

No. 608,552.

Patented Aug. 2, 1898.

W. A. MACK.

BOBBIN CASE RETAINER FOR SEWING MACHINES.

(Application filed Dec. 28, 1896.)

(No Model.)

Fig. 1.

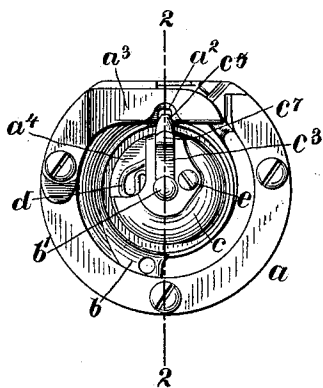


Fig. 2.

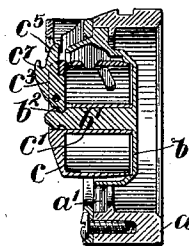


Fig. 3.

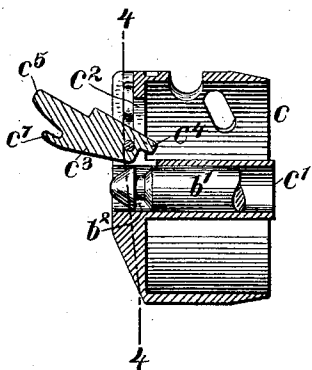
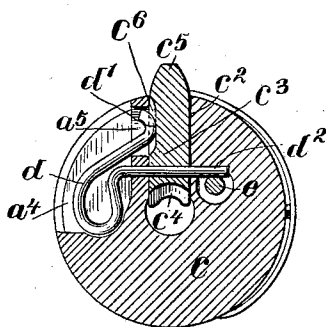


Fig. 4.



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BOBBIN-CASE RETAINER FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 608,552, dated August 2, 1898.

Application filed December 28, 1896. Serial No. 617,169. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. MACK, a citizen of the United States, and a resident of Cleveland, Cuyahoga county, and State of Ohio, have invented certain new and useful Improvements in Bobbin-Case Retainers for Sewing-Machines, of which the following description, taken in connection with the drawings herewith accompanying, is a specification.

This invention relates to that class of sewing-machines employing a rotary or oscillating shuttle in which the bobbin and bobbin-case are removably contained, so as to be readily detachable therefrom to allow of the bobbin being newly supplied with thread, &c.

The object of my invention is to provide a simple locking-latch or means for removably securing the bobbin-case and bobbin in operative position within the shuttle that may be readily and conveniently operated and which may also serve when in an unlocked position as a convenient means for the operator to grasp when handling the bobbin-case to place the same within the shuttle or remove it therefrom. This object I secure by the means embodying my invention, as hereinafter set forth in detail, and pointed out in the claims.

Referring to the drawings, Figure 1 represents a front elevation of a frame or case having a shuttle-raceway and containing a shuttle and bobbin-case embodying my improved means for locking the latter in its proper operative position within the shuttle.

Fig. 2 is a section of the same, taken through line 2 2 of Fig. 1. Fig. 3 is an enlarged central sectional view of the bobbin-case removed from the shuttle, showing the locking-latch in an open or unlocking position and a portion of the shuttle-pin on which the bobbin-case is supported. Fig. 4 is a section taken through line 4 4 of Fig. 3, with the locking device in a closed or locking position.

To explain in detail, a represents a frame or casing having a shuttle-raceway a' therein, which frame is adapted to be secured to the under side of the bed-plate of a machine to support the shuttle b , contained therein, in proper operative position relative to the path of the needle. The shuttle b is provided with the usual centrally-arranged bobbin-case-

supporting pin b' , which latter is provided with an annular rim or projection b^2 adjacent to its outer end, which projection, as herein illustrated, is formed by a recess being cut into the said pin, although it will be obvious, as will hereinafter appear, that it may be otherwise formed without departure from my invention.

c is the bobbin-case, having a central sleeve c' , adapted to fit over the pin b' of the shuttle and be supported thereon in the usual manner. The front or face wall of this bobbin-case is provided with a radial slot c^2 therein, in which a latch or locking device c^3 is pivotally secured, with one end c^4 arranged to extend when the latter is in a closed position into the opening within the sleeve c' , so as to engage with the said projection b^2 on the bobbin-case-supporting pin b , whereby the bobbin-case may be removably held or retained in its operative position within the shuttle. The outer or opposite end c^5 of said latch when the latter is in a closed position, as in Figs. 1, 2, and 4, projects beyond the periphery of the bobbin-case and is adapted to extend within an opening a^2 , which is formed within a stationary part or arm a^3 of the shuttle-race frame a and when in such position hold the bobbin-case from rotary movement.

When the bobbin-case is to be inserted into or removed from the shuttle, the upper or operating end of the latch is adapted to be drawn outward from the face of the bobbin-case, and thereby move its inner locking end c^4 out of the space within the sleeve c' and away from its position for engaging with the annular projection b^2 upon the pin b , as shown in Fig. 3. After the bobbin-case has been inserted into the shuttle, however, the latch is then turned back to its normal closed position, so as to move its locking end c^4 into a position behind the projection b^2 on the pin b to engage therewith and hold the bobbin-case within the shuttle. The latch is adapted to be movably held in a normal closed or locking position by any suitable holding means, the means, as herein illustrated and as more clearly shown in Fig. 4, consisting of a spring d , which is seated within a recess a^4 upon the face of the bobbin-case, with one end d' thereof extending laterally through an opening a^5

in the said face-wall of the bobbin-case into a position to engage with the latch within a recess c^6 , formed in one side thereof. The latch-engaging end d' of the spring d , which
 5 movably extends into the path of the latch, so as to snap or spring into the recess therein when the latter is closed, is formed with a curved or rounded surface, so that it may be readily forced from the path of the latch
 10 when the latter contacts therewith in being closed and also be readily forced from its holding position within the recess in the latch when pressure is applied to the latter in being drawn open.

15 The said spring d , being formed of wire and having one end thereof extending into a position for engaging with the latch c^3 , as described, is, as herein illustrated, arranged with its opposite end d^2 extending across the
 20 slot c^2 in the bobbin-case and forming a bearing upon which the latch is pivotally supported. The single piece of wire d , thus forming a support or bearing for the latch and a means for movably holding the same in its
 25 normal closed position, forms a very cheap and simple means for such purposes and is also very desirable and important in that it affords an easy and convenient means for assembling the parts. For instance, when the
 30 latch is to be connected with the bobbin-case in assembling the parts it is first placed in the slot c^2 in said bobbin-case and the wire d is then inserted into position with its end d^2 extending into suitable openings or bear-
 35 ings in the bobbin-case wall and through an opening in the latch, thereby forming a hinged connection of the latch with the bobbin-case, and with its opposite end d^2 extending into its said position to form a yielding or spring
 40 catch for the latch. The wire d is removably secured in such position by means of a screw e , which is tapped into the face of the bobbin-case in a position adjacent to the end of said wire, so that its head will bind against
 45 the same and hold it in position. To remove the latch, the screw e is first loosened and the wire d then drawn outward from connection with the latch. The middle or intermediate portion of the wire d , being lo-
 50 cated in the recess or depressed portion of the face wall of the bobbin-case, is in a convenient position to be reached by the operator for removing the wire or for adjusting the position of its spring end d^2 relative to
 55 the latch, but does not interfere with the thread in passing over the face of the bobbin-case. As a convenient means for securing a hold upon the latch to open the same I have provided a lip e^7 thereon which the op-
 60 erator may engage with his thumb or finger nail or with any other suitable means to draw the same open. This lip extends upward and is provided with an outer tapering surface, so as not to present any obstruction or
 65 interfere with the thread-loop when passing over the same. When the latch is opened, as shown in Fig. 3, it affords a convenient

means for the operator to grasp in handling the bobbin-case when inserting the same into the shuttle or removing it therefrom. 70

Having thus set forth my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination, with a sewing-machine shuttle having a pin provided with a rim or projection adjacent to its outer end, of a bob- 75 bin-case provided with a single latch or lever pivotally supported thereby with one end extending, when in locking position, directly into engagement with the projection on the shuttle-pin, and its opposite end being mov- 80 able in a direction outwardly from the face of the bobbin-case to disengage its locking end from the shuttle-pin and afford a handle for the bobbin-case. 85

2. The combination, with a sewing-machine shuttle having a pin provided with a rim or projection adjacent to its outer end, of a bob- 90 bin-case provided with a single latch or lever pivotally supported thereby with one end extending, when in locking position, directly into engagement with the projection on the shuttle-pin, and its opposite end being mov- 95 able in a direction outwardly from the face of the bobbin-case to disengage its locking end from the shuttle-pin and afford a handle for the bobbin-case, said latch having a lip or projection on its face side as a means to engage and lift the same.

3. The combination, with a sewing-machine 100 shuttle having a pin provided with a rim or projection adjacent to its outer end, of a bobbin-case provided with a single latch or lever pivotally supported thereby with one end extending, when in locking position, directly 105 into engagement with the projection on the shuttle-pin, and its opposite end being movable in a direction outwardly from the face of the bobbin-case to disengage its locking end from the shuttle-pin and afford a handle 110 for the bobbin-case, and means for engaging with said latch to hold the same in a closed locking position.

4. In a sewing-machine, the combination with a shuttle having a pin provided with a 115 rim or projection adjacent to its outer end, of a bobbin-case provided with a single latch or lever pivotally supported thereby with one end extending, when in locking position, directly into engagement with the projection 120 on the shuttle-pin, and its opposite end extending, when the latch is in its said locking position, into engagement with a stationary part of the machine to hold the bobbin-case from rotary movement, substantially as and 125 for the purpose set forth.

5. The combination, with a sewing-machine shuttle having a pin provided with a rim or projection adjacent to its outer end, of a bob- 130 bin-case provided in its face wall with a slot and a recess respectively, a single latch or lever pivotally supported in said slot in the bobbin-case with one end extending, when in locking position, directly into engagement

with the projection on said pin, and its opposite operating end being movable in a direction outwardly from the face of the bobbin-case to disengage its locking end from the shuttle-pin, and having a notch in one side thereof, and a spring-catch seated in said recess in the bobbin-case to engage with the latch within the said notch therein and hold the same in a closed position.

6. The combination, with a sewing-machine shuttle having a pin provided with a rim or projection adjacent to its outer end, of a bobbin-case provided with a slot in its face wall, a single latch or lever pivotally supported in said slot in the bobbin-case with one end extending, when in locking position, into en-

gagement with the projection on said pin, and its opposite end being movable in a direction outwardly from the face of the bobbin-case and having a notch in one side thereof, a spring-catch for engaging with the latch within the said notch therein, and having a part thereof connecting with said latch to pivotally support the same in connection with the bobbin-case, and means for detachably holding such combined spring-catch and latch-supporter in connection with the bobbin-case.

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Witnesses:

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