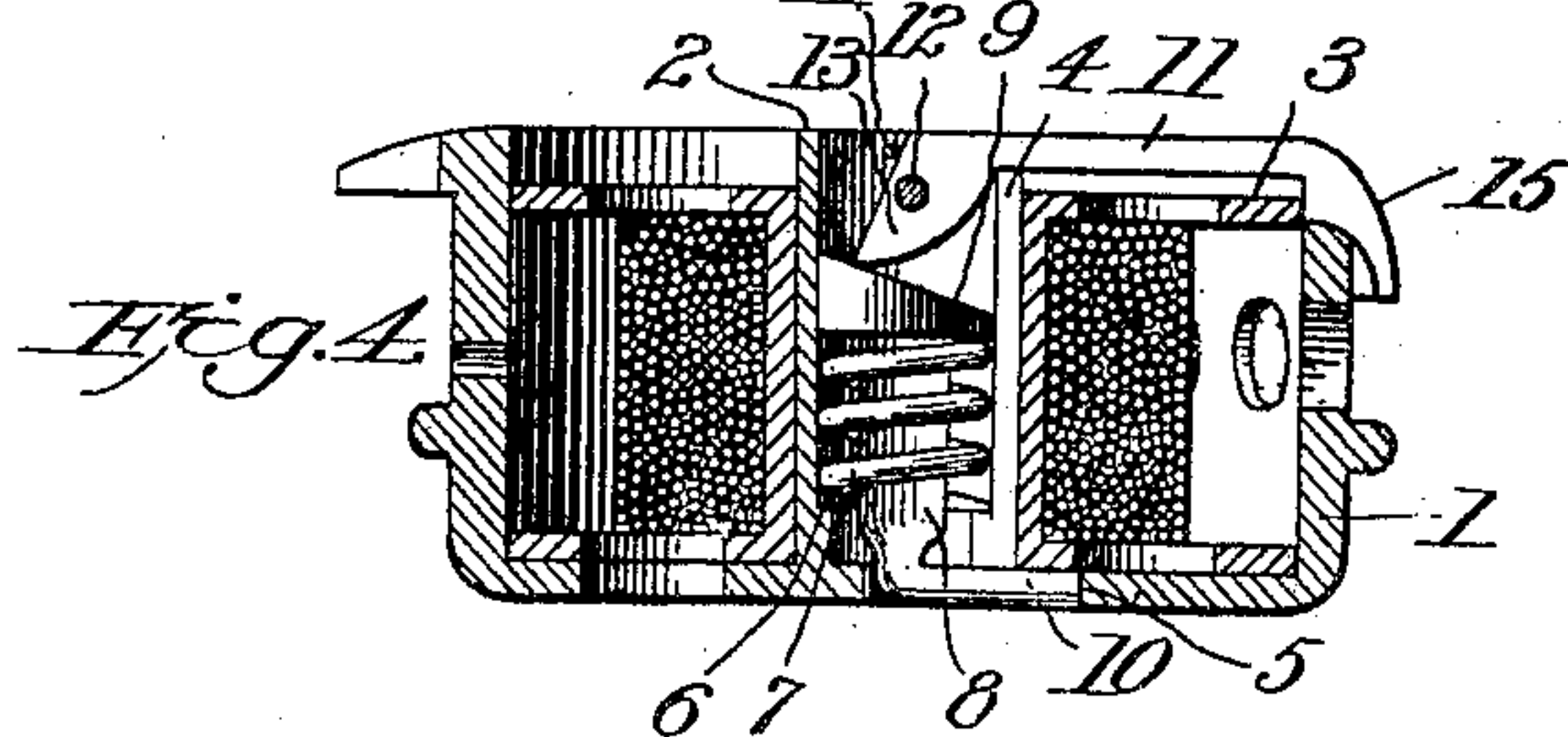
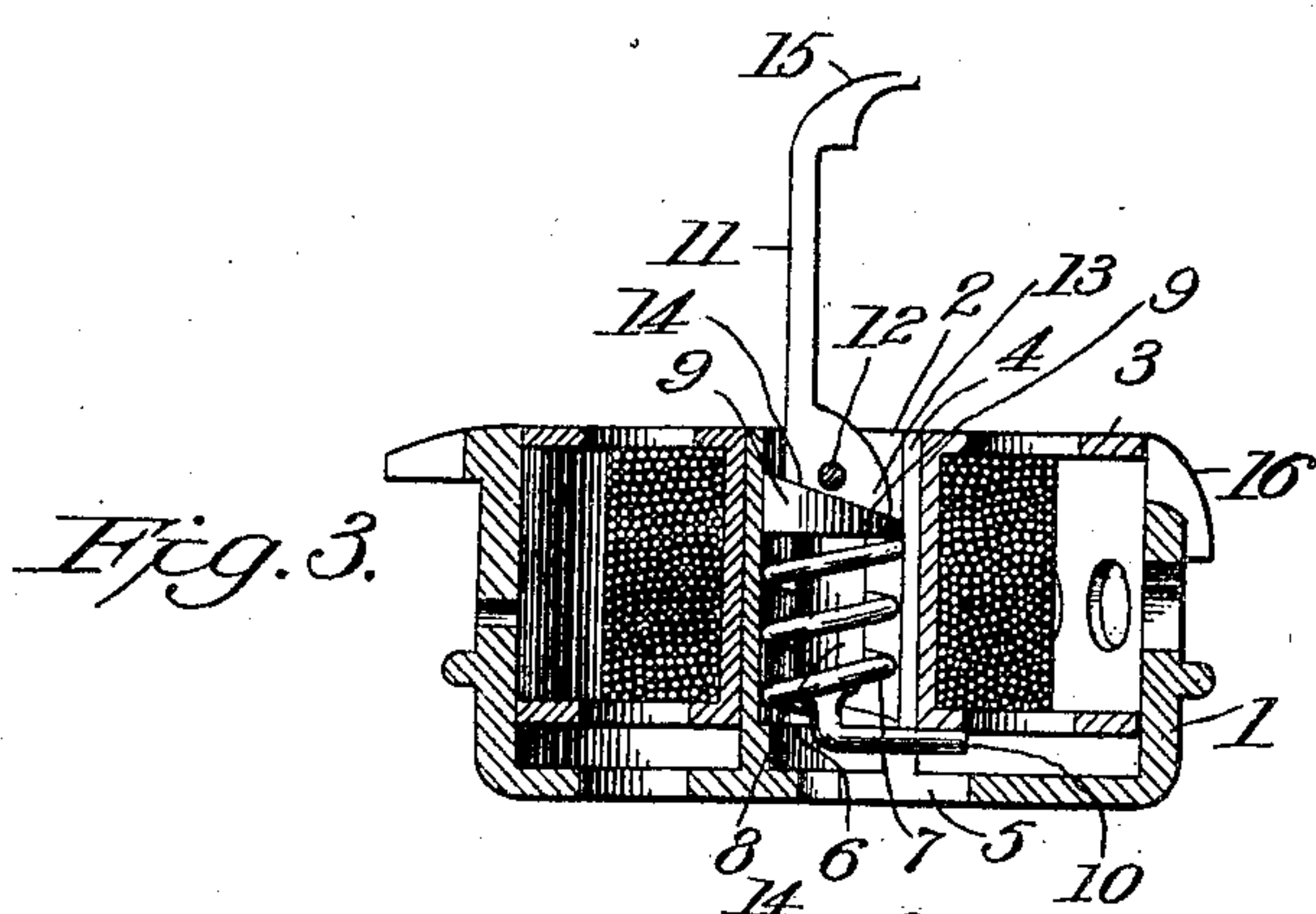
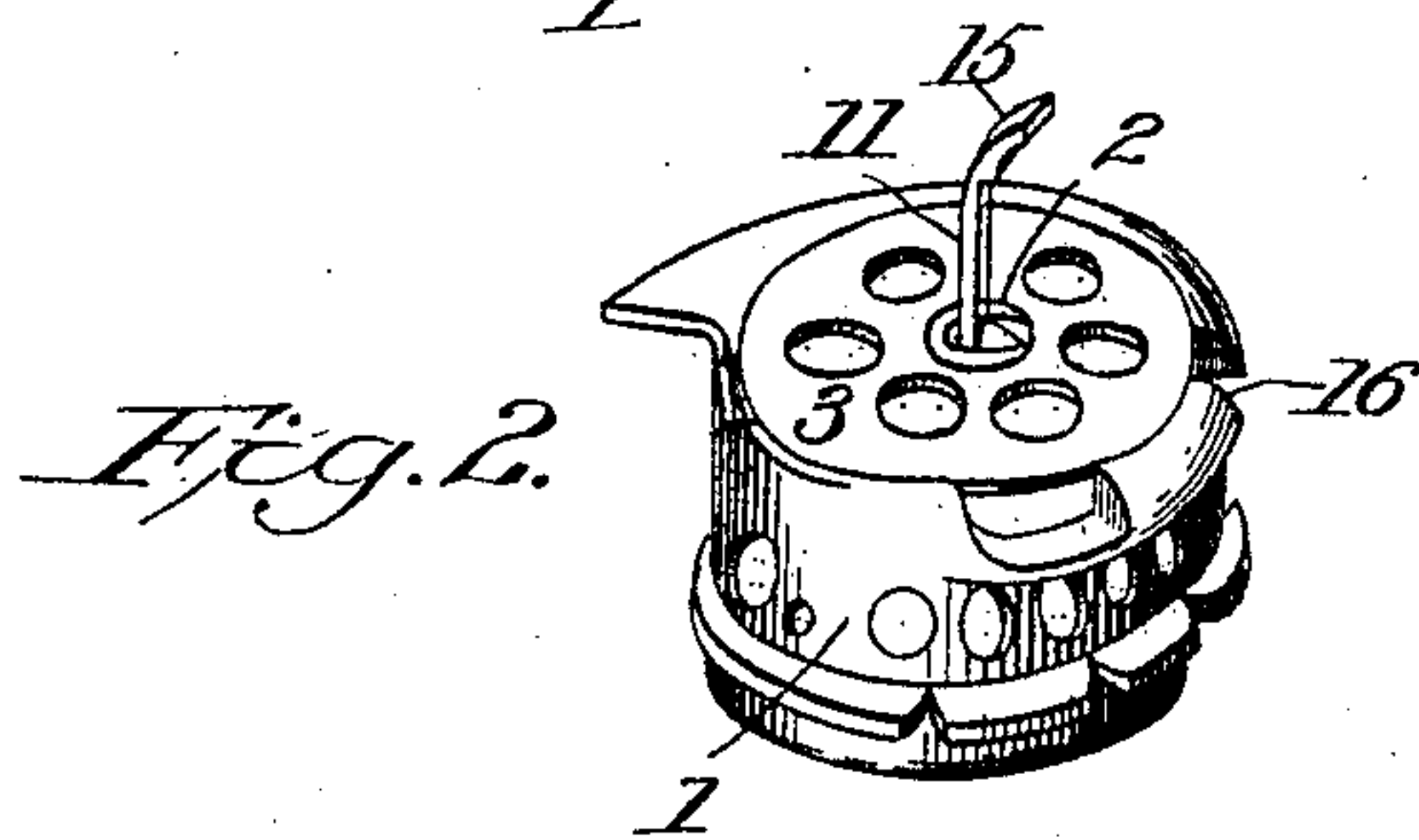
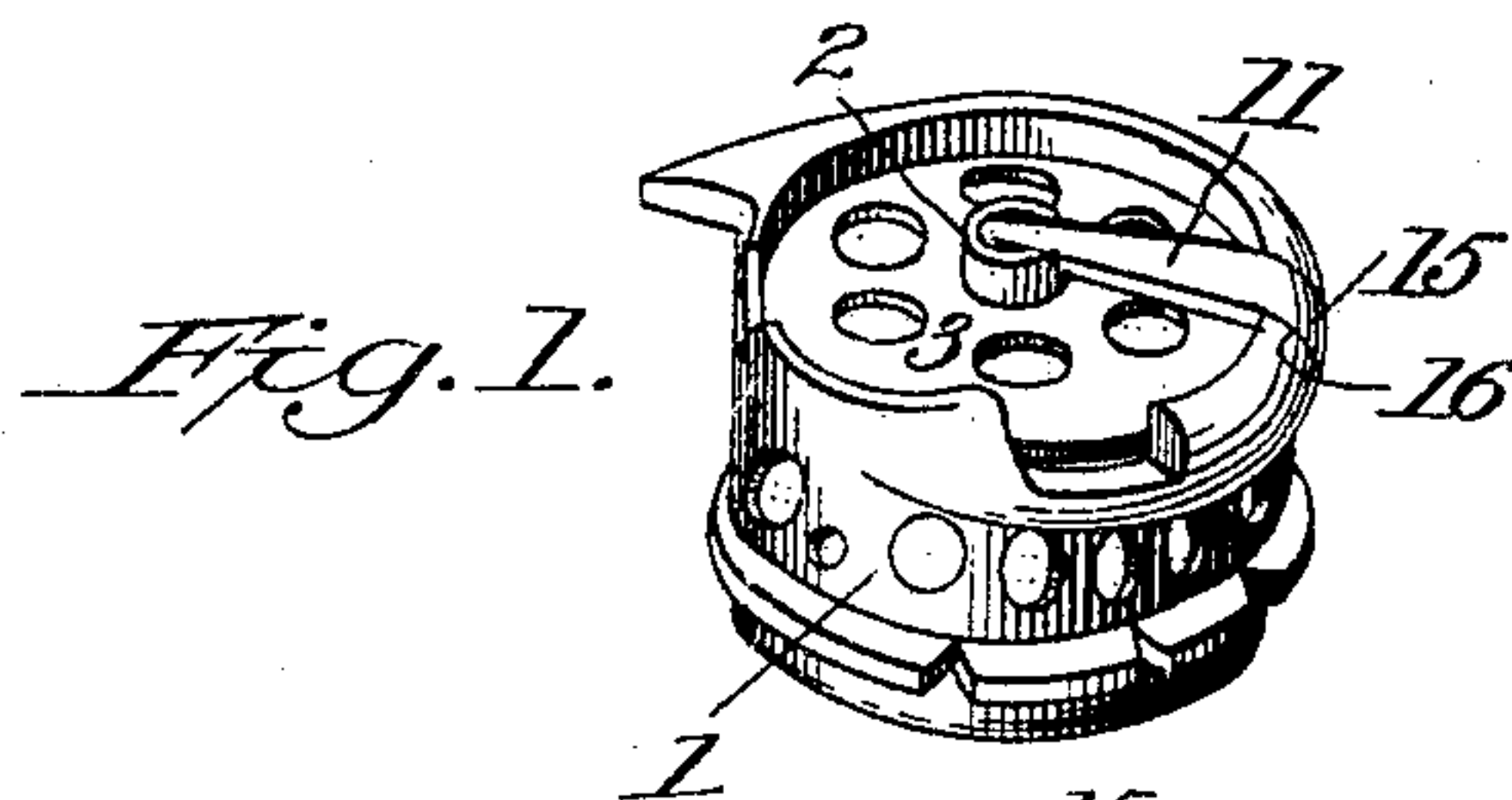


No. 832,414.

PATENTED OCT. 2, 1906.

W. I. PORTER.
SEWING MACHINE BOBBIN CASE.
APPLICATION FILED NOV. 16, 1905.



WITNESSES:

Lillie M. Perry.
Ima Staler.

INVENTOR

Washington Irving Porter

BY

W. M. Simmel
ATTORNEY

UNITED STATES PATENT OFFICE.

WASHINGTON IRVING PORTER, OF BRIDGEPORT, CONNECTICUT,
ASSIGNOR TO WHEELER & WILSON MANUFACTURING COM-
PANY, OF BRIDGEPORT, CONNECTICUT, A CORPORATION OF
CONNECTICUT.

SEWING-MACHINE BOBBIN-CASE.

No. 832,414.

Specification of Letters Patent.

Patented Oct. 2, 1906.

Application filed November 16, 1905. Serial No. 287,739.

To all whom it may concern:

Be it known that I, WASHINGTON IRVING PORTER, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented a certain new and useful Improvement in Sewing-Machine Bobbin-Cases, of which the following is a full, clear, and exact description.

10 This invention relates to means for holding the bobbin against accidental displacement in the bobbin-case and for facilitating the removal of the bobbin from the case when desired.

15 The invention consists of a bobbin-case provided with a hinged latch to hold the bobbin in the case against accidental displacement, the releasing movement of such latch rendering active a finger which moves the 20 bobbin into a position convenient for its removal.

In the accompanying drawings, illustrating the invention, in the several figures of which like parts are similarly designated, 25 Figure 1 is a perspective view of the bobbin-case with the bobbin therein and the latch closed. Fig. 2 is a similar perspective view with the latch open. Fig. 3 is a vertical section of the bobbin-case and bobbin, showing 30 the latch in elevation and in the position shown in Fig. 2. Fig. 4 is a view similar to Fig. 3 with the latch in closed position, as in Fig. 1.

35 The invention is shown as applied to the bobbin-case and bobbin used in the well-known Wheeler & Wilson vertical-hook sewing-machine; but its applicability is not thus limited.

40 The bobbin-case 1 is provided with a tubular post 2, on which the bobbin 3 is supported. This post 2 is provided with a longitudinal slot 4, and the bottom of the bobbin-case is provided with a radial slot 5, which communicates with the slot in the post. The 45 post is also provided with a shoulder 6 near its bottom, and this shoulder supports a coiled spring 7. Within this spring is arranged a plunger 8, having at its upper end a beveled or inclined head 9 of a diameter admitting of its free longitudinal movement in 50 the post and having at its lower end a finger 10, which projects laterally through the slot

in the post into a position underneath the bobbin and rests in the slot 5 in the bottom of the bobbin-case when the parts are in position for use, as shown in Fig. 4. The 55 spring 7 is an expansion-spring and normally tends to lift the plunger. The slot 4 in the post serves not only to admit of the lateral projection of the finger 10, but also by means of said finger acts as a guide for the plunger 60 in its longitudinal movements in the post.

Above the plunger-head 9 is a pivoted latch 11, turning upon a pivot-pin 12, secured transversely in the post 2. This latch 65 has a cam-like heel 13, which is in contact with the inclined surface of the head 9 of the plunger, and the bottom 14 of the heel has substantially the same angle of inclination as that of the head 9. The latch 11 is, as usual, 70 of a length sufficient to extend radially over the bobbin-case and at its free end is provided with a toe 15, which engages a notch 16 in the rim of the bobbin-case to lock the bobbin in proper position for use in the bob- 75 bin-case.

As shown in Figs. 2 and 3, when it is desired to insert or remove a bobbin the latch is turned up vertically into alinement with the post, and when so turned the inclined 80 bottom of the heel of the latch rests upon the inclined face of the head of the plunger, and by reason of the similarity of inclination of these two parts and the tension of the spring 7 the said latch is held in this vertical position, 85 so that the bobbin may be readily inserted and removed. When the latch is open, as in Figs. 2 and 3, the spring lifts the finger 10, and thereby the bobbin is lifted or ejected into a position where it is readily accessible. 90 When the bobbin has been inserted in the bobbin-case, as above described, and the latch is turned down or closed, as in Figs. 1 and 4, the heel of the latch acting upon the inclined surface of the head of the plunger 95 will depress the plunger against the tension of its spring and the finger 10 will be lowered into slot 5 and the bobbin lowered into the bottom of the bobbin-case and there retained until the latch is opened. Inasmuch 100 as the point of contact between the heel of the latch and the inclined head of the plunger is out of center, it follows that the latch when in the closed position will be locked

against accidental displacement and held in such locked position by the tension of the spring. It will be observed that the finger 10 of the plunger mechanism acts substantially as an "ejector" for the bobbin, and it is sometimes herein so referred to and also herein referred to as an "ejecting-finger."

By the construction described a very simple and efficient bobbin-latch is provided, 10 and while it is particularly adapted for use in the class of sewing-machines first above mentioned it is to be understood that the invention is not limited either in structure or arrangement to that one class.

15 What I claim is—

1. In a sewing-machine bobbin-case, a latch pivoted on the said case and provided with a cam-like portion, a plunger arranged in the said case and having a beveled head at 20 one end and an ejecting-finger at the other end, and a spring adapted to force said plunger outward and thereby lift the finger.

2. A sewing-machine bobbin-case, having a tubular post, a plunger arranged in said 25 post and having a beveled head at one end and an ejecting-finger projecting laterally therefrom at its other end, and a spring arranged within the said post and beneath the plunger-head and normally tending to lift 30 the said head and finger, and a latch pivoted in the said post above the beveled head and provided with a cam-like heel cooperating with the head, said post adapted to receive the bobbin above the laterally-projecting 35 finger.

3. A sewing-machine bobbin-case, having a tubular post provided with a longitudinal slot opening into a slot in the bottom of the bobbin-case, a spring arranged in said post, a

plunger encircled by said spring and having 40 a beveled head at one end and a finger projecting from its other end through said slot, and a latch pivoted in said post and having a cam-like heel the bottom of which is at substantially the same inclination as the bevel 45 of the plunger-head, so that the latch may be opened and held in an open position when the heel and the head are in coincidence.

4. A sewing-machine bobbin-case, having a longitudinally-slotted tubular post, and a 50 coincident slot in its bottom, the spring-plunger arranged in said post and having a beveled head and a laterally-projecting finger at opposite ends, and a latch pivoted in said post and having at its pivoted end a 55 cam-like heel which coöperates with the plunger-head to hold the bobbin in the bobbin-case and to eject said bobbin when it is open.

5. A sewing-machine bobbin-case, having 60 a tubular post adapted to receive a bobbin and containing a bobbin-ejector composed substantially of a plunger having a beveled head at one end and a finger at the other end and an ejector-spring, and a latch pivoted in 65 the post above the plunger-head and provided with a cam-like heel coöperating with said plunger-head in the opening and closing of the latch respectively to release and confine the bobbin. 70

In testimony whereof I have hereunto set my hand this 15th day of November, A. D. 1905.

WASHINGTON IRVING PORTER.

Witnesses:

E. L. TOLLES,
F. W. OSTROM.