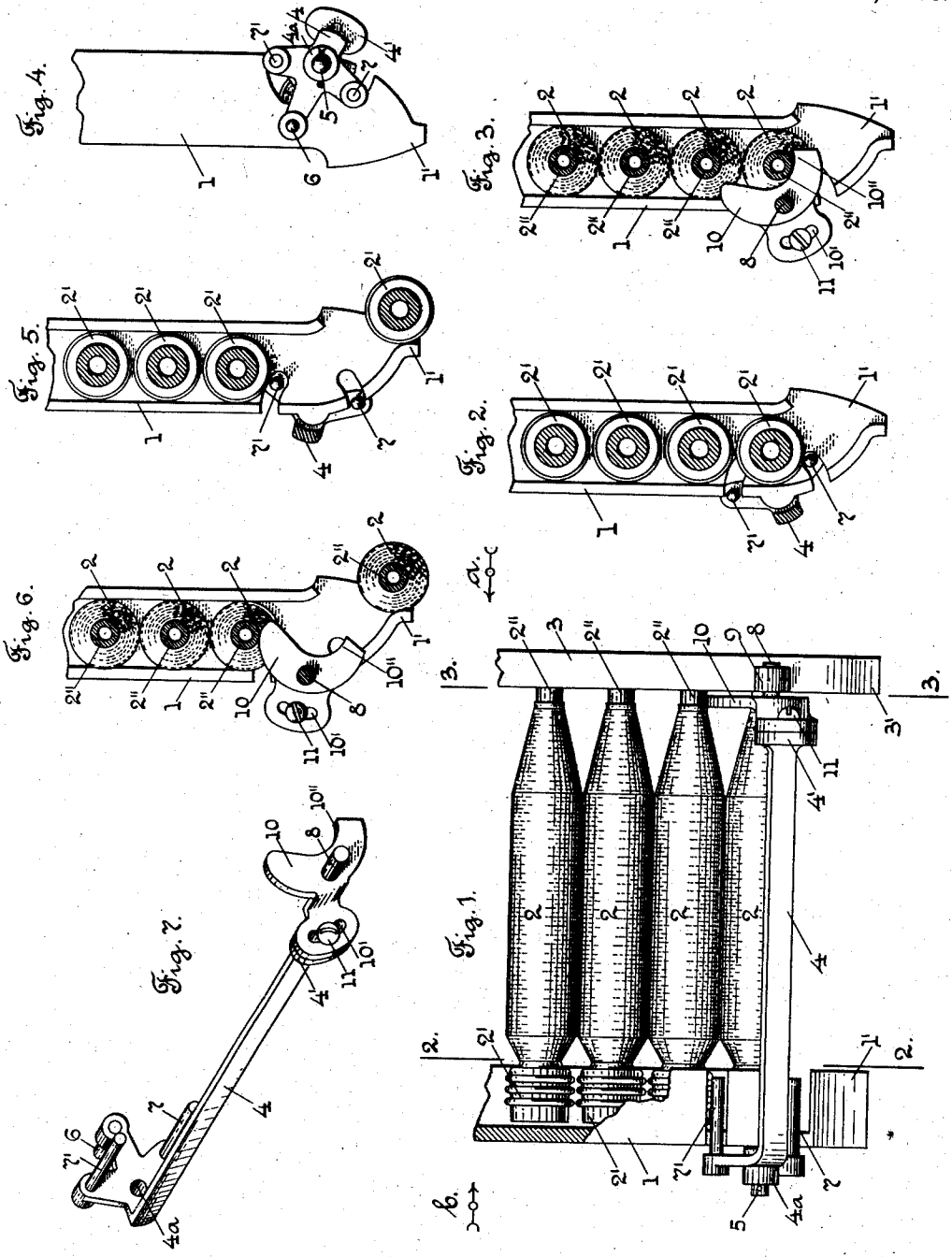


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 LOOM FILLING CARRIER MAGAZINE.
 APPLICATION FILED MAY 11, 1907.

902,193.

Patented Oct. 27, 1908.



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LOOM-FILLING-CARRIER MAGAZINE.

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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 Loom-Filling-Carrier Magazines, of which the following is a specification.

My invention relates to a loom filling carrier magazine, or a magazine for weft replenishing looms, and to that class of magazines, which have one or more vertically extending guide-ways or compartments for a series of superposed bobbins or filling carriers, which drop down by gravity in the guide-way or compartment, and are retained therein by a device or mechanism at the lower end thereof, which is moved at the desired time, to release the lowest bobbin and allow it to drop down to the discharging end of the magazine, preparatory to being transferred into the shuttle, and also acts to retain the bobbins above the lowest bobbin, in the compartment.

My invention particularly relates to the device or mechanism for holding the bobbins in their compartments in the magazine, and for releasing the lowest bobbin, and for retaining the other bobbins in the compartment.

It has been found in practice that in the class of magazines referred to, that the head of the lowest bobbin, and the tip of said bobbin, are not simultaneously moved by the movable bobbin support or retaining device, and that the head of the bobbin and the tip of the bobbin do not move down to the discharging end of the magazine in proper alinement; the tip of the bobbin is liable to move ahead of the head of the bobbin, and vice versa, so that when the bobbin reaches the discharging end of the magazine, preparatory to being engaged by the transferrer and transferred into the shuttle, it is in an inclined position and will not properly enter the shuttle, and will often arrest the movement of the transferrer and may cause breakage.

The object of my invention is to provide a movable device or mechanism, for holding the bobbins in their guide-ways or compartments, and for releasing the lowest bobbin and retaining the other bobbins, of improved construction, and which will engage and hold the head of the bobbin, and also engage

and hold the tip end of the bobbin, and when the device is operated to release the lowest bobbin, the head and tip of the bobbin will be simultaneously moved, and the bobbin will move down to the discharging end of the magazine in proper alinement, to extend under the transferrer in proper position to be transferred into the shuttle.

In my improvements, I preferably have a rocking support or holder, for the lowest bobbin in the compartment, which holder is pivotally mounted at each end to have a rocking movement, and the pivot supports are in axial alinement. Said support or holder preferably has two pins or extensions thereon for the head of the bobbin, and a separate support for the tip end of the bobbin, which also acts to engage the tip end of the bobbin next to the lowest bobbin in the compartment, to retain it in position, when the lowest bobbin is released. Likewise one of the pins for the head of the bobbin engages the head of the bobbin next to the lowest bobbin to retain it in position, when the lowest bobbin is released.

I have only shown in the drawing a detached part of a magazine of the class referred to, with my improvements combined therewith, sufficient to enable those skilled in the art to understand the construction and operation thereof.

Referring to the drawing:—Figure 1 is an outside end view of the lower part of a magazine, having one guide-way or compartment, with my improvements combined therewith, and showing four bobbins or filling carriers. Fig. 2 is a section, on line 2, 2, Fig. 1, looking in the direction of arrow *a*, same figure. Fig. 3 is a section, on line 3, 3, Fig. 1, looking in the direction of arrow *a*, same figure. Fig. 4 is an inner end view of the parts shown in Fig. 1, looking in the direction of arrow *b*, same figure. Fig. 5 corresponds to Fig. 2, but shows the bobbin head support in its opposite position. Fig. 6 corresponds to Fig. 3, but shows the opposite position of the bobbin tip support, and Fig. 7 is a perspective view of the bobbin support, detached.

In the accompanying drawing, 1 is the inner end of a magazine, having in this instance a single guide-way or compartment for the heads 2' of the bobbins 2.

3 is the outer end of the magazine, having in this instance a single guide-way or com-

partment for the tips 2'' of the bobbins 2. The inner end 1 and the outer end 3 of the magazine are preferably connected by transverse rods, not shown, in the ordinary way, and each has a discharging end 1' and 3', respectively, for the bobbins. The bobbins 2 are superposed and drop down by gravity in the magazine.

All of the above mentioned parts may be of the usual and well known construction.

I will now describe my improvements. Combined with the inner end 1 of the magazine and the outer end 3, near the lower discharging end thereof, is a movable bobbin holder or support 4, which is preferably made as shown in Fig. 7. The inner end of said support 4 in this instance has a hub 4^a, which is pivotally mounted on a stud 5 secured to the inner end 1 of the magazine, and forming the axis or fulcrum of the inner end of the support 4. The inner end of the support 4 also carries a pin 6, which is connected to a rod or connector, not shown, through which a rocking movement is communicated to the support 4 in any usual way. The inner end of the support 4 also carries in this instance two outwardly extending pins or extensions 7, and 7', which are preferably of a length corresponding to the length of the head of the bobbin. The lowest pin 7 is adapted to extend under the head of the lowest bobbin, as shown in Fig. 2, to retain the bobbins in position in the normal operation of the loom. The pin 7' is adapted to extend under the bobbin above the lowest bobbin, as shown in Fig. 5, when the support 4 is moved or rocked to release the lowest bobbin.

The bobbin support 4 extends across the magazine, as shown in Fig. 1, in a position parallel to the lowest bobbin. The outer end of the support 4 is provided with a pivot or fulcrum pin 8, which is loosely mounted in a boss or bearing 9 on the inner edge of the outer end 3 of the magazine. The pivot or fulcrum pin 8 is in horizontal alinement with the pivot or fulcrum pin 5. In this instance the fulcrum pin 8 is carried on the support 10 for the tip ends of the bobbins. The support 10 is preferably made separate from the support 4, and consists of a plate, preferably of the shape shown in Fig. 7, having an elongated curved opening 10' therein, through which extends a screw 11, which is screwed into a threaded hole in a lip or extension 4' on the support 4, and acts to adjustably secure the support 10 in position on the support 4.

The support 10 for the tip ends of the bobbins, extends in a plane in vertical alinement with the tip ends of the bobbins, as shown in Fig. 1, and is preferably of curved shape on its engaging edge 10'', as shown; the lower part of said edge is adapted to extend under the tip end of the lowest bobbin,

as shown in Fig. 3, when the loom is operating normally, and on the movement or rocking of the support 4 to release the lowest bobbin, the upper end of the support 10 is moved under the bobbin next to the lowest bobbin to retain it in position, as shown in Fig. 6.

The operation of my improved bobbin support or holder will be readily understood by those skilled in the art. When the holder or support 4 is rocked to release the lowest bobbin, which is held at its head by the pin 7, and at its tip end by the support 10, the head and tip of the bobbin will be simultaneously released to allow the bobbin to drop down to the discharging end of the magazine, with its head and tip in proper alinement, and the pin 7', and the upper end of the support 10, will be simultaneously moved under the bobbin above the lowest bobbin, to retain said bobbin in position.

The advantages of my improvements will be readily appreciated by those skilled in the art; they are of simple construction and can be readily applied to magazines for filling carriers, having one or more guide-ways or compartments, of usual construction. By means of my improvements the head and tip end of the lowest bobbin is supported independently, and the head and the tip end are simultaneously released to allow the lowest bobbin to drop down to the discharging end of the magazine, and the head and tip end of the bobbin next to the lowest bobbin are simultaneously engaged and retained in position, preparatory to the return movement of the bobbin support or holder, when all the bobbins move down by gravity in the magazine in the usual way.

It will be understood that the details of construction of my improvements may be varied if desired.

I prefer to use two pins or extensions 7, and 7', for the heads of the bobbins, but if preferred a single support or plate similar to the support 10, may be used.

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

1. In a magazine for a weft replenishing loom, having a guide-way or compartment for the heads of bobbins, and a guide-way or compartment for the tips of bobbins, a rocking support or holder for the lowest bobbin in the guide-way or compartment, said support pivotally mounted at its outer end, and having thereon a support for the tip of the bobbin and pivotally mounted at its inner end and carrying two outwardly extending pins or extensions for the heads of the bobbins, the lowest pin adapted to extend under the head of the lowest bobbin in the normal operation of the loom, and a second pin adapted to extend under the head of the bobbin above the lowest bobbin, when the

support is rocked to release the lowest bobbin.

2. In a magazine for a weft replenishing loom, having a guide-way or compartment for the heads of bobbins, and a guide-way or compartment for the tips of bobbins, a rocking support or holder for the lowest bobbin in the guide-way or compartment, said support pivotally mounted at its outer end, and having thereon a support for the tip of the bobbin, said support for the tip of the bobbin adjustable relative to the support for the head of the bobbin, and pivotally mounted at its inner end and carrying two outwardly extending pins or extensions for the heads of the bobbins, the lowest pin adapted to extend under the head of the lowest bobbin in the normal operation of the loom, and a second pin adapted to extend under the head of the bobbin above the lowest bobbin, when the support is rocked to release the lowest bobbin.

3. In a magazine for a weft replenishing loom, having a guide-way or compartment for the heads of bobbins, and a guide-way or compartment for the tips of bobbins, a rocking support or holder for the lowest bobbin in the guide-way or compartment, said support pivotally mounted at its outer end, and having thereon a support for the tip of the bobbin, said support of curved shape on its engaging edge, and the lower

part of said edge adapted to extend under the tip end of the last bobbin when the loom is operating normally, and the outer end adapted to be moved under the bobbin next to the lowest bobbin when the last bobbin is released, and pivotally mounted at its inner end and carrying two outwardly extending pins or extensions for the heads of the bobbins, the lowest pin adapted to extend under the head of the lowest bobbin in the normal operation of the loom, and a second pin adapted to extend under the head of the bobbin above the lowest bobbin, when the support is rocked to release the lowest bobbin.

4. In a magazine for bobbins or filling carriers, a bobbin or filling carrier support for the lowest bobbin, pivotally mounted at each end to have a rocking movement and carrying two pins or supports for the head of a bobbin, and a support for the tip end of a bobbin, and adapted to hold the lowest bobbin in place, and on the release of the lowest bobbin to engage the head and tip end of the next lowest bobbin to retain the same, preparatory to the transfer of the lowest bobbin.

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Witnesses:

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