the control of the two thread paths, the screen 95 is not necessary. The screen, however, is inexpensive and by its use assurance is given that all threads which enter the receiver 65 will be collected in the main compartment.

The receiver 65 has been shown with two inlets 66 and 67, but it may not be necessary in all the uses to which my invention can be put to have two inlets. Thus, if only one of the thread controllers 13 or 16 is used there will be only one inlet for the receiver, and I am not necessarily limited to the use of two inlets for receiving the threads from both the thread controllers 13 and 16.

From the foregoing it will be seen that I have provided simple means by which the weft threads which are left incident to the replenishing operations of a weft replenishing loom may be collected in a thread accumulator or collector, and that the pneumatic conditions within the accumulator necessary for the removal of these threads are not destroyed when the door 46 is open. It will further be seen that means are provided which afford inclosed main and auxiliary air paths the first of which is normally open and the other closed, and that opening of the door closes the main path and opens the auxiliary path simultaneously with sealing of the auxiliary compartment from the atmosphere by closure of the screened port 94. These paths are alternately operative, the one to receive threads under normal conditions and pass them into the main compartment, and the other controlling threads when the door is open and either allowing such threads to pass to the auxiliary compartment if screen 95 is absent, or trapping such threads under the screen when the latter is used so that upon restoration of normal conditions such trapped threads will move into the main compartment. It will also be seen that I have provided a simple form of valve normally positioned to establish communications between the two compartments and close the auxiliary path, but movable to effect pneumatic disconnection between the two compartments and open the auxiliary path. Furthermore, the thread receiver 65 affords convenient means for joining the two air paths to the thread removers 14 and 17. The main air path includes the main compartment, which, being normally closed, preserves an inclosed path from the removers 14 and 17 to the auxiliary compartment. I do not wish necessarily to be limited to the particular means for controlling the valve as set forth herein, but it is convenient to have the door when opening act automatically to swing the valve from its normal to abnormal or temporary position.

Having thus described my invention it will be seen that changes and modifications may be made therein by those skilled in the art without departing from the spirit and scope of the invention and I do not wish to be limited to the details herein disclosed, but what I claim is:

1. In a weft replenishing loom having a pneumatic remover for waste threads, means constituting a normally closed main thread compartment, other means constituting an inclosed auxiliary compartment in which sub-atmospheric pressures exist and pneumatically connected with the main compartment through a screened opening, a door for the main compartment normally

in closed position and movable to open position for removal of waste threads from the main compartment, hollow means providing an inclosed primary air path leading from the remover to the main compartment, other hollow means providing an inclosed secondary air path leading from the remover to the auxiliary compartment, and a valve connected to the door and in one position when the door is closed and in another position when the door is open, said valve effective when in said one position to maintain pneumatic connection between said compartments through said screened opening and between the main compartment and the primary air path but close said secondary air path, and said valve effective when in the other position thereof to close said screened opening and said primary air path and open said secondary air path.

2. In a weft replenishing loom having a pneumatic remover for waste threads which occur incident to replenishing operations, thread accumulator mechanism including a normally closed main thread compartment and an inclosed auxiliary compartment in which sub-atmospheric pressures exist, a normally closed door for the main compartment, means defining a screened opening between said compartments, means providing two inclosed air paths leading from said remover, one path leading to the main compartment and the other air path leading to the auxiliary compartment, and a valve connected to the door and in one position when the door is closed to permit pneumatic communication between said compartments through the screened opening and maintain said one air path in communication with the main compartment and close said other air path, and said valve being in another position when the door is open and closing said screened opening and said one air path and opening said other air path.

3. In a pneumatic control system for a weft replenishing loom having a thread remover for waste threads, an accumulator having a normally closed main compartment for the waste threads and an inclosed auxiliary compartment in which sub-atmospheric pressures exist, means constituting a screened opening between said compartments, a door for the main compartment normally closed, means providing a normally inclosed main air path extending from the remover through the main compartment and said screened opening into the auxiliary compartment, other means providing an inclosed auxiliary air path out of pneumatic communication with the main compartment and extending from the remover to the auxiliary compartment, and a controller for the air paths capable of occupying either a normal position when the door is closed or an abnormal position when the door is open, said controller when in normal position maintaining said main air path open and the auxiliary path closed and when in abnormal position closing the main path and maintaining the auxiliary path open.

4. In a pneumatic control system for a weft replenishing loom having a thread remover for waste threads, an accumulator having a normally closed main compartment for the waste threads and an inclosed auxiliary compartment in which sub-atmospheric pressures exist, means constituting a screened opening between said compartments, means providing a normally closed main air path extending from the remover through the main compartment and said screened opening into the auxiliary compartment, other means providing an inclosed auxiliary air path out of pneumatic communication with the main compartment and extending from the remover to the auxiliary compartment, and a controller for the air paths capable of occupying either a normal position or an abnormal position, said controller when in normal position maintaining said main air path open and the auxiliary path closed and when in abnormal position closing the main path and maintaining the auxiliary path open.

5. In a pneumatic control system for a weft replenishing loom having a thread remover for waste threads, an accumulator having a normally closed main compartment for the waste threads and an inclosed auxiliary compartment in which sub-atmospheric pressures exist, means constituting a screened opening between said compartments, hollow means providing an inclosed primary air path leading from the remover to the main compartment, said hollow means, main compartment and screened opening providing a main air path between the remover and auxiliary compartment, other means providing an inclosed auxiliary air path communicating with the main path and out of pneumatic communication with the main compartment and extending from the remover to the auxiliary compartment, a thread trap in the auxiliary path adjacent to the main air path, and a controller for the air paths capable of occupying either a normal position or an abnormal position, said controller when in normal position maintaining said main air path open and the auxiliary path closed and when in abnormal position closing the main path and maintaining the auxiliary path open, a thread moving along the auxiliary path when the latter is open being held by the trap adjacent to the main path and being drawn along the main path into the main compartment when the main air path is again open.

6. In a pneumatic control system for a weft replenishing loom having a thread remover for waste threads, an accumulator having a normally closed main compartment for the waste threads and an inclosed auxiliary compartment in which sub-atmospheric pressures exist, means constituting a screened opening between said compartments, hollow means providing an inclosed primary air path extending from the remover to the main compartment, other hollow means providing an inclosed secondary air path out of pneumatic communication with the main compartment and extending from the remover to the auxiliary compartment, a thread stopping screen located in the secondary path, and a controller for the air paths capable of occupying either a normal position or an abnormal position, said controller when in normal position maintaining said main air path open and the secondary path closed and when in abnormal position closing the main path and maintaining the secondary path open, a thread moving along the secondary path when the controller is in abnormal position being stopped by the screen and prevented from entering the auxiliary compartment.

7. In a pneumatic control system for a weft replenishing loom having a thread remover for waste threads, an accumulator having an inclosed compartment in which sub-atmospheric pressures exist, means constituting a screened opening for said compartment, means providing a normally inclosed main air path extending from the remover through said screened opening into

the inclosed compartment, a normally closed thread compartment in said main air path capable of pneumatic communication with the inclosed compartment through said screened opening, other means providing an inclosed auxiliary air path out of pneumatic communication with the thread compartment and extending from the remover to the inclosed compartment, and a controller for the air paths capable of occupying either a normal position or an abnormal position, said controller when in normal position maintaining said main air path open and the auxiliary path closed and when in abnormal position closing the main path and maintaining the auxiliary path open.

8. In a pneumatic control system for a weft replenishing loom having a thread remover for waste threads, an accumulator having an inclosed compartment in which sub-atmospheric pressures exist, means constituting a screened opening for said compartment, means providing a normally inclosed main air path extending from the remover through said screened opening into the inclosed compartment, a normally closed thread compartment in said main air path capable of pneumatic communication with the inclosed compartment through said screened opening, other means providing an inclosed auxiliary air path out of pneumatic communication with the thread compartment and extending from the remover to the inclosed compartment, means constituting a thread trap in the auxiliary path in pneumatic communication with the main path, and a controller for the air paths capable of occupying either a normal position or an abnormal position, said controller when in normal position maintaining said main air path open and the auxiliary path closed and when in abnormal position closing the main path and maintaining the auxiliary path open, a thread entering the auxiliary path when the controller is in abnormal position being stopped by said trap and subsequently drawn into the thread compartment when the controller is in normal position.

9. In a pneumatic control system for a weft replenishing loom having a thread remover for waste threads, an accumulator having a thread compartment and also an inclosed auxiliary compartment in which sub-atmospheric pressures exist, means constituting a screened opening connecting said compartments, a normally closed door for the thread compartment, means providing a normally inclosed main air path extending from the remover through said screened opening and including said thread compartment and capable of pneumatic communication with the auxiliary compartment, other means providing a closed auxiliary air path out of pneumatic communication with the thread compartment and extending from the remover to the auxiliary compartment, and a controller for the air paths connected to the door and capable of occupying either a normal position when the door is closed or an abnormal position when the door is open, said controller when in normal position maintaining said main air path open and the auxiliary path closed and when in abnormal position closing the main path and maintaining the auxiliary path open.

10. In a pneumatic control system for a weft replenishing loom having a thread remover for waste threads, an accumulator having a normally closed main compartment for the waste threads and an auxiliary compartment in which sub-atmospheric pressures exist, means constituting a screened opening between said compartments, a normally closed door for the main compartment, means providing an inclosed primary air path extending from the remover to the main compartment, other means providing an inclosed secondary air path out of pneumatic communication with the main compartment and extending from the remover to the auxiliary compartment, and a valve movably mounted on the accumulator and connected to the door, said valve having a port and a solid vane for the screened opening and having another port for the primary air path and another solid vane for both the primary and secondary air paths, the door when closed positioning said valve so that said ports maintain the primary air path and screened opening open and said other vane in a position closing the secondary path, and said door when open positioning said valve so that the first vane closes the screened opening and said other vane closes the primary air path and opens the secondary air path.

11. In pneumatic control mechanism for a weft replenishing loom having a thread remover for waste threads, an accumulator having a normally closed main thread compartment for the waste threads and an auxiliary compartment in which sub-atmospheric pressures exist, a screened opening pneumatically connecting said compartments, means providing main and auxiliary inclosed air paths leading from the thread remover, one of said paths leading through the main thread compartment and said screened opening to the auxiliary compartment and the other path leading directly to the auxiliary compartment without having pneumatic communication with the main compartment, and a controller for said paths movable to different positions to make said paths alternately open so that the air in one path only at a time is operative to draw waste threads from the remover.

12. In a pneumatic thread control system for a weft replenishing loom having a thread remover for waste threads, an accumulator having a normally closed main compartment for the waste threads and an auxiliary compartment in which sub-atmospheric pressures exist, means providing two inclosed air paths each leading from the remover to the auxiliary compartment, one of said paths extending through the main compartment and pneumatically communicating therewith and the other path leading directly to the auxiliary compartment without communicating pneumatically with the main compartment, and a controller for said air paths capable of moving to two positions and when in one position maintaining said one path open and said other path closed, and when in the other position closing said one path and opening said other path.

13. In a pneumatic control system for a weft replenishing loom having a thread remover for waste threads remaining incident to weft replenishing operation, an accumulator having a main compartment for the waste threads and an auxiliary compartment in which sub-atmospheric pressures exist, means defining a primary inclosed air path between the thread remover and said main compartment, other means defining an inclosed secondary air path between the remover and auxiliary compartment out of pneumatic communication with the main compartment, means in the secondary path constituting a thread trap pneumatically communicating with the primary path and adjacent thereto, said paths joining each other adjacent to said thread trap, and a controller for said air paths movable to two

different positions in one of which said primary path only is open and the other position of which said secondary path only is open, a thread in the trap being drawn therefrom by the air in the primary path when the latter is open.

14. In a pneumatic control system for a weft replenishing loom having a thread remover for waste threads, an accumulator having a normally closed main compartment for the waste threads and an auxiliary compartment in which sub-atmospheric pressures exist and normally in pneumatic communication with the main compartment, a thread receiver communicating pneumatically with said remover, means defining main and auxiliary inclosed air paths, said receiver formed with two communicating thread passages one of which is located in the main air path and the other of which is located in the auxiliary air path, a thread trap adjacent to the thread passage in the auxiliary path, both of said paths leading from the thread receiver to the auxiliary compartment and the main path leading through and pneumatically communicating with the main compartment and the auxiliary path communicating directly with the auxiliary compartment and being out of pneumatic communication with the main compartment, and a controller for said air paths movable to two positions in one of which the main path is open and the auxiliary path is closed and in the other position of which the main path is closed and the auxiliary path is open, so that a thread moving from the receiver along the auxiliary path will be held by said thread trap and prevented from entering the auxiliary compartment, said thread moving along the main air path when the latter is subsequently opened and the auxiliary path is subsequently closed.

15. In a thread receiver for a loom having waste threads to be removed and operating with an accumulator having main and auxiliary compartments, said receiver having a passage through which waste threads move into the receiver and said receiver having two thread passages, one for each of said compartments.

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