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Patented Dec. 11, 1900.

P. DIEHL & M. HEMLEB.

BOBBIN CASE HOLDER AND BOBBIN EJECTOR FOR SEWING MACHINES.

(Application filed Aug. 7, 1900.)

(No Model.)

Fig. 1.

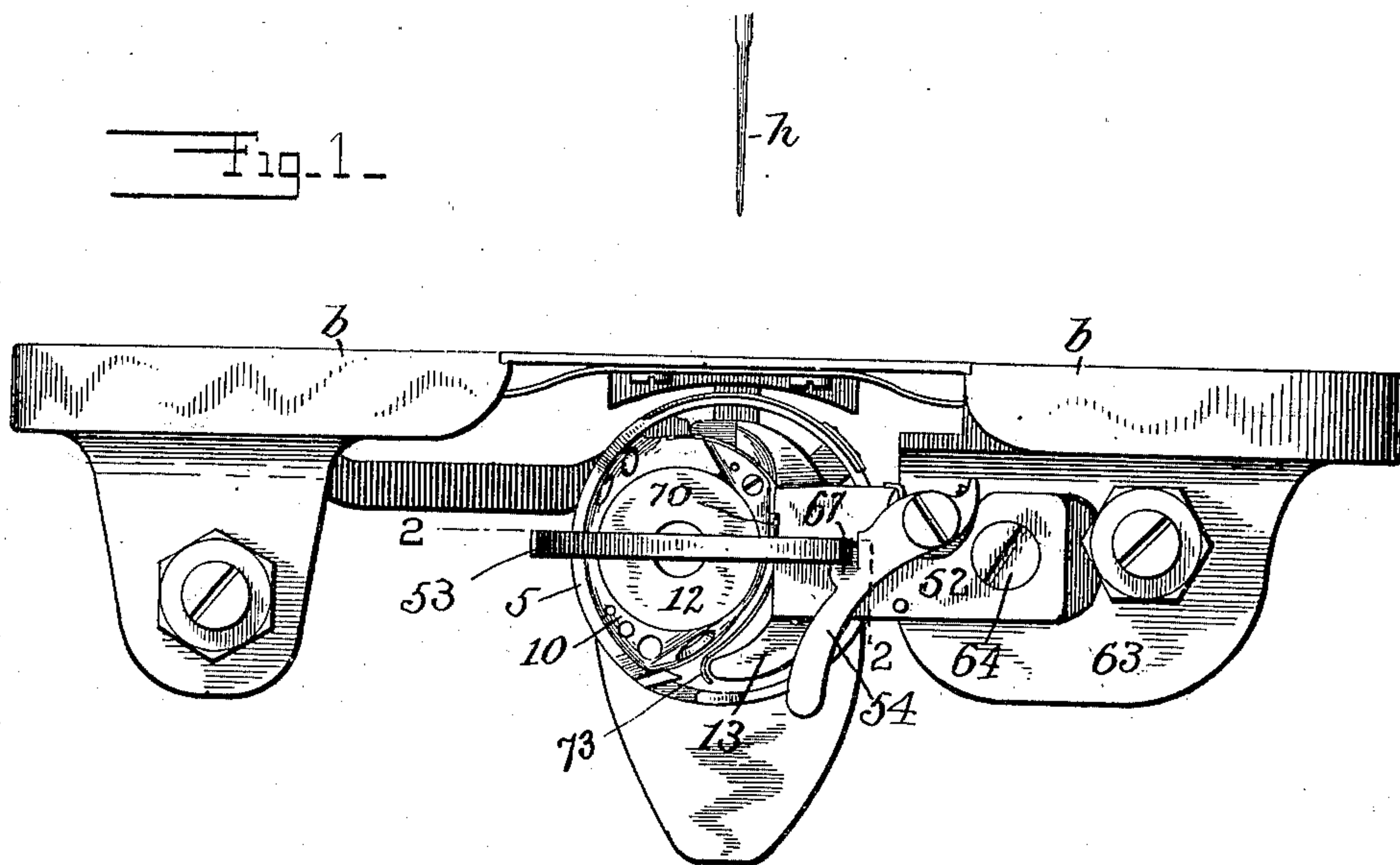


Fig. 2.

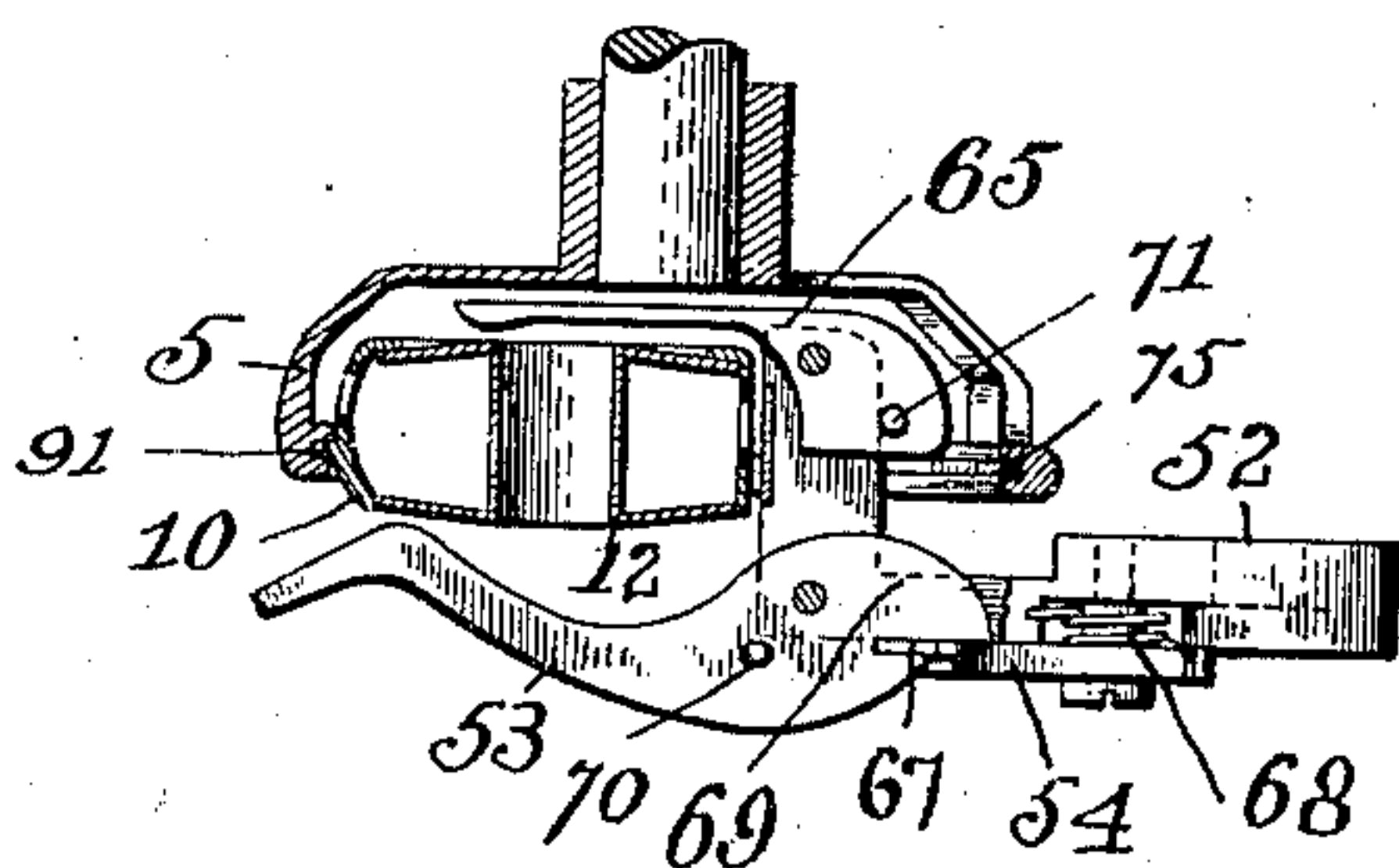


Fig. 3.

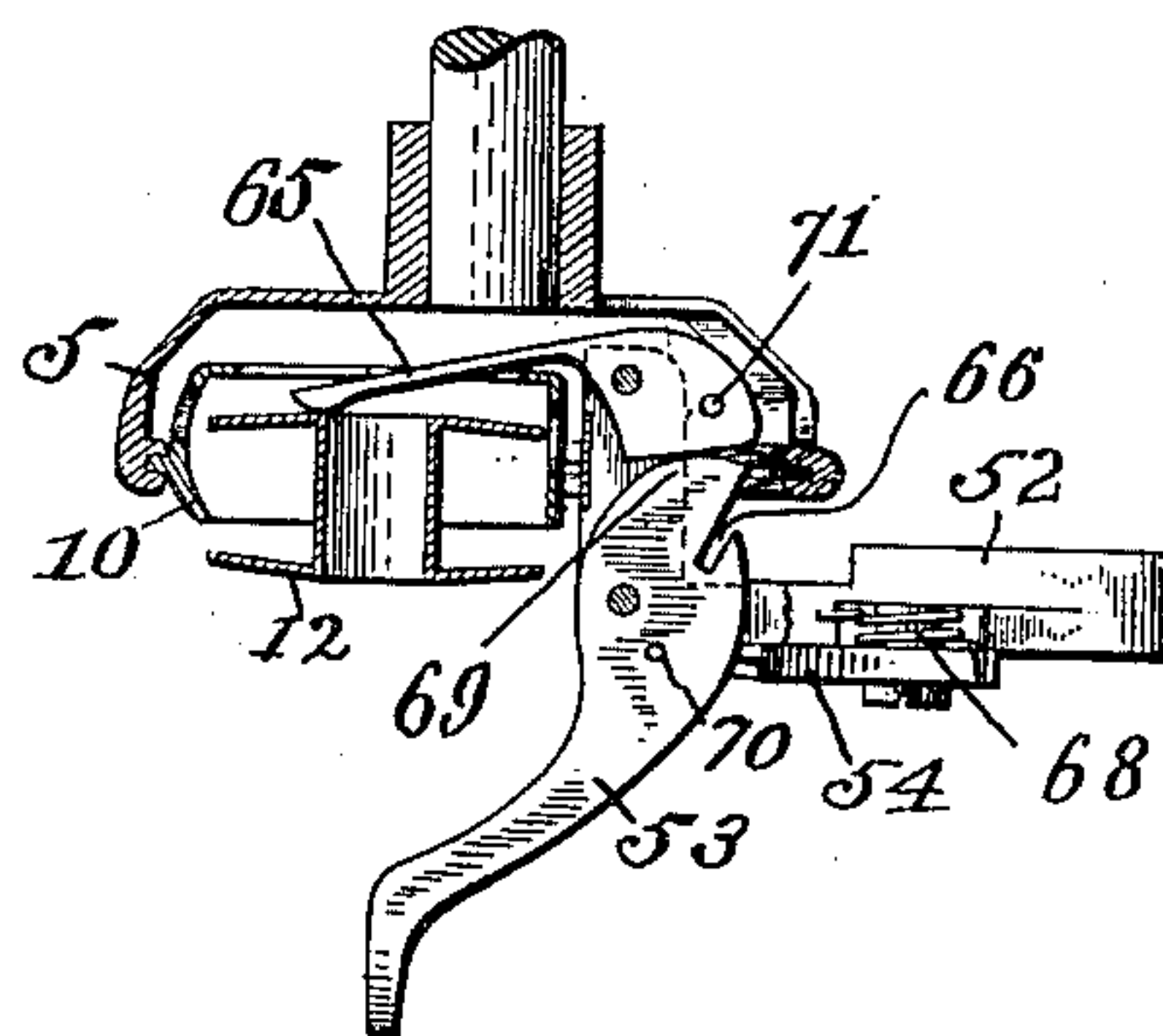
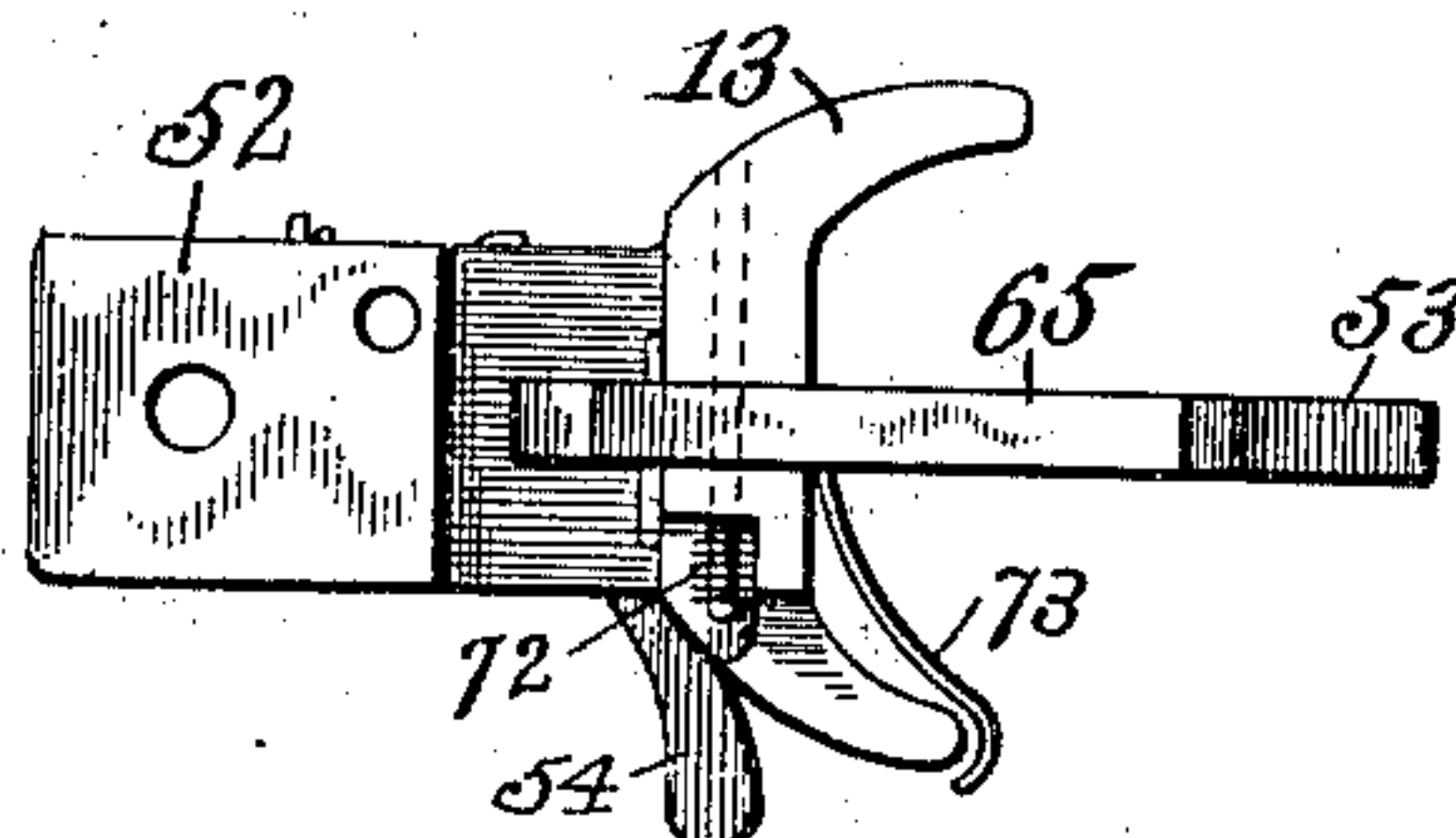


Fig. 4.



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# UNITED STATES PATENT OFFICE.

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## BOBBIN-CASE HOLDER AND BOBBIN-EJECTOR FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 663,675, dated December 11, 1900.

Application filed August 7, 1900. Serial No. 26,140. (No model.)

*To all whom it may concern:*

Be it known that we, PHILIP DIEHL and MARTIN HEMLEB, citizens of the United States, residing at Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Sewing-Machine Bobbin-Case Holders and Bobbin Holders and Ejectors, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to a bobbin-case holder and a device for retaining a bobbin in the bobbin-case and for removing it therefrom, the invention being more especially adapted for use in connection with a stationary bobbin-case eccentrically supported by and within a circularly-moving hook—such as is shown and described in United States application, Serial No. 736,263, filed November 8, 1899—in that, as herein shown, the bobbin remover or ejector is mounted on the bobbin or thread-case holder, which serves to restrain the said bobbin or thread-case from movement as the said hook travels about it. The present invention comprises two independently-pivoted arms or levers, between which the bobbin in the bobbin-case is loosely inclosed. The outer of the said arms or levers serves to prevent the bobbin from escaping from the bobbin-case, and to this end is held in its normal or working position by a suitable retaining device or locking-lever. The inner arm or lever extends behind the bobbin and is yieldingly held in its normal position against a suitable stop by a spring, a portion of said inner lever being arranged to be engaged by a tailpiece on the outer lever, so that after the latter has been swung outward far enough to leave a free space for the easy removal of the bobbin from the bobbin-case said inner lever will be operated by said tailpiece so as to force the bobbin outward from the bobbin-case far enough for its easy removal by the attendant. The bobbin-case holder is provided with a cushioning-spring to lessen noise and to permit of the easy passage of the needle-loops.

In the accompanying drawings, Figure 1 is a front end view of a portion of a circularly-moving-hook sewing-machine with the inven-

tion applied thereto. Fig. 2 is a plan view, partly in horizontal section on line 2 2 of Fig. 1, looking down, of some of the parts shown in Fig. 1; and Fig. 3 is a view similar to Fig. 2, with the bobbin holder and ejector in bobbin-removing position. Fig. 4 is a detail rear side view of the bobbin-case holder and the parts mounted thereon.

Referring to the drawings, *b* denotes the work-plate of a sewing-machine, and 5 an oscillating or rotating hook, within which is mounted a bobbin-case 10, herein shown as being peripherally supported by said hook and arranged eccentrically to the axis thereof, and 12 is a bobbin within said bobbin-case.

Attached to a lug or hanger 63 below the work-plate *b*, as by a screw 64, is an arm or bracket 52, which supports the bobbin-case holder 13, extending within the field of the hook-ring or hook 5, said holder loosely engaging the bobbin-case, so as to retain it in its peripheral engagement with said hook, and said holder serving also to restrain the said bobbin-case from moving as the said hook travels about it.

Pivotally mounted on the bobbin-case holder 13 are two arms or levers 53 and 65, between which the bobbin 12 is loosely located. The lever 53 when in the working position shown more clearly in Fig. 2 prevents the bobbin from escaping from the open front face of the bobbin-case, while a small flange surrounding an opening in the rear side of the bobbin-case prevents the bobbin from escaping from the said rear side of said case. The lever 53 is provided with a notch 66 to receive a tooth or lug 67 on a locking lever or latch 54, normally held in locking position (shown in Fig. 1) by a spring 68. The said lever 53 is also provided with a tailpiece or cam 69 to engage a part of the lever 65 when said lever 53 is swung outward to the position shown in Fig. 3, said lever 53 being also preferably provided with a stop-pin 70 to engage the bracket 52, and thus limit the outward movement of said lever. The bobbin removing or ejecting lever 65 is provided with a stop-pin 71, pressed against the holder 13 by a spring 72 engaging said pin, and thus serving to hold the said lever in the position shown in Fig. 2, but which



spring will yield when the said lever 65 is to be swung outward to the position shown in Fig. 3 to partly force the bobbin out of the bobbin-case for its convenient removal by the attendant.

The levers 53 and 65 are pivoted independently of each other and are relatively so arranged that the lever 53 may have a considerable outward movement on its pivot before its tailpiece engages the said lever 65, thus affording a free space in front of the bobbin-case for the removal of the bobbin before the bobbin-ejecting lever 65 is operated to force the bobbin outward.

When a bobbin is to be removed from the bobbin-case, the attendant depresses the locking lever or latch 54 to disengage its tooth 67 from the notch 66 of the lever 53, and the said lever 53 is then swung outward, as shown in Fig. 3, to operate the lever 65 to partly eject the bobbin from the bobbin-case. When a bobbin has been placed in the bobbin-case and the lever 53 is pushed inward, the latch 54 snaps back into its locking position.

The lower arm or horn of the bobbin-case holder 13 is preferably provided with a cushioning-spring 73 to lessen noise and friction as the loops of needle-thread are discharged from the heel of the bobbin-case and are passing around the inner side of said case.

The novel bobbin holding and ejecting device is not to be understood as being limited to the details of construction herein shown and described or for use in connection with the particular form of loop-seizing device herein referred to.

Having thus described our invention, we claim and desire to secure by Letters Patent—

1. A bobbin holding and ejecting device comprising the combination with a bobbin-ejecting lever, of a bobbin-holding lever movable independently of said ejecting-lever but having a tailpiece or portion to engage and move said ejecting-lever after a limited movement of said holding-lever.

2. A bobbin holding and ejecting device comprising a bobbin-ejecting lever and a bobbin-holding lever movable independently of said ejecting-lever but having a portion to engage said ejecting-lever after a certain limited movement, combined with a locking device for retaining said holding-lever in working position.

3. In a sewing-machine, the combination with a circularly-moving hook and a stationary bobbin-case supported thereby, of a bobbin holding and ejecting device comprising a yielding bobbin-ejecting lever and a bobbin-holding lever movable independently of said ejecting-lever but having a portion to engage and operate said ejecting-lever after a certain limited movement of said holding-lever, and means for retaining said levers in their normal or stationary positions.

4. In a sewing-machine, the combination with a circularly-moving hook and a stationary bobbin-case supported thereby, of a bobbin holding and ejecting device comprising a spring-pressed bobbin-ejecting lever, a bobbin-holding lever movable independently of said ejecting-lever but having a tailpiece or cam to engage and operate said ejecting-lever after a certain limited movement of said holding-lever, and a spring-pressed locking lever or latch to retain said holding-lever in working position.

5. In a sewing-machine, the combination with a circularly-moving hook, of a bobbin-case supported by said hook, a bobbin-case holder extending within the field of said hook, a spring-pressed bobbin-ejecting lever pivoted to said bobbin-case holder, a bobbin-holding lever also pivoted to said holder and having a limited movement independent of said ejecting-lever, said holding-lever having a tailpiece or portion arranged to engage and operate said ejecting-lever when said holding-lever is near the limit of its outward throw or movement, and a spring-pressed locking lever or latch to retain said holding-lever in working position.

6. In a sewing-machine, the combination with a vertically-disposed circularly-moving hook, of a vertically-placed bobbin-case supported by said hook, and a stationary two-horned bobbin-case holder extending within the field of said hook and the lower horn of which is provided with a cushioning-spring for said bobbin-case.

In testimony whereof we affix our signatures in presence of two witnesses.

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MARTIN HEMLEB.

Witnesses:

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