

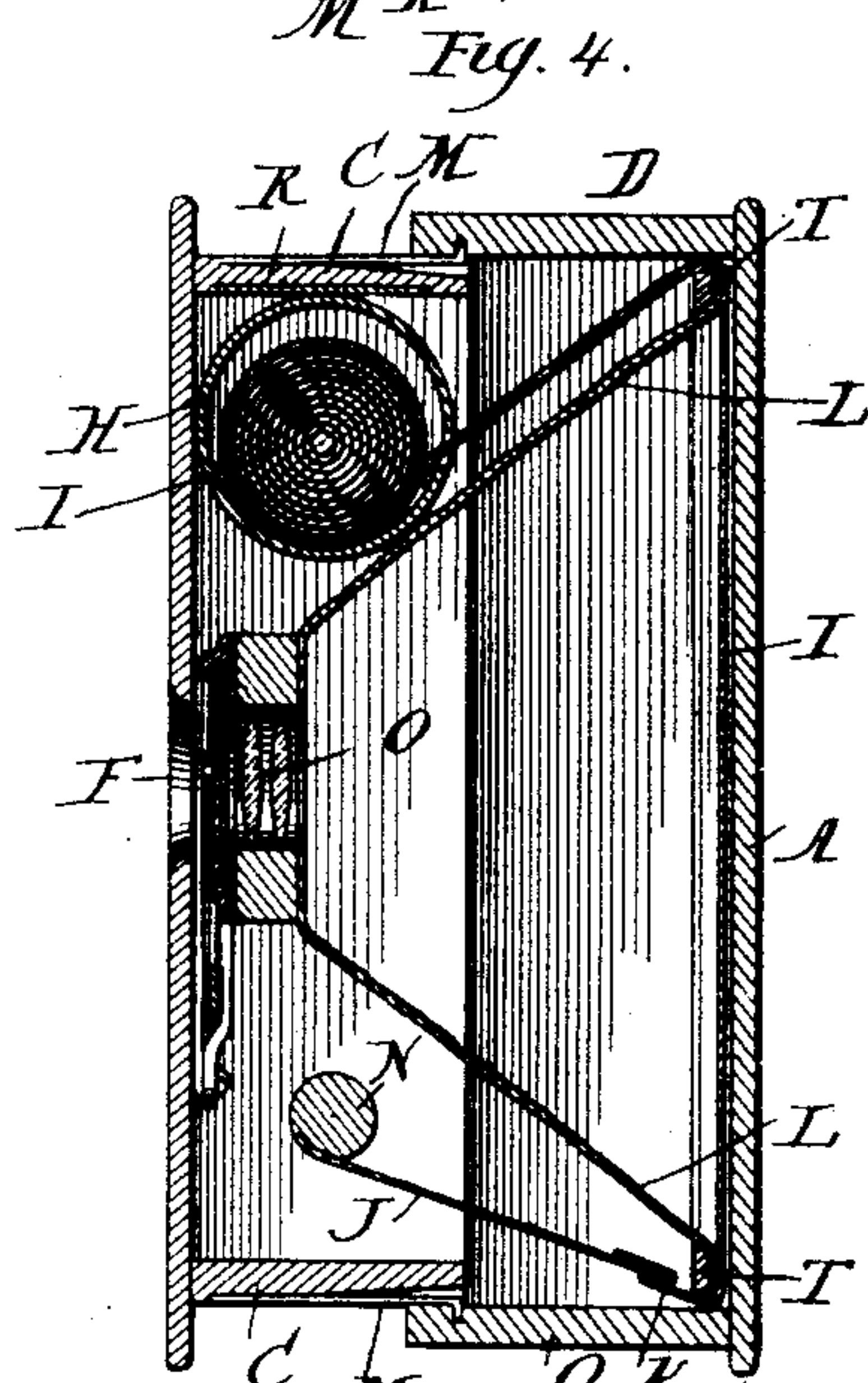
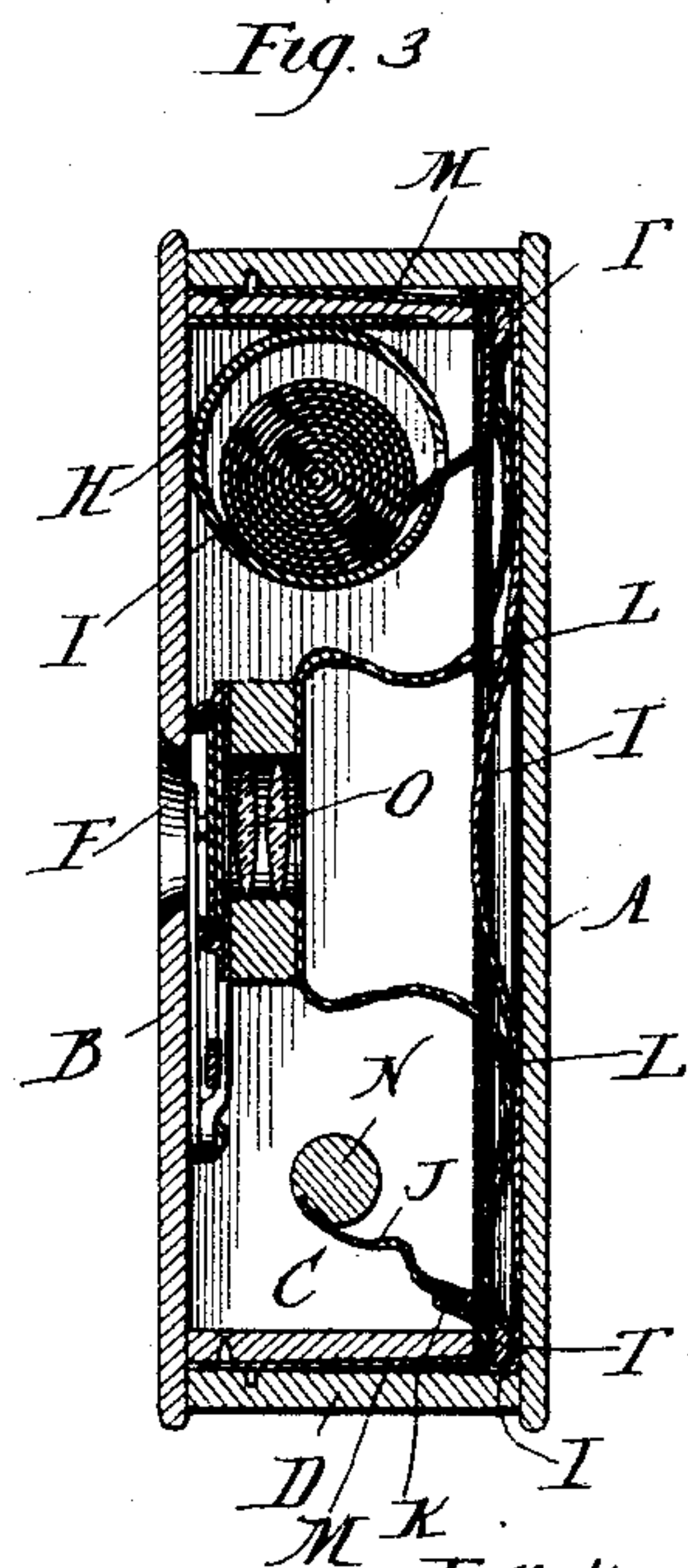
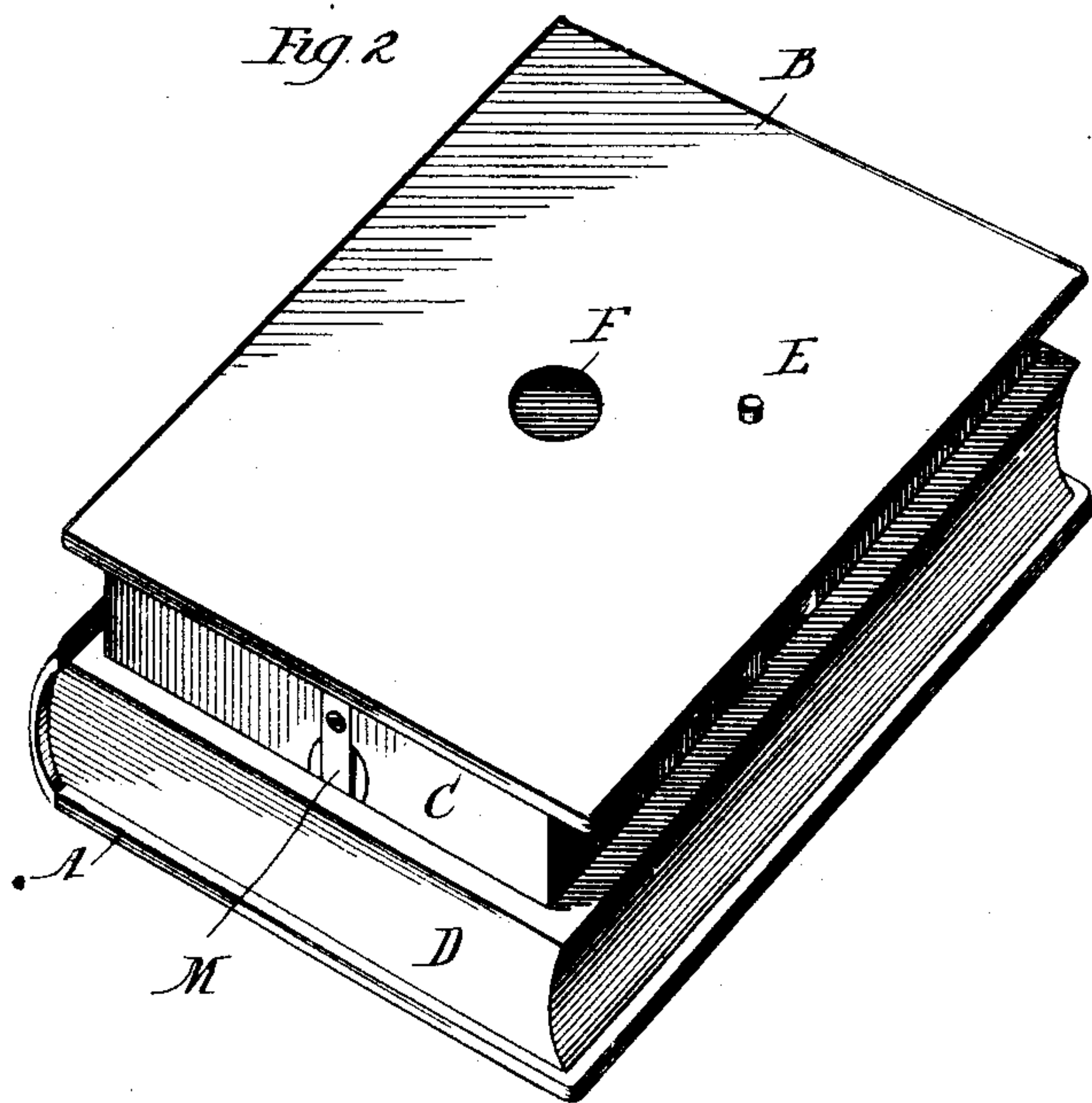
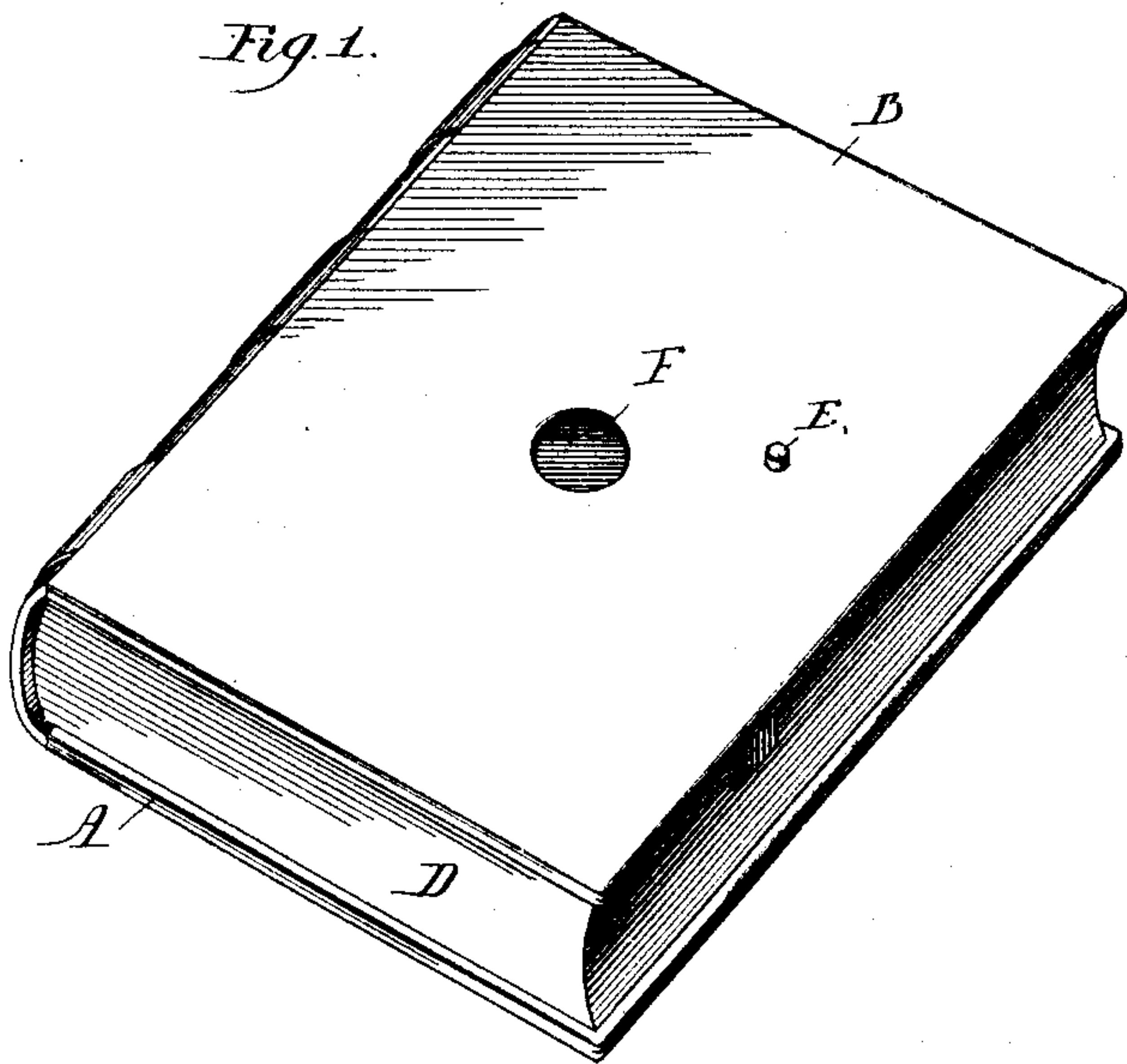
(No Model.)

2 Sheets—Sheet 1.

C. WHITNEY.
PHOTOGRAPHIC CAMERA.

No. 446,372.

Patented Feb. 10, 1891.



Witnesses
Fred Serlach.
Lute Alter

Inventor:
Charles Whitney.

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Fig. 5.

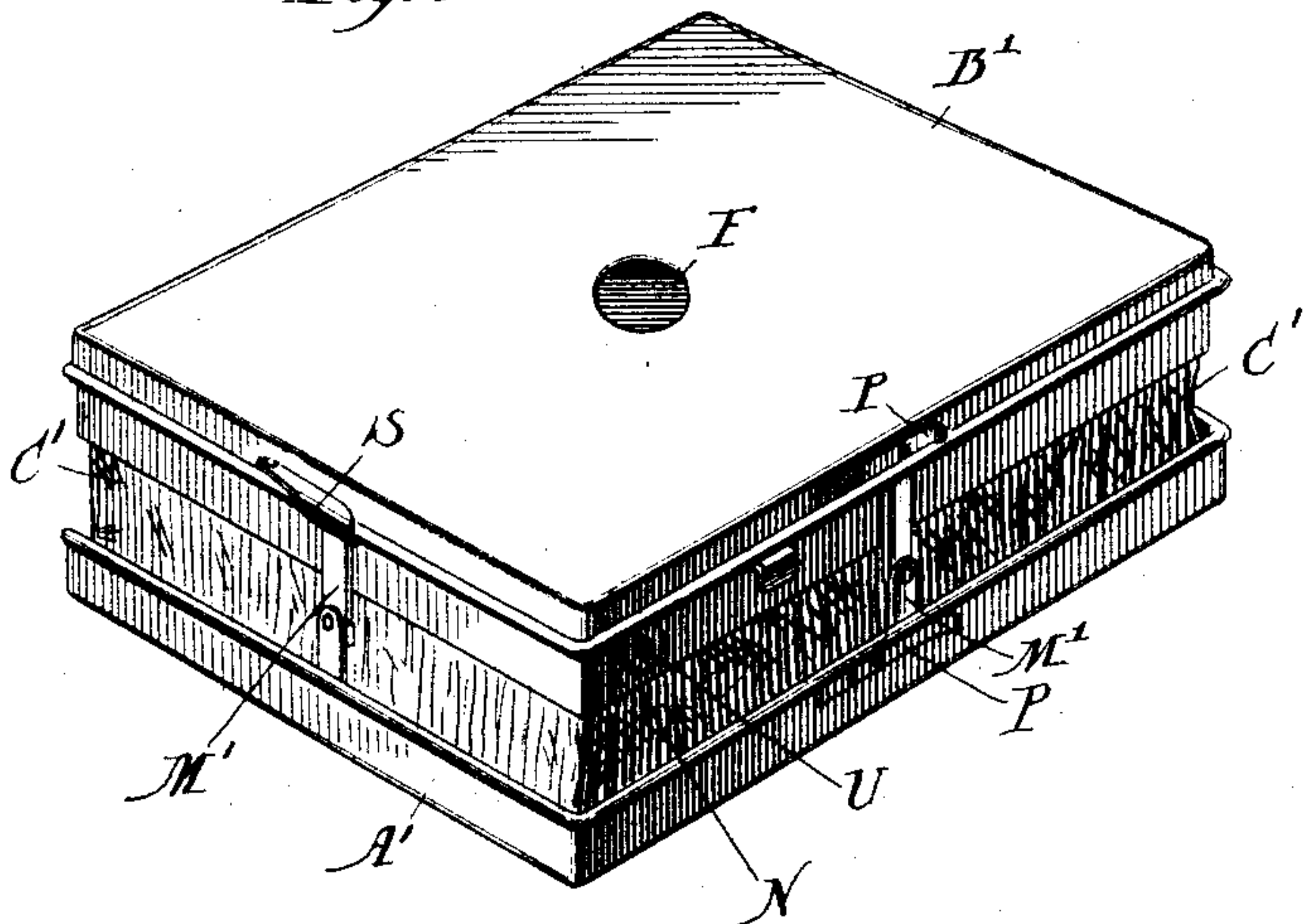


Fig. 6.

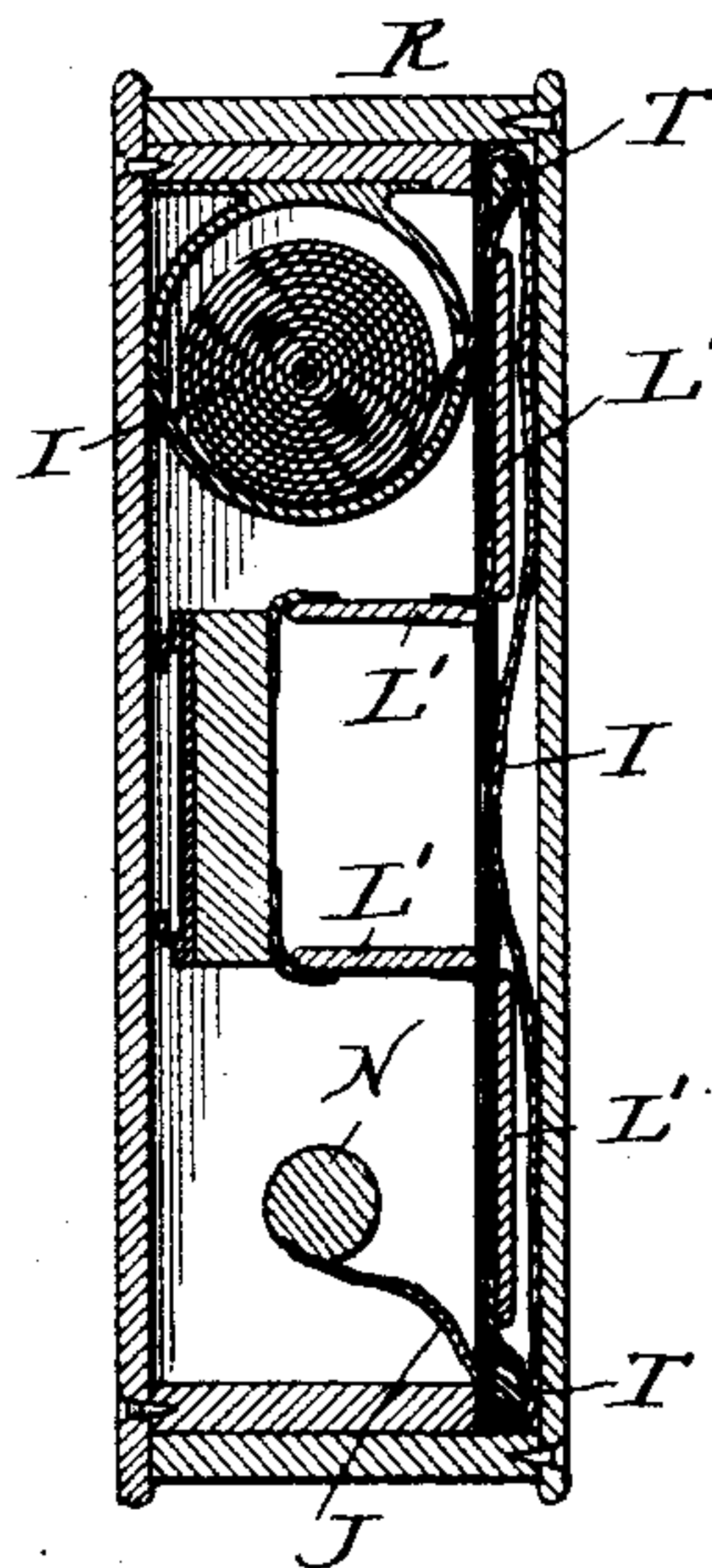


Fig. 7.

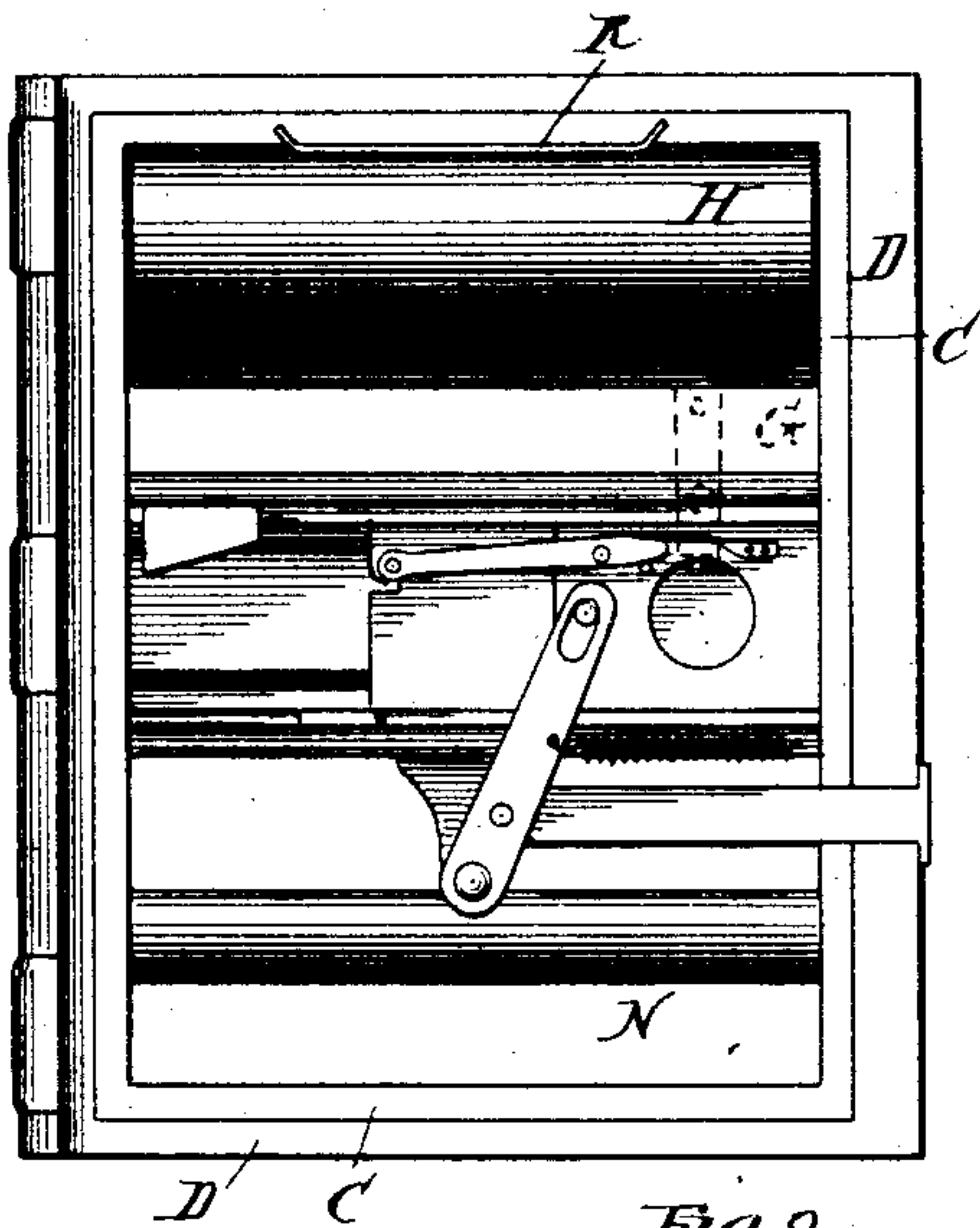


Fig. 8.

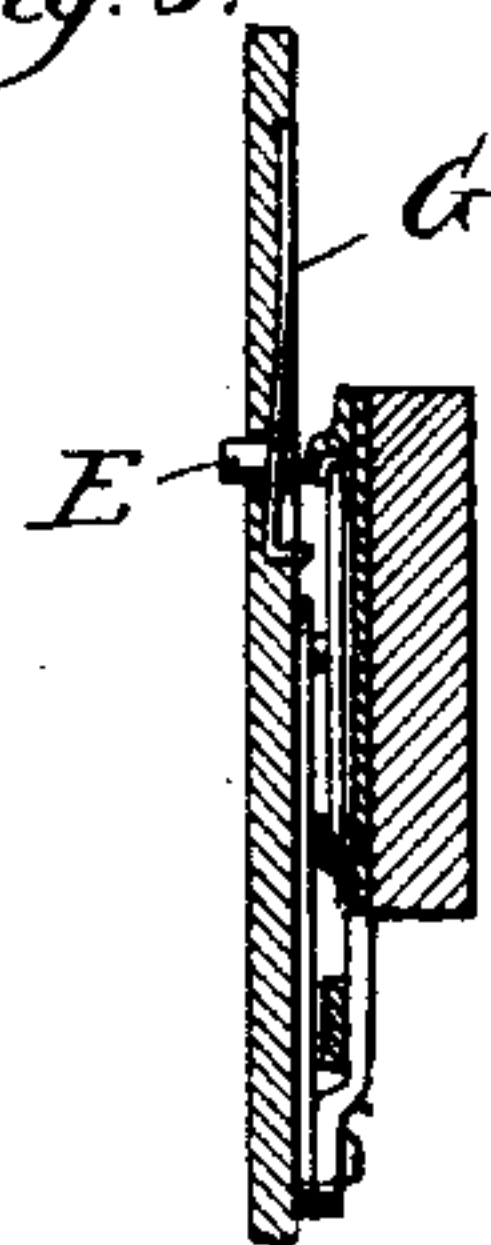
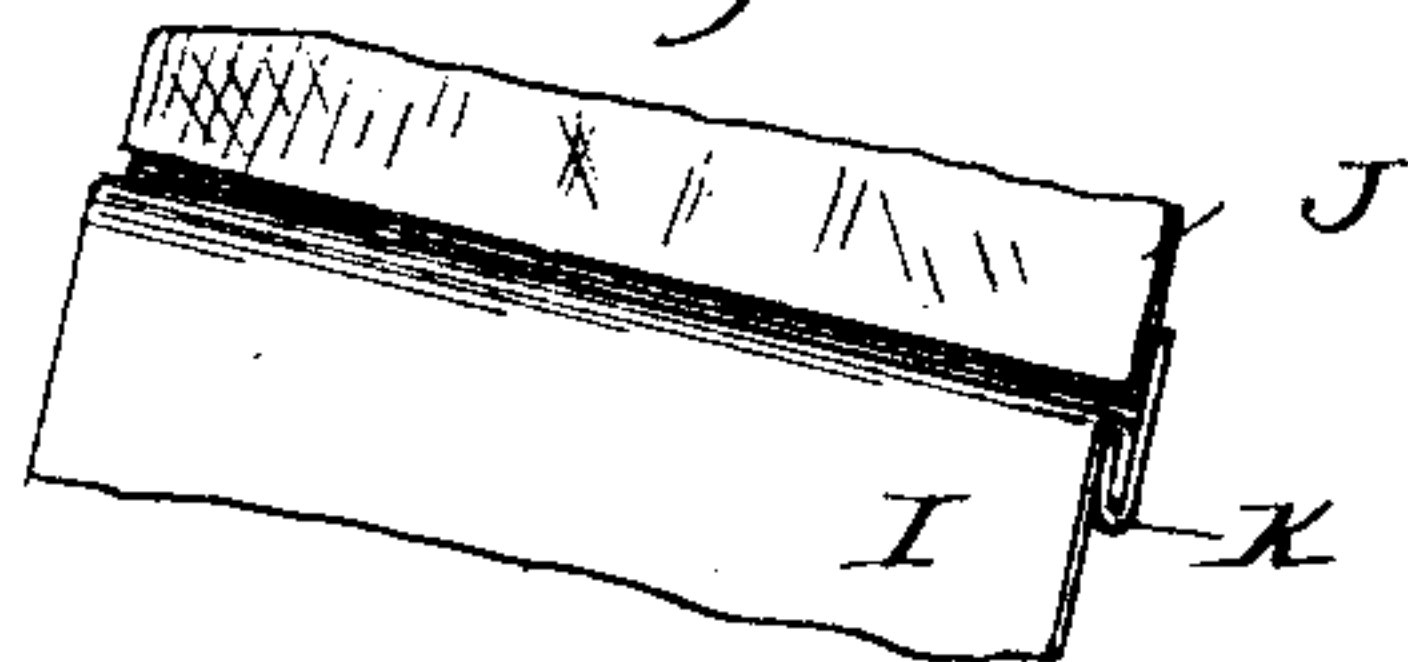


Fig. 9.



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UNITED STATES PATENT OFFICE.

CHARLES WHITNEY, OF CHICAGO, ILLINOIS.

PHOTOGRAPHIC CAMERA.

SPECIFICATION forming part of Letters Patent No. 446,372, dated February 10, 1891.

Application filed February 3, 1890. Serial No. 339,090. (No model.) Patented in Italy April 29, 1890, No. 27,256/333; in Canada July 2, 1890, No. 34,607, and in France July 17, 1890, No. 204,797.

To all whom it may concern:

Be it known that I, CHARLES WHITNEY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Photographic Cameras, of which the following is a specification.

I have procured Letters Patent in the following-named foreign countries under the dates given upon this invention, to wit: in France, No. 204,797, dated July 17, 1890; in Italy, No. 27,256/333, dated April 29, 1890, and in Canada, No. 34,607, dated July 2, 1890.

My invention relates to improvements in photographic cameras, in which a series of negative-plates in ribbon form are used; and the objects of my improvements are, first, to provide means for closing or compacting a camera-box that it may occupy the least possible space; second, to provide a simple and convenient stop for time exposures; third, to provide means for connecting or attaching the end of the negative-ribbon to the winding-post, and also in the general construction and style of the camera-box. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of camera-box closed. Fig. 2 is a perspective view of camera-box opened. Fig. 3 is a cross-section of Fig. 1. Fig. 4 is a cross-section of Fig. 2. Fig. 5 is a modification of Fig. 1. Fig. 6 is a modification of Fig. 3. Fig. 7 is a plan view with cover removed. Fig. 8 is a detail of shutter showing time-stop. Fig. 9 is a detail showing manner of attaching the end of the negative-ribbon.

Similar letters refer to similar parts throughout the several views, in which—

A and B are cover-boards, and C and D are the telescopic frame.

E is the time-stop button.

F is the lens-aperture.

G is the spring time-stop.

H is a slotted tube containing the coil of negative-ribbon I.

K is fastener holding the end of negative-ribbon to the connecting-strap.

J is a connecting-strap.

L is a flexible V-frame.

M M are the spring-stops to the telescopic frame.

N is the winding-post.

O is the lens.

I is the ribbon in fastener K.

R is the tube-support.

C' is a flexible frame.

M' is knuckle-joint hinges.

A' and B' are top and bottom covers.

P P are catches to top and bottom covers.

S is a clasp.

T is the supports for the V-shaped frame.

In shape my camera may represent a book when closed, as in Fig. 1, or a porte-monnaie, as shown in Fig. 5, or it may be a plain box of any suitable material.

In Fig. 2 my camera-box is represented open ready for an exposure. It will be seen that by pulling out the top B until the spring-catches M stop the movement by dropping into notches provided for them the opening of the camera is very easy and simple.

As shown in Fig. 3 the box is closed, and in Fig. 4 it is drawn out.

In operation the top and bottom covers may be removed, as they are fastened either by screws or spring-catches. (Not shown.) After the covers have been removed then place the slotted tube H (containing the negative-ribbon) into place, as seen in Fig. 7. The loose or outer end of the ribbon projecting through the slot of tube H is passed around posts T T of the V-shaped frame and connected at K. This is done by sliding the end of the negative-ribbon into the slot of the metal hook K and doubling it down, as shown at I in Fig. 9. Next I replace the covers A and B and draw out the telescopic slide to its full extent, which operation draws the negative-ribbon straight. The convex side of the negative-ribbon being next to the cover A, and the other side of that portion of the ribbon which is in place for exposure being held close to the cover A by the posts T T, which constitute the end of the V-shaped frame, in this manner the ribbon is held secure against buckling. (In a previous application I have shown a shutter which may be used with this style of camera, and the same is partially shown in Fig. 7 of this application.) My

camera being now adjusted for an exposure, I point the lens toward the object which I wish to photograph and operate the shutter when the exposure is made. Should it become necessary to make a time exposure, I have in this camera provided a spring-stop G, as shown in Fig. 8. By pressing upon the button E the shutter-slide is arrested in its movement at the time the hole in the slide is opposite the lens. Thus any desired time may be given for an exposure, and when the pressure is released on button E the shutter-slide is permitted to cover the lens. After an exposure has been made the exposed part of the negative-ribbon is wound up by turning the post N, which is done by inserting a key in the square hole of post N. (Shown in Fig. 5 at letter U.) While an exposed negative is being wound up enough negative-ribbon for another exposure is being drawn from the tube H for another exposure, and the position may be determined by a colored-glass peephole, as shown in one of my previous applications.

To permit my camera to be closed to the smallest capacity possible, the same principles are used as shown in my previous application, viz: a V-shaped light-tight frame inside the camera-box, so that the tube of negative-ribbon and the winding-post may be placed close to and on each side of the lens. In my previous applications I have shown a rigid V-shaped frame; but for the purpose of economizing space I make a flexible V or funnel shaped frame, as shown in Figs. 3, 4, and 6. Any flexible light-tight material may be used, or hinged rigid pieces may be used, as shown in Fig. 6 at L' L' L' L', and to make the V-shaped frame secure from light I cover the top and bottom with cloth of any suitable light-tight quality. For this purpose I use rubber cloth.

In the use of the various kinds of negatives in ribbon form there is more or less waste necessary in taking negatives out for development and attaching the end of the ribbon to the winding post or spool. In my invention I obviate nearly all of this waste by attaching to the winding-post a thin flexible strap or cloth, to the loose end of which I attach a thin metal hook-shaped fastener, as shown in Figs. 4 and 9.

In Fig. 5 I have shown a flexible connection or outside frame (marked C') and knuckle-joint hinges m' m' to hold the covers A' and B' extended for exposure when drawn out.

In this I obtain more compactness when the case is closed.

In Fig. 5 the covers A' and B' are hinged at the back side of the box, as shown in the drawings, and held by spring-catches P P at the front side, and when the case is closed it is held together by clasps.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A photographic-camera box of book form constructed with telescopic joints and a flexible V-shaped compartment, through which the exposure is made, substantially as described.

2. A photographic-camera box composed of the covers A and B, the telescopic frame C and D, and the spring-stop M, substantially as described.

3. A photographic camera in a box or book form constructed with covers A and B and telescopic frame C and D with the inner light-tight compartment, substantially as described.

4. In a photographic camera, the telescopic box, the flexible funnel-shaped light-tight compartment, and the separate compartments each side the lens for storing the negative-ribbon, substantially as described.

5. In a camera, a flexible V or funnel shaped compartment with a lens at the apex and the negative-ribbon across the base, with the storage-compartments each side of the apex of said frame, and the cover A, holding the negative-ribbon straight, substantially as described.

6. A photographic camera constructed in book form when closed, provided with a telescopic frame with attachable and detachable covers, and means for holding the frame in place when drawn out, substantially as described.

7. In a photographic camera, the slotted tube H, the flexible frame L, the negative-ribbon I, and the winding-post N, substantially as described.

8. In a photographic camera using the negatives in ribbon form, the connecting link or strap J, the post N, and the means for attaching the end of the ribbon to the strap, comprising a hook-shaped fastener K, having a single lap, whereby when the connection is made the fastening is a plain lap-seam joint, substantially as described.

CHARLES WHITNEY.

Witnesses:

L. VASSALL,
A. L. COATES.