

No. 635,162.

Patented Oct. 17, 1899.

J. DIEHL.

BOBBIN CASE RETAINER FOR SEWING MACHINE SHUTTLES.

(Application filed Mar. 21, 1899.)

(No Model.)

Fig. 1.

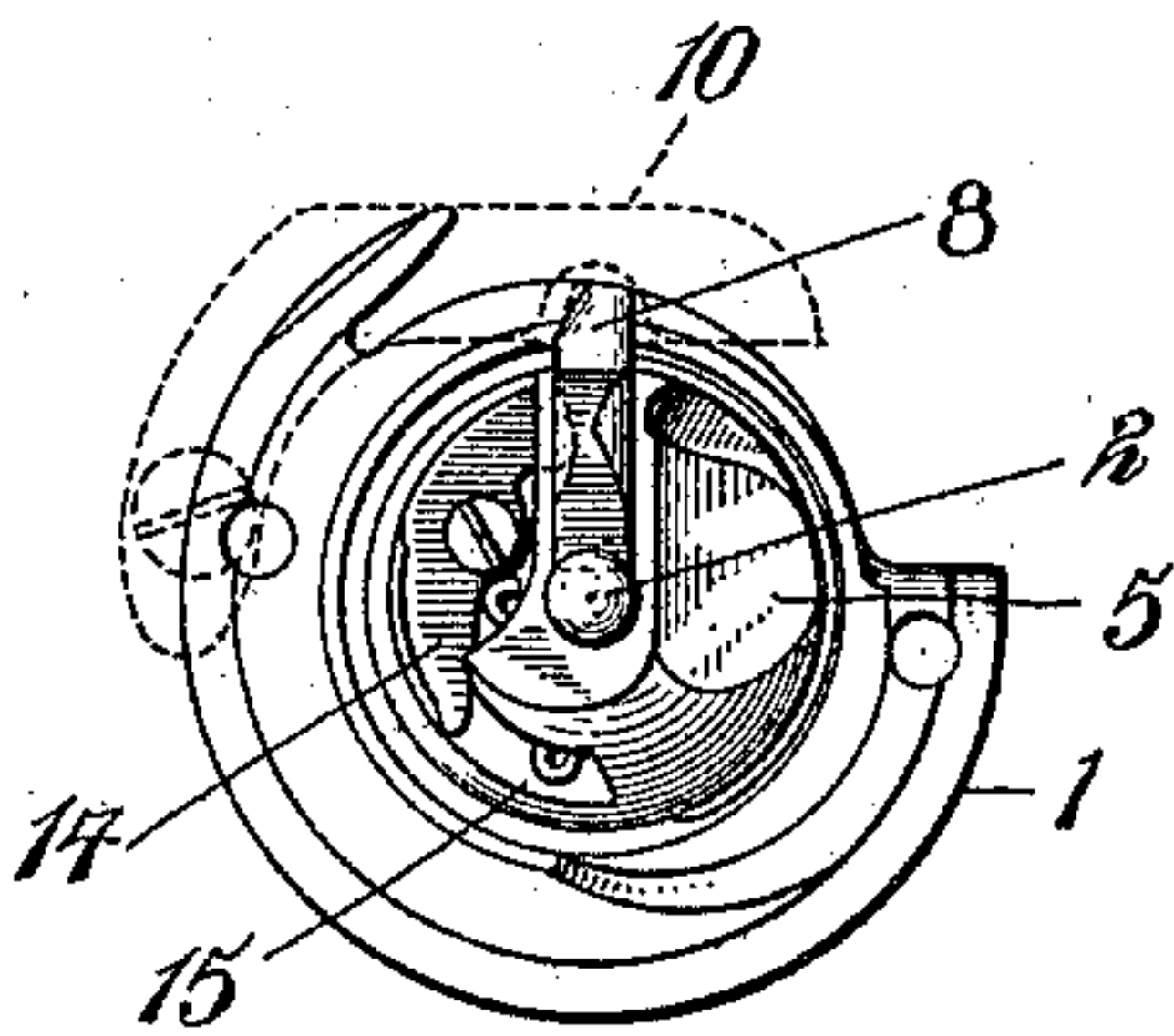


Fig. 2.

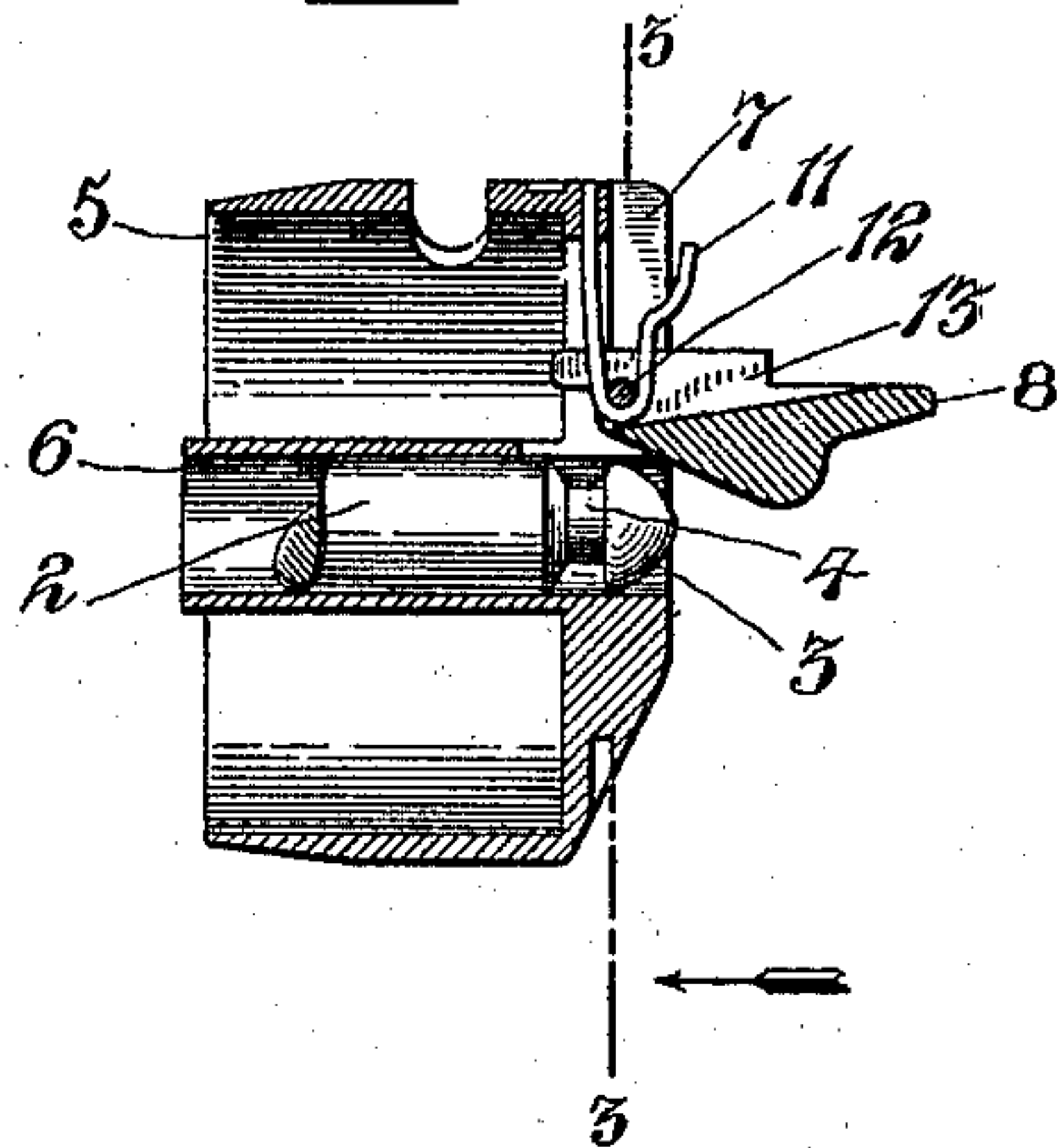


Fig. 3.

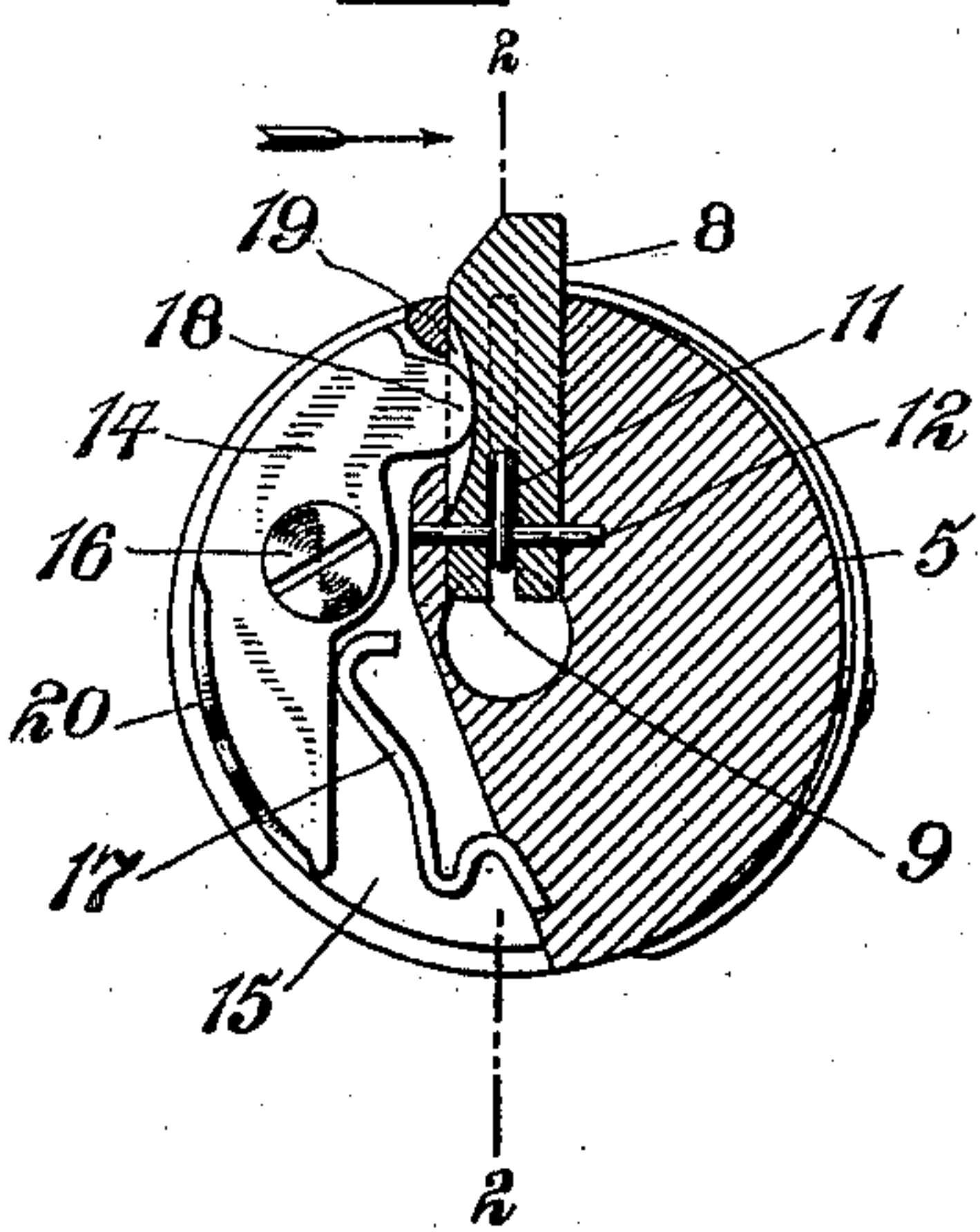
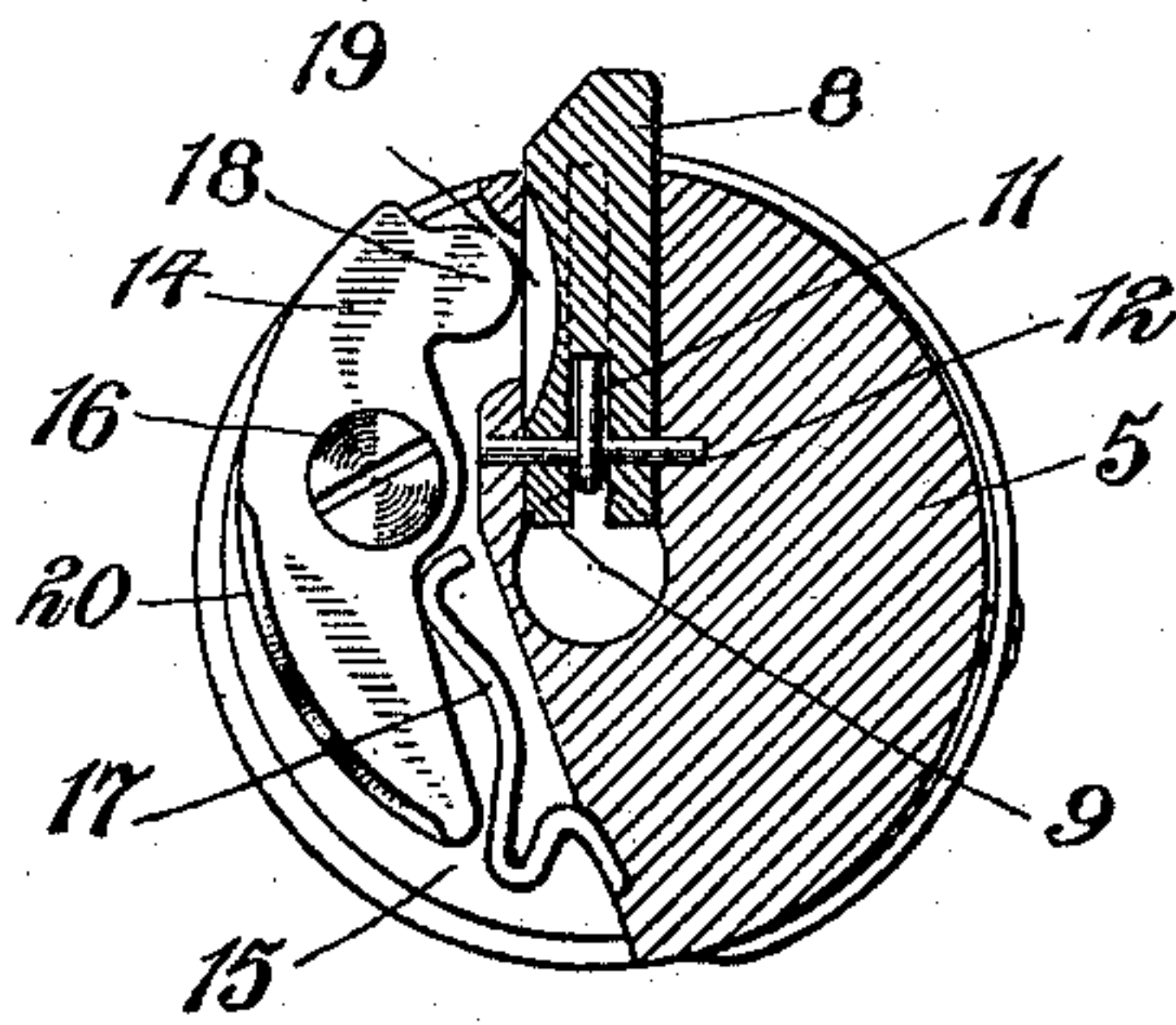


Fig. 4.



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# UNITED STATES PATENT OFFICE.

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## BOBBIN-CASE RETAINER FOR SEWING-MACHINE SHUTTLES.

SPECIFICATION forming part of Letters Patent No. 635,162, dated October 17, 1899.

Application filed March 21, 1899. Serial No. 709,965. (No model.)

*To all whom it may concern:*

Be it known that I, JACOB DIEHL, a citizen of the United States, residing at Cleveland, Cuyahoga county, State of Ohio, have invented certain new and useful Improvements in Bobbin-Case Retainers for Sewing-Machines, of which the following is a specification, reference being had to the accompanying drawings, forming part thereof.

10 This invention consists of an additional improvement in the bobbin-case retainer covered by Letters Patent No. 608,552, dated August 2, 1898. In the construction shown by said patent the bobbin-case is removably  
15 held in the shuttle by means of a latch, which is pivotally supported by the bobbin-case, with one end extending, when in locking position, into engagement with a projection on the shuttle-pin, and its opposite end being  
20 movable in a direction outwardly from the face of the bobbin-case to disengage its locking end from said shuttle-pin. A spring-catch engages with said latch to hold the same in a closed locking position, and to re-  
25 move the bobbin-case from the shuttle the operator engages a lip or projection on said latch by the thumb or finger nail to draw the same outward from engagement with the said spring-catch. As the said lip is located some-  
30 what close to the under side of the cloth-plate of the machine, however, more or less difficulty and inconvenience have been experienced in opening the latch. This is particularly the case where the operator's nails  
35 are short. To avoid such difficulty and secure the more ready and convenient opening of the latch has been the object of this invention.

In carrying my invention into effect I arrange a spring behind the pivoted latch, so  
40 as to have a normal outward pressure against the same, and attach a lever upon the bobbin-case, which is normally held by a spring, with one end in locking engagement with the latch  
45 and its other free end in a position adjacent to one side of the case where it may be conveniently engaged by the thumb of the operator. By this construction when it is desired to remove the bobbin-case from the  
50 shuttle the operator presses laterally against the lower free end of the lever and moves its

opposite end out of locking engagement with the latch; which latter is thereupon automatically thrown open, so as to disengage with the shuttle-pin and also afford a handle for  
55 the purpose of removing the case from the shuttle or replacing the same into the latter.

In the drawings, Figure 1 is a face view of a shuttle and bobbin-case embodying my invention. Fig. 2 is an enlarged sectional view  
60 of the bobbin-case on line 2 2 of Fig. 3, with a portion of the shuttle-pin therein, showing the latch in an open position. Fig. 3 is a sectional face view of the bobbin-case on line 3 3 of Fig. 2. Fig. 4 is a view similar to Fig. 3,  
65 showing a changed position of the latch-releasing lever.

To explain in detail, 1 represents the shuttle, having the usual centrally-arranged bobbin-case-supporting pin 2, the latter being  
70 provided with an annular rim or projection 3 adjacent to its outer end, formed, as herein shown, by the annular groove 4, cut into said pin.

5 is the bobbin-case, having a central sleeve  
75 6, adapted to fit over the pin 2 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 7 therein, in which the latch 8 is pivotally supported  
80 with one end 9 arranged to extend into the opening within the sleeve 6, so as to engage with the said projection on the shuttle-pin 2 and removably retain the bobbin-case, with its contained bobbin, in the shuttle. The  
85 opposite or free end of said latch when the latter is in closed position projects beyond the periphery of the bobbin-case and into an opening formed in a stationary arm 10,  
(shown in dotted lines in Fig. 1,) which is  
90 adapted to be secured on the shuttle-race frame and serves to hold the bobbin-case from rotary movement. The construction and arrangement of the latch as above described is the same as that shown in said  
95 prior patent, No. 608,552.

According to my present invention I locate a spring 11 behind the latch, having a normal outward pressure against the same. This spring, as shown, is in a loop form and  
100 passed around the pivot-pin 12 through a groove 13 in the latch, with one end secured



in the bobbin-case and its opposite free end bearing against the latch. This arrangement of the spring, being partially supported within the groove in the latch, prevents displacement of the same and also insures its proper position relative to the latch.

The latch 8 is held in locking position against the pressure of the spring 11 by means of a lever 14, which is pivotally attached by a pin or screw 16 to the face of the bobbin-case within a recess or cut-away portion 15. This lever 14 is movably held by a spring 17 with one end 18 extending into a position to enter a notch 19 in one side of the latch and hold the latter in its closed position, as shown in Figs. 1 and 3. The other end of the lever is provided with an upturned flange 20 adjacent to the edge of the bobbin-case, against which the operator may press with the thumb to throw the lever out of engagement with the latch, as shown in Fig. 4. The latch when thus released is automatically thrown open by the spring 11 and disengages with the projection on the shuttle-pin, as shown in Fig. 2. The operator may then grasp the outwardly-projecting latch and withdraw the bobbin-case, with its contained bobbin, from the shuttle.

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

1. The combination, with a sewing-machine shuttle provided with a pin having an annular rim or projection near its outer end, of a bobbin-case provided with a latch pivotally supported thereby with one end extending, when in locking position, into en-

gagement with the projection on said shuttle-pin, a lever for engaging with the latch to hold the same in locking position, and means for automatically throwing the latch out of locking position when released by its said holding-lever.

2. The combination, with a sewing-machine shuttle, having a pin, of a bobbin-case provided with a latch pivotally supported thereby with one end extending, when in locking position, into engagement with said pin, and its opposite end being movable in a direction outwardly from the face of the bobbin-case, a lever for engaging with said latch to hold the same in locking position, and a spring acting upon said latch to automatically throw the same out of engagement with the shuttle-pin when released by its said holding-lever.

3. The combination, with a sewing-machine shuttle having a pin, of a bobbin-case provided with a latch pivotally supported thereby with one end extending, when in locking position, into engagement with said pin, and its opposite end being movable in a direction outwardly from the face of the bobbin-case, a spring-pressed lever for engaging with said latch to hold the same in locking position, and a spring acting upon said latch to automatically throw the same out of engagement with the shuttle-pin when released by its said holding-lever.

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