

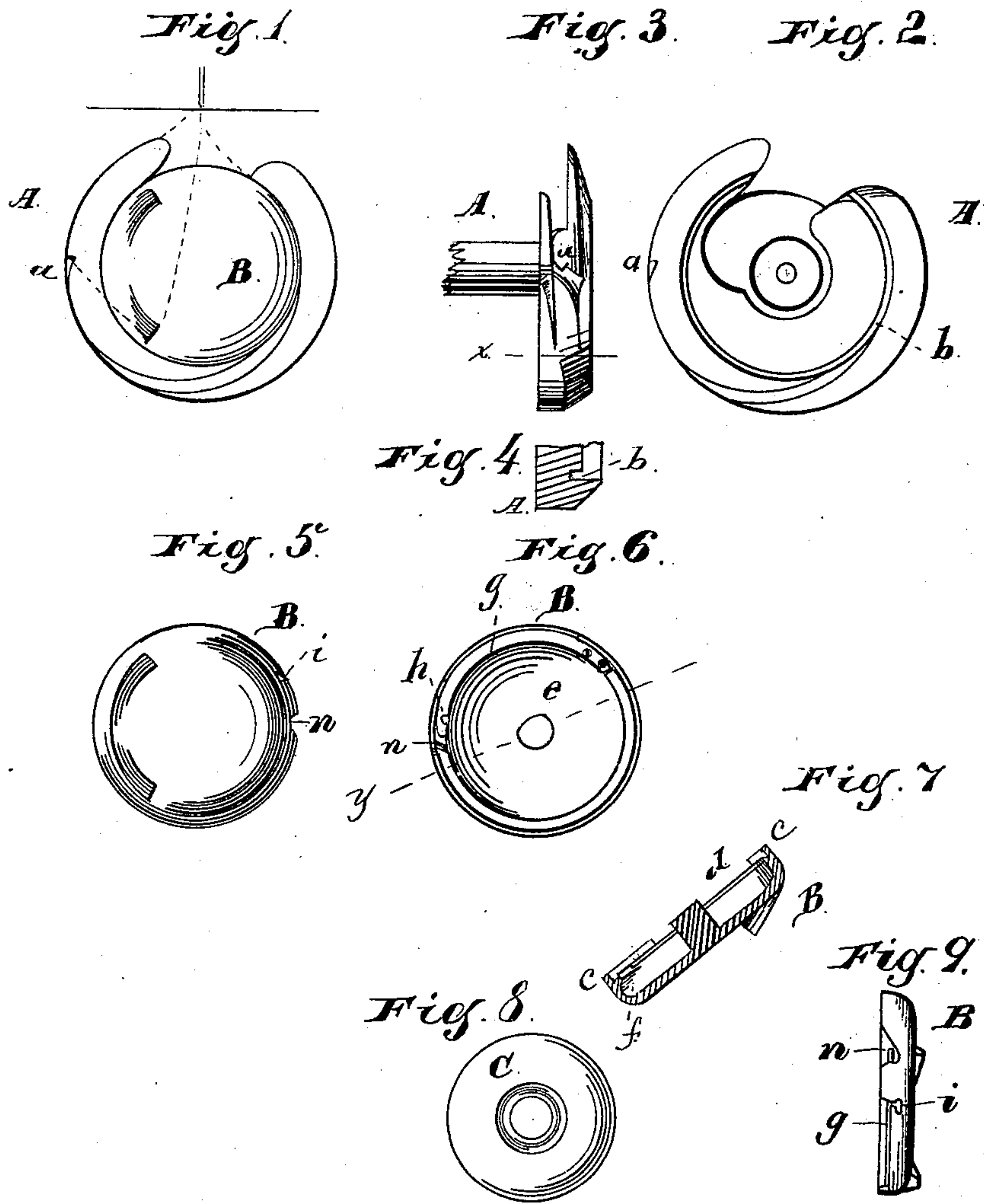
(Model.)

A. FARRAR.

REVOLVING HOOK FOR SEWING MACHINES.

No. 309,837.

Patented Dec. 30, 1884.



Witnesses:  
Albert H. Adams,  
O. W. Bond.

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# UNITED STATES PATENT OFFICE.

ARTHUR FARRAR, OF CHICAGO, ILLINOIS.

## REVOLVING HOOK FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 309,837, dated December 30, 1884.

Application filed March 26, 1883. (Model.)

*To all whom it may concern:*

Be it known that I, ARTHUR FARRAR, residing at Chicago, in the county of Cook and State of Illinois, and a citizen of the United States, have invented new and useful Improvements in Revolving Hooks for Sewing-Machines, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is an elevation showing the face of the rotating hook with the bobbin-case inserted therein. Fig. 2 is an elevation showing the face of the rotating hook with the bobbin-case and bobbin removed. Fig. 3 is a side elevation of the rotary hook. Fig. 4 is a section at line *x* of Fig. 3. Fig. 5 is an elevation of the bobbin-case. Fig. 6 is an inside view of the bobbin-case with the bobbin removed. Fig. 7 is a section at line *y* of Fig. 6. Fig. 8 is an elevation of the bobbin. Fig. 9 is an edge or end view of the bobbin-case.

My invention relates to those machines of the Wheeler & Wilson pattern that use a "loop-check," and also to bobbin-cases having a loop-check upon them. The tendency of loop-checks which are upon the "bobbin-case" or upon the "ring-slide" is to pull the loop out of the groove cut from the hook-throat to the "cast-off," resulting in double looping. To prevent this I make a horn or projection on the periphery of the hook, or in the groove leading to the cast-off, and considerably to the left of the plane of the hook-point; or I cut another groove by the side of or at the bottom of the ordinary one, and leading to or toward the face or edge of the hook, so as, in effect, to form a projection, and thus accomplish the same result, which is to hold the loop to the left and out of the reach of the hook-point while the latter is passing it; secondly, my improvement is designed to facilitate the unwinding of the bobbin-thread by allowing the bobbin, whenever, from any cause, it unwinds with difficulty, (as when it is nearly empty, for instance,) to turn upon a center pin in the bobbin-case, and by cutting away the upper side of said center pin the bobbin can fall so that its periphery will rest on the case, thereby stopping it more quickly and preventing a great excess of thread from unwinding; thirdly, another object is to pre-

vent the thread from drawing the bobbin-case up into the opening between the heel and point of the hook, which, if done, may cause the bobbin-case to be carried too far and draw too much thread from the bobbin, and this I accomplish by means of a groove in the face of the rotary hook, into which the edge of the bobbin-case passes; fourthly, another object is to provide a place in the case for slack thread and prevent it from passing out over the edge of the bobbin, which I accomplish by making a groove or recess upon the inside of the bobbin-case; fifthly, another object is to facilitate the adjustment of the bobbin-thread ready for use, which I accomplish by providing the bobbin-case with a spring, a pin, and a notch, all as hereinafter fully described.

In the drawings, A represents a rotating hook, such as is adapted to be used in the Wheeler & Wilson sewing-machine, being represented in the position which it occupies when the needle is at its lowest point. *a* is a projection or hook on the rear side of the hook-throat, which is adapted to catch and hold one side of the loop over to the left until the point of the hook has passed the needle-thread.

I do not limit myself to the exact form or position of the projection *a* which is shown in the drawings.

B is the bobbin-case.

*b* is a groove or recess in the face of the hook A, having two side walls, into which the edge of the bobbin-case passes; hence the bobbin-case cannot be drawn up into the opening between the heel and the point of the hook by the action of thread on the loop-check, the upward movement of the bobbin-case being prevented by the engagement of the edge of the case with the wall of the groove *b*.

*d* is the center pin in the case, which passes through the bobbin C when in place; and this pin is cut away or flattened upon that side which is the upper side when in use, as shown at *e*, Fig. 6, so that the bobbin can drop down a little, bringing its edge in contact with the inside of the bobbin-case at a point about opposite to the flattened part of the center pin *d*, for the purpose of arresting more quickly the movement of the bobbin after the proper



amount of thread has been drawn from the bobbin. This does not prevent the free rotation of the bobbin on the pin *d*, because the tendency is to lift the bobbin away from the lower edge of the case.

*f* is a recess or groove cut upon the inside of the edge of the case B, as shown in Fig. 7, and extending partially around such inside of the edge of the case. Into this recess *f* the slack thread can pass and be prevented from passing out over the edge of the bobbin.

*g* is a spring secured at one end to the bobbin-case, as shown in Fig. 6, to give tension to the bobbin-thread as against the movement of the loop-check.

*n* is a notch in the edge of the bobbin-case opposite the end of the spring *g*. *i* is another notch in the edge of the case, terminating in a thread-eye. The bobbin-thread can be easily adjusted for use by passing it into the notch *n* and under the free end of the spring *g* and over the pin *h*, then between the spring and edge of the case, then into the notch *i*. Thus the threading of the bobbin-case is effected without passing the thread through any hole.

I am aware of Patent No. 136,314, and I do not claim anything which is shown therein.

What I claim, and desire to secure by Letters Patent, is as follows:

1. A rotary bobbin-carrying hook constructed with the horn or projection *a* within the entrance of the groove forming the hook-throat, and extending laterally from the rear side of said hook-throat, the horn or projection acting to hold the thread-loop laterally,

or to the left, out of the path of the hook-point, to prevent double looping, substantially as shown and described.

2. A rotary hook for sewing-machines, constructed in its face with the circular groove *b*, constituting an inner and an outer wall, in combination with the bobbin-carrying case B, having its circular edge *c* arranged between the two walls formed by the groove, and held by the said walls against movement into the opening between the point and the heel of the hook, substantially as described.

3. The bobbin-case B, having a center pin, *d*, flattened upon one side, in combination with a bobbin fitting on said pin, and having a vertical movement thereon by reason of the flattened pin, substantially as described.

4. A bobbin-case, B, provided on the inside of its edge with the groove *f*, to receive the slack thread from the bobbin, to prevent it from passing out over the edge of the latter, substantially as described.

5. The bobbin-case B, having the circular rim having the attached interior flat spring, *g*, and constructed in its edge *c* with the notch *n*, opposite the free end of the spring, and the notch *i*, terminating in a thread-eye, in combination with the laterally-projecting pin *h* within the case, around which the thread is carried for threading the bobbin-case, substantially as described.

ARTHUR FARRAR.

Witnesses:

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