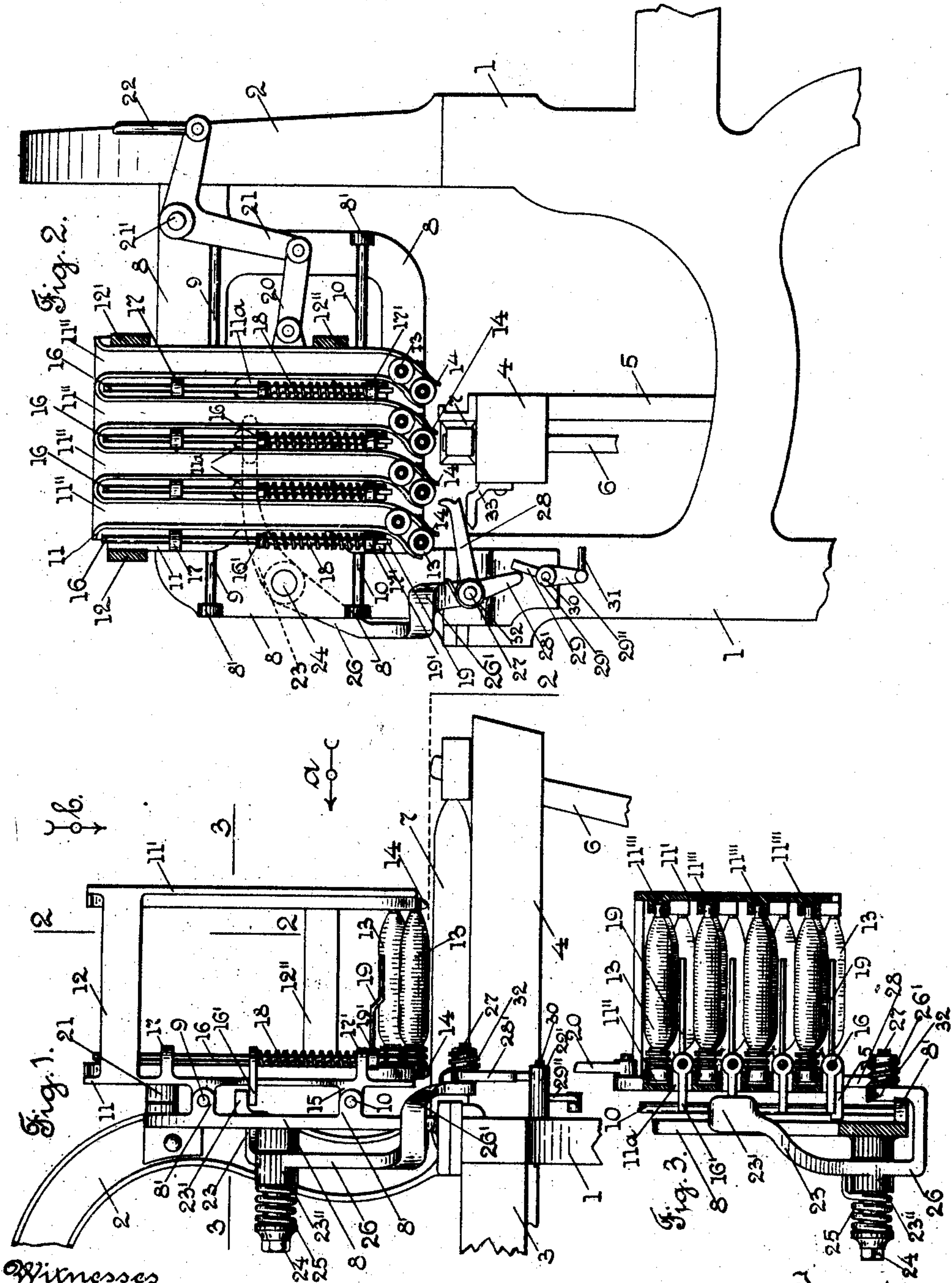


No. 864,499.

PATENTED AUG. 27, 1907.

H. WYMAN.  
WEFT-REPLENISHING LOOM.

APPLICATION FILED DEC. 29, 1905.



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## WEFT-REPLENISHING LOOM.

No. 864,499.

Specification of Letters Patent.

Patented Aug. 27, 1907.

Application filed December 29, 1905. Serial No. 293,707.

*To all whom it may concern:*

Be it known that I, HORACE WYMAN, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Weft-Replenishing Looms, of which the following is a specification.

My invention relates to weft replenishing looms of the class shown and described in my U. S. Letters Patent, No. 806,726, and more particularly relates to the magazine of the type shown in my said patent, which has a plurality of compartments or stacks for the filling carriers or bobbins, one of which is automatically supplied to the running shuttle on the exhaustion, or substantial exhaustion of filling therein.

In my improvements, I preferably provide, instead of a rocking or pivotally supported magazine for the filling carriers, a magazine having a sliding or reciprocating movement, preferably in a horizontal plane, which movement is preferably controlled by the movement of the pattern indicating mechanism, not shown, through intermediate connections, in the usual and well known manner, and as fully shown and described in said patent.

In my improved magazine, I preferably provide a plurality of guides or channels, forming stacks or compartments for the filling carriers or bobbins, which drop down in said compartments by gravity, and each compartment has its lower discharging end preferably offset or inclined, and provided with a spring, or other means for yieldingly holding the lowest filling carrier or bobbin in each compartment, in position to be transferred therefrom into the running shuttle. Each compartment of the magazine is provided with a transferer, movable with the magazine, and with the lower end of the transferer extending over and in alignment with the bobbin at the lower end of the compartment. Each transferer is provided with a device which, when the magazine is moved into a position for the discharge of the desired bobbin, will be in position to be engaged by a transferer operating arm, which may be of any usual and well known construction, and operated in any usual and well known way.

I have shown in the drawing a detached portion of a loom frame, and some other parts of a loom, with my improvements in magazine combined therewith, sufficient to enable those skilled in the art to understand the construction and operation of the same.

Referring to the drawing:—Figure 1 is a front view of a detached portion of a right hand end of a loom, and of a magazine embodying my improvements attached thereto. Fig. 2 is a section, on line 2, 2, Fig. 1, looking in the direction of arrow *a*, same figure, and, Fig. 3 is a horizontal section through the magazine, taken at a

point indicated by line 3, 3, Fig. 1, looking in the direction of arrow *b*, same figure.

In the accompanying drawing, 1 is a portion of a loom side or frame, 2 the loom arch, 3 the breast beam, 4 the lay, 5 the lay sword, 6 the picker stick, and 7 the shuttle.

I will now describe my improvements in magazine.

8 is a stand bolted to the loom frame and arch. The stand 8 has, in this instance projections 8' thereon, in which are secured two horizontally extending parallel rods 9 and 10, see Fig. 2.

The magazine consists in this instance of an inner vertically extending plate 11, and an outer vertically extending plate 11'; said plates are connected at their upper ends by two transverse bars 12, and 12', and near their lower ends by a transverse bar 12'', see Fig. 2. The plate 11 has in this instance a series of vertically extending guides or channels 11'' thereon, in this instance four in number, which act as guides for the inner ends or heads of the bobbins 13, see Fig. 3. The outer plate 11' has also in this instance a series of vertically extending guides or channels 11''' in this instance four in number, which acts as guides for the outer ends of the bobbins, see Fig. 3. The channels 11'' and 11''' in this instance form compartments or stacks for the bobbins 13, which are placed in position through the upper open ends of the channels 11'' and 11''', and drop down therein by gravity.

The lower end of each channel 11'' and 11''' is preferably made inclined or offset, as shown in Fig. 2, and forms the discharging end, and is preferably provided with a light leaf spring, as 14, or some other suitable device, to engage the head of the bobbin, and also the opposite end of the bobbin, and hold the same yieldingly in position at the lower discharging end of the compartment, ready to be acted on by the transferer.

The magazine is supported to have a sliding or reciprocating movement, preferably in a horizontal plane, in this instance by inwardly extending lugs or ears thereon, one of which, as 15, is shown in Fig. 3. The lugs or ears 15 are loosely mounted on the rods 9 and 10 to slide thereon.

A transferer device is provided for each compartment, and consists in this instance of a vertically extending wire or rod 16, having a vertical movement in guides or bearings 17 and 17' on the inner side of the inner plate 11 of the magazine. A coil expansion spring 18 encircles each rod 16, and bears at its lower end against the lower guide or bearing 17', and at its upper end against an arm 16' fast on the rod 16, and extending rearwardly therefrom through a vertically extending elongated slot or opening 11\* in the rear plate 11 of the magazine, see Fig. 3. The lower end of the rod 16 has



fast thereon in this instance, the hub 19' of a transferrer 19, see Fig. 1. The hub 19' engages the lower guide 17', and limits the action of the spring 18, and the upward movement of the rod 16. The transferrer 19 extends  
5. over and is in alinement with the lowest bobbin 13 in a compartment.

The magazine is in this instance connected by a link 20 with an angle lever 21, pivoted on a stud 21'. The angle lever 21, through connector 22 to mechanism not  
10 shown, may have a movement communicated thereto, according to the movement of the pattern indicating mechanism, not shown, at the opposite end of the loom, in the manner fully shown and described in said Patent, No. 806,726, to move the magazine having the compart-  
15 ments or stacks for the bobbins therein, to such a position that the lower bobbin in any one of the compartments, as desired, will be brought over the running shuttle 7, as shown in Fig. 2, preparatory to being trans-  
ferred from the compartment, through the operation of  
20 the transferrer 19 and rod 16, into the shuttle. Each rod 16 and the transferrer 19 thereon, is operated in this instance, when any one of the compartments of the magazine is in the desired position for the discharge of a  
bobbin therefrom, by the transferrer operating arm or  
25 lever 23, having the engaging end 23' thereon, see Fig. 3, which in this instance is adapted to extend over and in a position to engage the projecting arm 16' on a trans-  
ferrer rod 16, of the compartment which has its discharg-  
ing end in alinement with the shuttle 7, on the forward  
30 stroke of the lay, as shown in Fig. 2. The transferrer operating arm 23 has a hub 23'', in this instance loosely mounted on a stud 24, secured in the stand 8. A spring  
25 acts to return said arm 23 to its normal raised position, after it has been operated to transfer filling.

35 Extending down from the hub 23'' of the transferrer operating arm 23, is an arm 26, having in this instance the bent end 26'. On a pin 27 on the lower end 26' of the arm 26, is pivotally mounted a finger 28, with a  
downward projection 28' thereon extending in the path  
40 of, and adapted to be engaged and moved by an arm 29, the hub 29' of which is pivotally mounted on a stud 30, and has an arm 29'' thereon connected with one end of a connector 31 to indicating mechanism, not shown. A  
spring 32 acts, in this instance, to hold the finger 28 in  
45 its raised position, shown in Fig. 2. On the front of the lay 4 is a dagger 33, adapted to engage the end of the finger 28, when said finger is lowered and is in aline-  
ment with said dagger, to operate the finger 28 and the  
transferrer mechanism, in the usual way.

50 The operation of my improvements will be readily understood by those skilled in the art. The magazine having compartments or stacks for the bobbins or filling carriers, is moved back and forth on the rods 9, and 10, preferably according to the movement of the pattern  
55 mechanism of the shifting or drop shuttle boxes, to bring a compartment having the desired bobbin therein in a position over the running shuttle, so that the bob-  
bin may be discharged into the shuttle, and when it is

desired to supply fresh filling, the transferrer operating arm 23 is moved, to cause it to engage and move down- 60  
wardly the pin 16, through arm 16' thereon, and cause the transferrer 19 to engage with the lowest bobbin in a compartment, and transfer the same into the shuttle. The spring 18 acts to return the transferrer 19 and the  
rod 16 to its normal position, preparatory to engaging 65  
the next bobbin, which will drop by gravity to the lower discharging end of the compartment.

It will be understood that the details of construction of my improvements may be varied if desired, and they may be adapted to be used in connection with any ordi- 70  
nary construction of a magazine for having superposed bobbins, falling by gravity.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In a weft replenishing loom, a magazine having a 75  
reciprocating movement, and having a plurality of compartments for filling carriers or bobbins, which move in said compartments by gravity, and means at the lower  
discharging end of each compartment for yieldingly hold- 80  
ing the lowest bobbin therein, and a transferrer for each compartment, adapted to engage the lowest bobbin in the compartment, to transfer it into a shuttle, and means for  
operating said transferrer.

2. In a weft replenishing loom, a magazine having a 85  
reciprocating movement in a horizontal plane, and having a plurality of compartments for bobbins, each compart-  
ment inclined at its lower discharging end, and provided with means for yieldingly holding a bobbin therein, and a  
transferrer for each compartment, said transferrer adapted to engage the lowest bobbin in the compartment, to transfer 90  
it into a shuttle, and means for operating the transferrer.

3. In a weft replenishing loom, a magazine having a 95  
reciprocating movement in a horizontal plane, and having a plurality of compartments for bobbins, each compart-  
ment inclined at its lower discharging end, and provided with means for yieldingly holding a bobbin therein, and a transferrer for each compartment, said transferrer  
consisting of a longitudinally movable wire or rod, adapt- 100  
ed to be engaged by the transferrer operating arm, and said transferrer operating arm.

4. In a weft replenishing loom, a magazine having a 105  
reciprocating movement in a horizontal plane, and having a plurality of compartments or guides for bobbins, each compartment inclined at its lower discharging end, and  
provided with means for yieldingly holding a bobbin there- 110  
in, and a transferrer for each compartment, said trans-  
ferrer consisting of a longitudinally moving rod having an engaging end for the bobbin, and adapted to be engaged  
by the transferrer operating arm, and said transferrer  
operating arm, and means for operating the same.

5. The combination with a magazine for a weft replen- 115  
ishing loom, having compartments or guides for filling carriers or bobbins, which drop down by gravity, and means for yieldingly holding the filling carrier or bobbin  
at the discharging end of each compartment, of a ver- 120  
tically extending and longitudinally moving wire or rod,  
having fast thereon a transferrer adapted to engage the lowest bobbin in a compartment, and a spring to raise  
said wire or rod, and normally hold it in its raised posi-  
tion, and means for lowering said wire or rod to trans-  
fer a bobbin.

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Witnesses:

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