

No. 662,347.

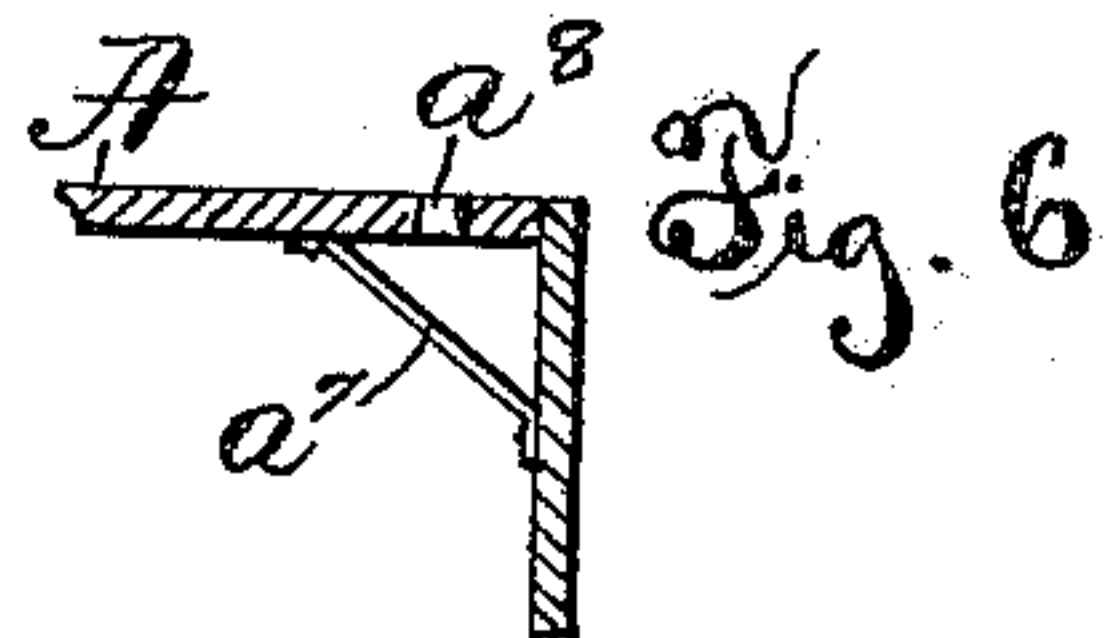
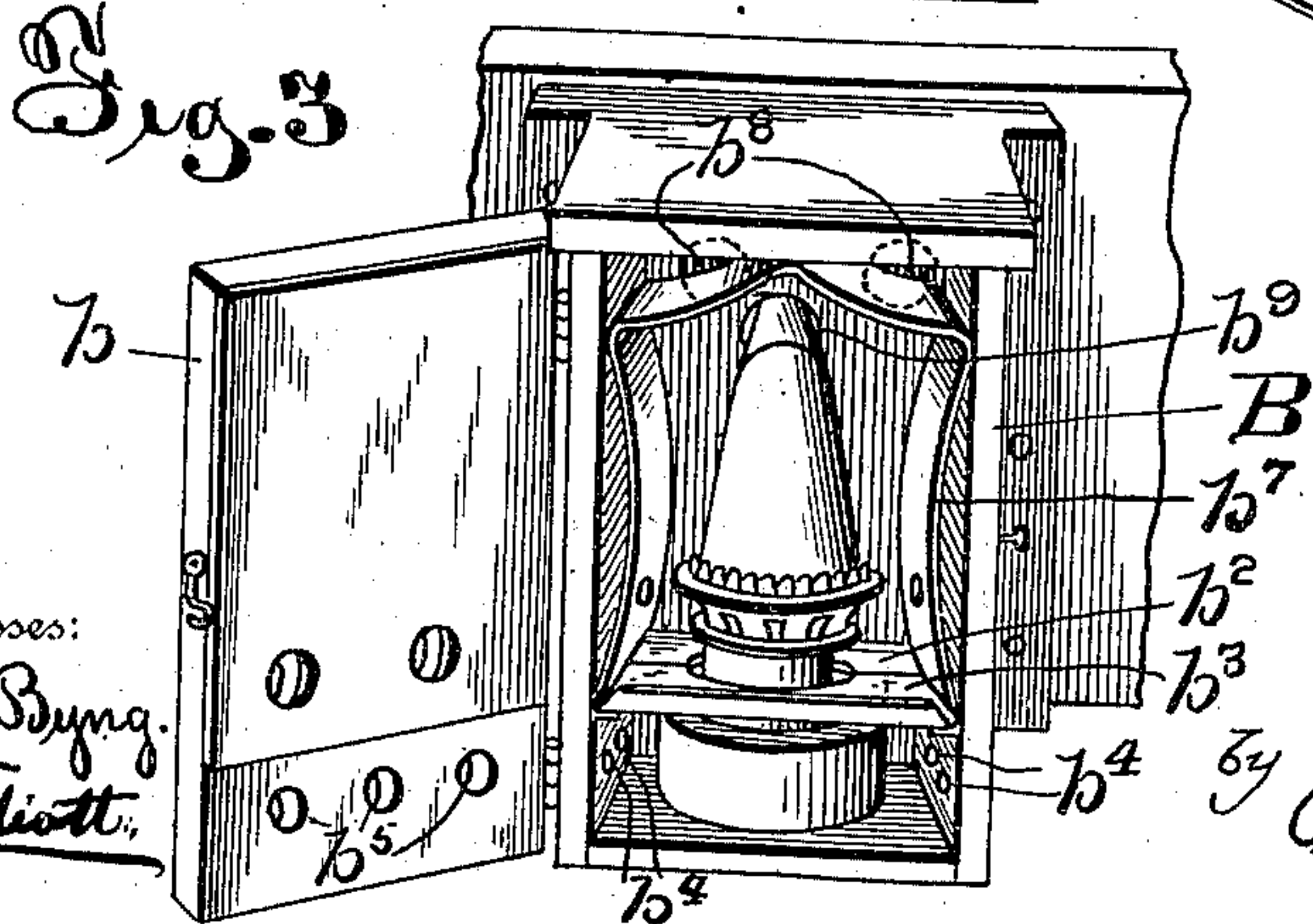
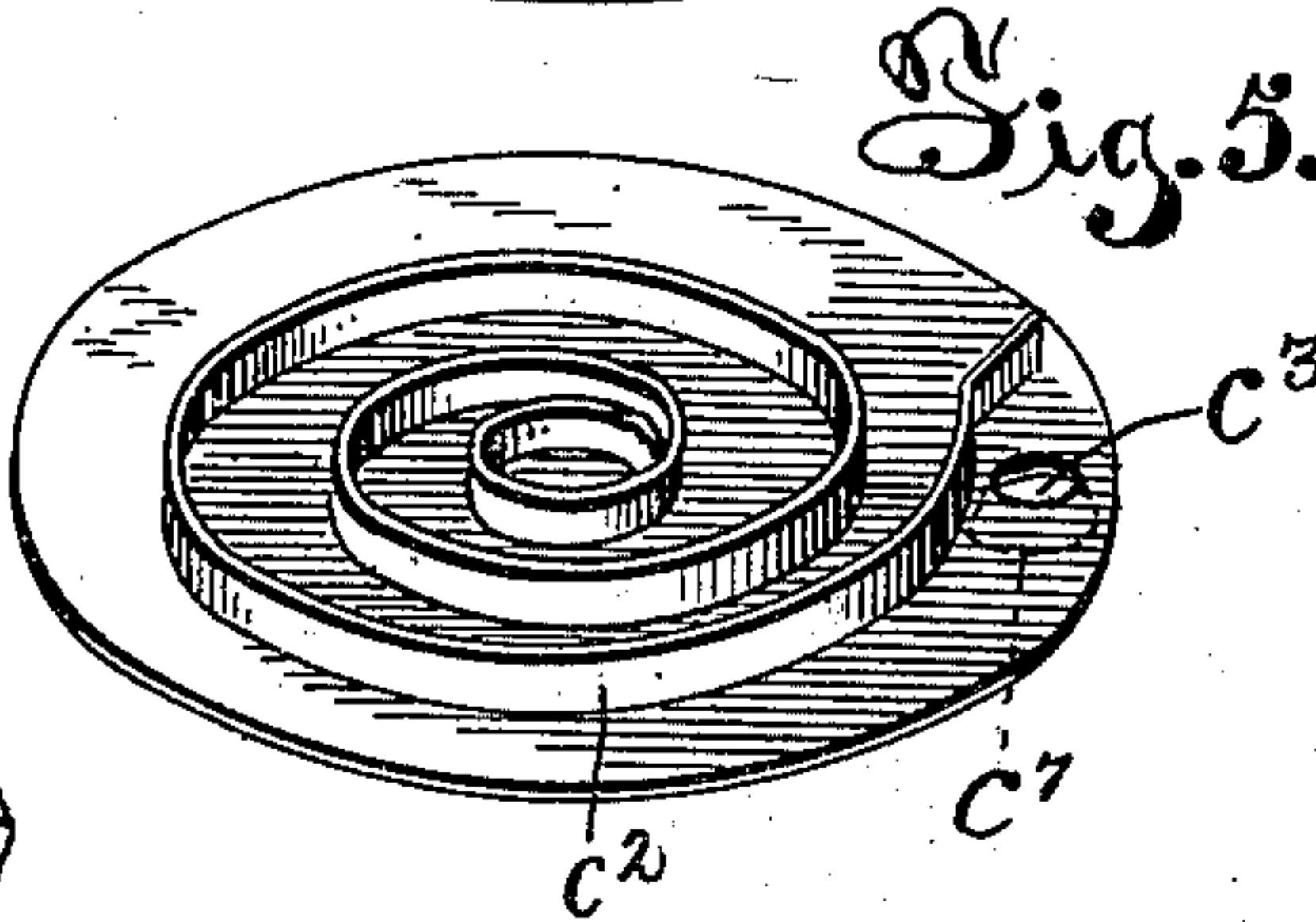
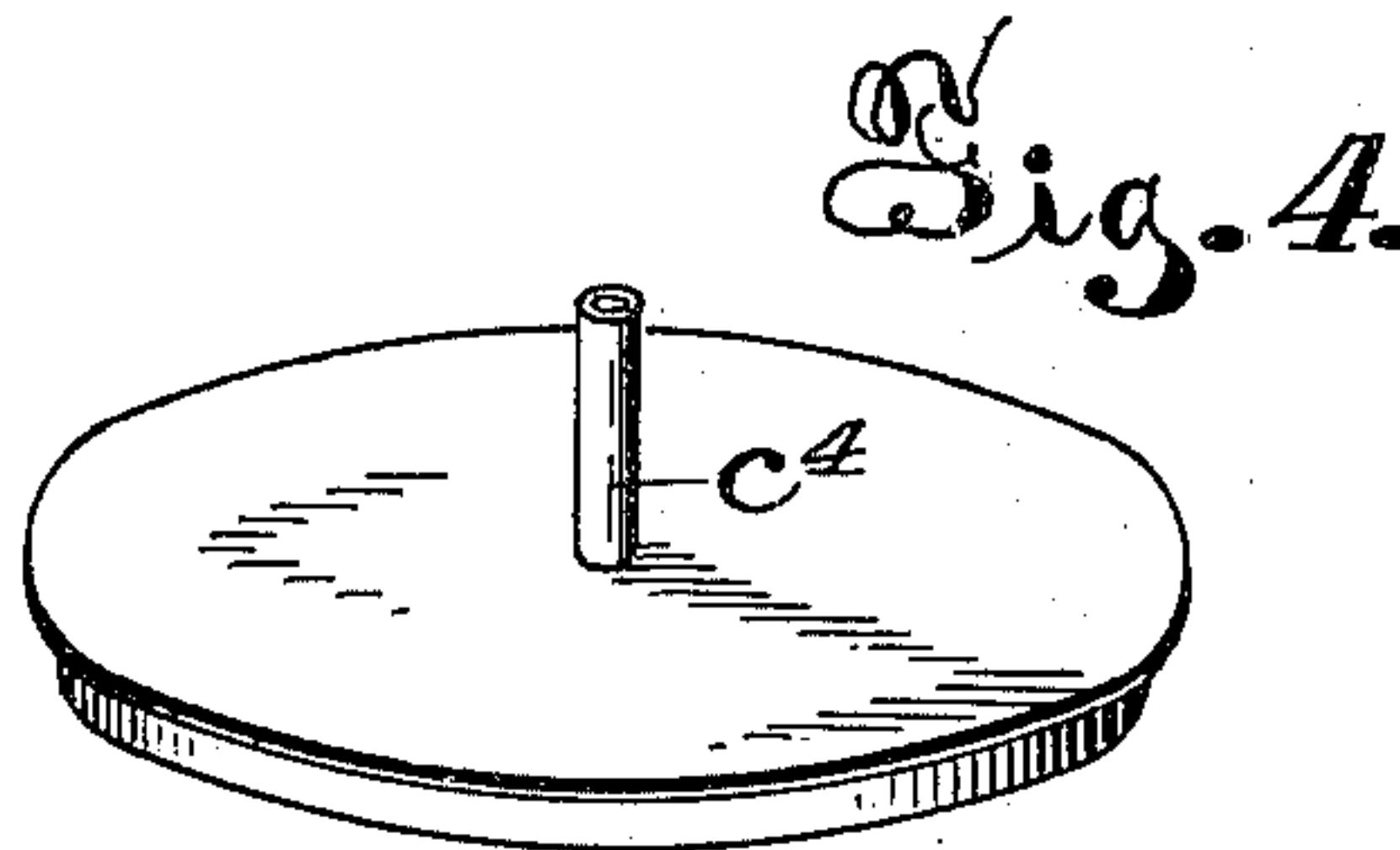
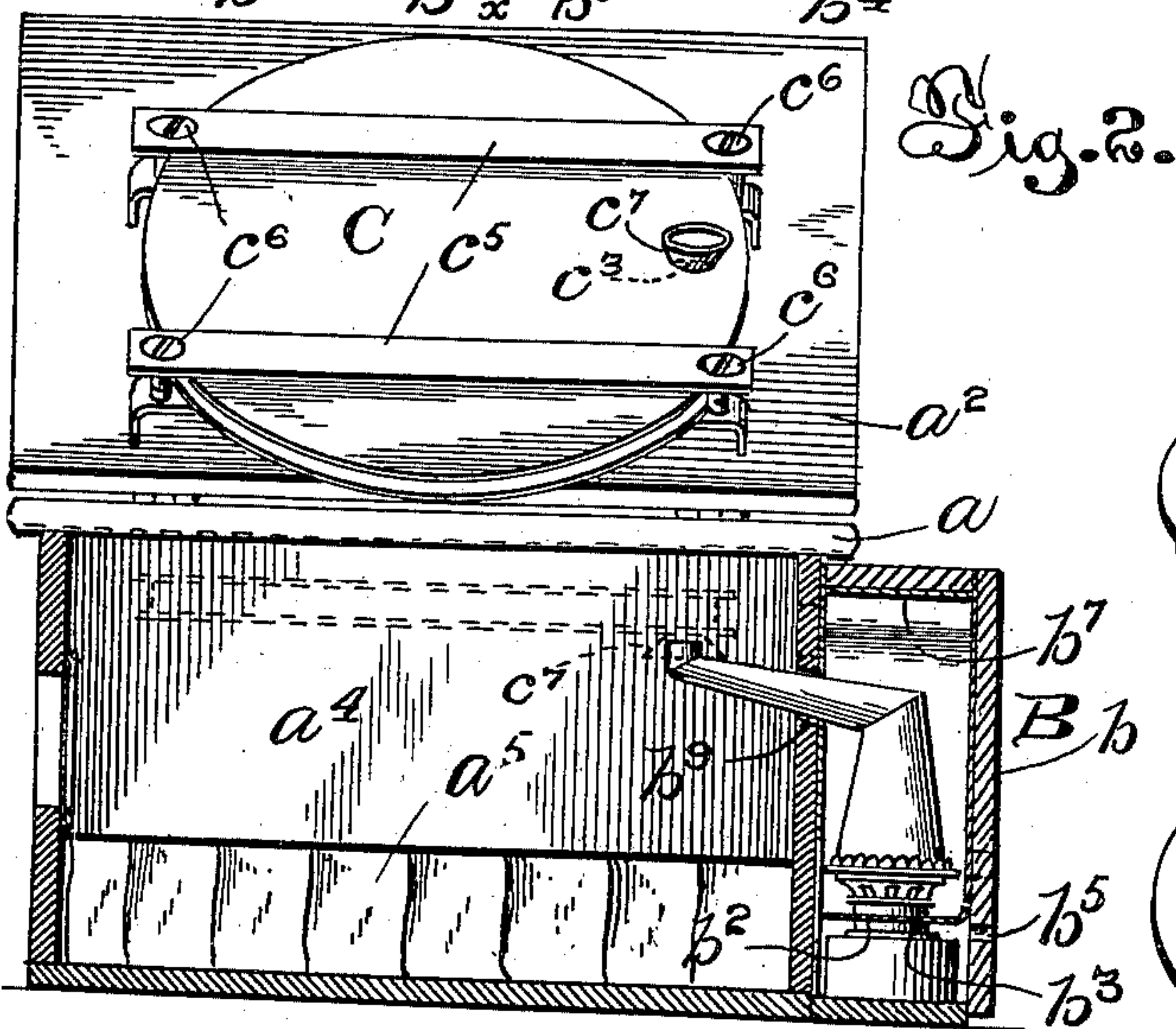
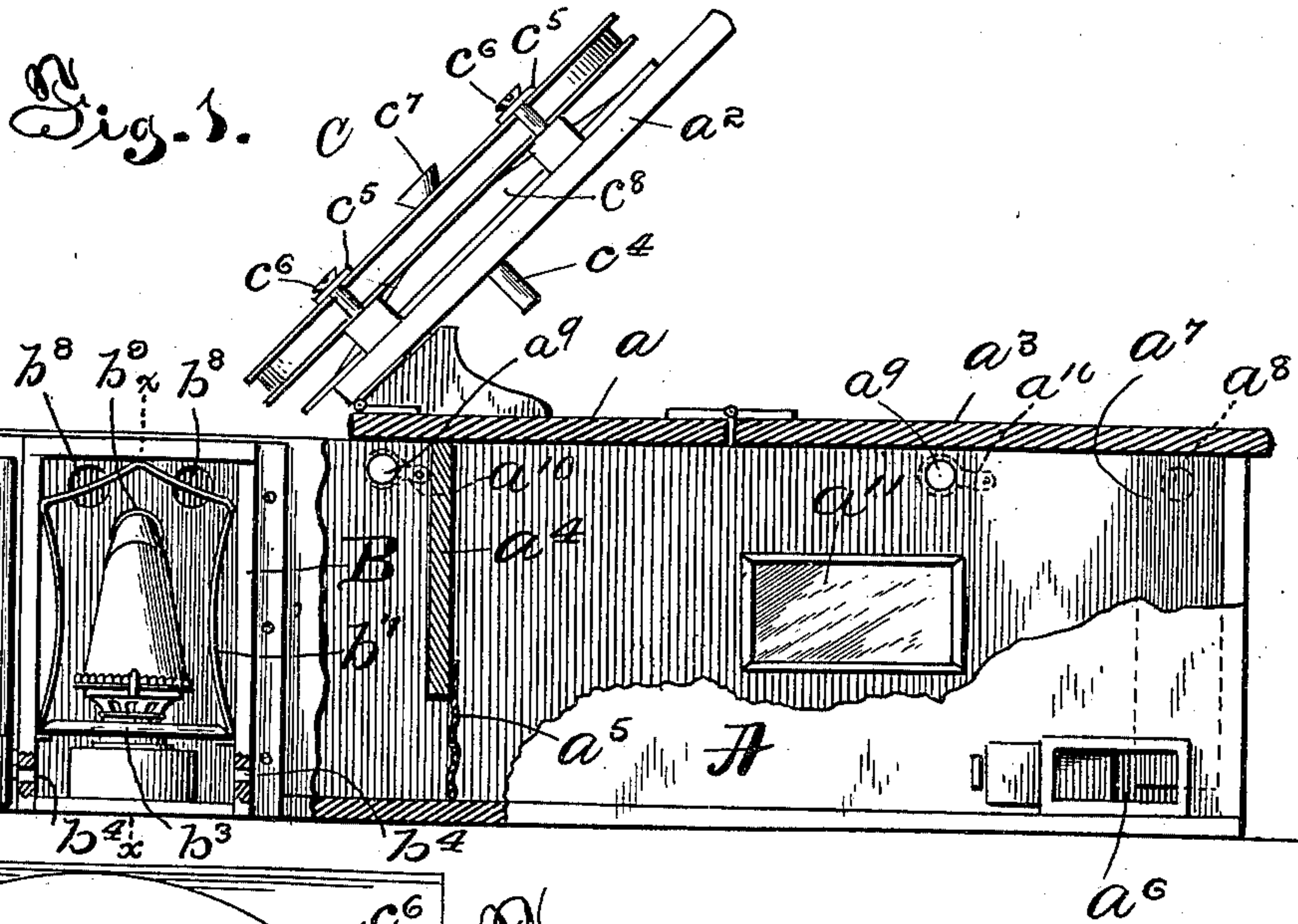
Patented Nov. 20, 1900.

L. BROWN & H. W. STURTEVANT.

CHICKEN BROODER.

(Application filed Mar. 6, 1900.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

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## CHICKEN-BROODER.

SPECIFICATION forming part of Letters Patent No. 662,347, dated November 20, 1900.

Application filed March 6, 1900. Serial No. 7,530. (No model.)

*To all whom it may concern:*

Be it known that we, LYMAN BROWN and HERBERT W. STURTEVANT, citizens of the United States, residing at Middleborough, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Chicken-Brooders; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

One object is to present a brooder which shall combine great simplicity of construction with high efficiency and durability in use and which may be operated with certainty of best results by any person of ordinary ability.

A further object is to present a brooder in which with the expenditure of a minimum amount of fuel the greatest and most constant heat may be obtained; furthermore, to present a brooder in which the incoming current of air used to support combustion shall be utilized as an additional heating means for the brooder.

With these objects in view the invention consists in the novel construction and combination of parts of a brooder, as will be hereinafter fully described and claimed.

In the accompanying drawings, forming a part of the specification, and in which like letters of reference indicate corresponding parts, we have illustrated a form of embodiment of our invention, it being understood that other forms of embodiment thereof may be employed without departing from the spirit of the same.

In the drawings, Figure 1 is a view in side elevation, partly in section, taken from the rear side of the device, a part of the casing being broken away to show certain interior mechanism and the lid of the brooder being raised to display the heat-radiator or drum used for heating the brooder. Fig. 2 is a detail perspective view of the heat-generating chamber and its attendant mechanism. Fig. 3 is a perspective detail view exhibiting the interior arrangement of the heat-radiator. Figs. 4 and 5 are perspective detail views of the different parts of the heat-radiator. Fig. 6 is a frag-

mentary detail view in plan, showing the ventilating shaft exhibited in Fig. 1.

To render easy an understanding of the device, the same may be described under three heads, the first relating to the brooder, with which is combined a hoverer, the second to the heat-generating chamber, and the third to the heat-radiator for heating the brooder.

The brooder comprises a casing A, which may be made of any suitable material and of any dimensions and covered by a three-part lid, whereof the center section  $a^1$  is preferably fixed and the two end sections  $a^2$  and  $a^3$  are hinged, so that they may be turned back when admission to the interior of the brooder is desired.

Arranged about midway of the length of the casing is a partition  $a^4$ , from which depends a curtain  $a^5$  of any suitable flexible material, which serves to divide the casing into two compartments, that under the lid  $a^2$  constituting a hoverer or brooding-room and that under the lid  $a^3$  the feeding and exercising room.

In one corner of the feeding and exercising room is an opening  $a^6$ , communicating with the external air, a plate  $a^7$ , constituting a ventilating-shaft, being secured to a side and end of the casing and inclosing the opening  $a^6$ , serving to conduct air from the floor of the feeding and exercising room upward there through and out of the opening  $a^8$ . The casing is also provided with suitable vents  $a^9$  to be closed by pivoted covers  $a^{10}$ , (indicated by dotted lines in Fig. 1,) these vents to supply air to the interior of the two chambers, and with windows  $a^{11}$ , one only being shown, to render the chambers light. By the arrangement described the requisite light and ventilation will be afforded.

Secured either to a side or an end of the casing, preferably to a side thereof, and adjacent to the hoverer or brooder is the heat-generating chamber B, the same being of any desired dimensions and provided with a door  $b$ , by which entrance to the chamber may be had. At a point near the bottom of this chamber is arranged a two-part partition, comprising a stationary portion  $b^1$  and a mov-



able portion  $b^3$ , the two portions having each a semicircular recess at its center, the recesses when the parts are in position forming a circular opening through which the wick-tube of the lamp or the pipe from any suitable heating device may pass. In the present instance a coal-oil lamp is shown, and when so employed the partitions will be below the shade-holder, the opening designated by  $b^x$  in the center of the partition being of sufficient size to permit ready flow of air around this portion of the lamp and to the upper part of the chamber. The purpose of the partition is to provide a safety-compartment for the lamp-reservoir, the incoming external air passing around and over the said reservoir and serving to keep the same cool and, further, shielding the reservoir from heat from above, and when the partitions are in place the only means of communication of air from the lower portion of the chamber to the upper portion is through the said opening  $b^x$ . Air is supplied to the lower portion of the chamber—that is, where the lamp-body or reservoir is located—through openings  $b^4$  (shown in this instance as two in number) at each side of the chamber B, and, if desired, similar openings  $b^5$  in the door below the partition may be employed. The interior of the chamber is provided with a lining  $b^7$ , which is free from the sides, except at a point adjacent to the partition and near the top, and the rear wall of the chamber, which is also lined, is provided in this instance with three openings, two of which  $b^8$  constitute hot-air-escape openings and also operate to supply warm air for ventilation of the brooder in addition to their heating function, and a third opening  $b^9$ , through which the lamp shade or chimney passes to the interior of the brooder. The lining is provided near its lower portion on each side with a series of openings, through which the air from the combustion or hot-air chamber will pass up between the lining and the side of the heat-generating chamber, whence it escapes through the openings  $b^8$ , the lining being shown for this purpose as dividing the openings, so that one half of each of the openings  $b^8$  will communicate with the heat-generating chamber and the other half with the space between the top of the lining and the top of the said chamber.

The lamp shade or chimney, as stated, projects inward to the brooder and is curved upward and enters an opening or mouthpiece provided on the underside of the heat-radiator C, which will now be described. Each section of the heat-radiator consists, practically, of a shallow pan fitted one within the other, and secured in any suitable manner between these pans is a strip of metal  $c^2$ , formed into a spiral, constituting a duct to cause the heated products of combustion from the lamp to traverse from the entering-point  $c^3$  to the center of the brooder, whence it escapes through

an opening or pipe  $c^4$ , provided for the purpose. The heat-radiator is secured to the under side of the lid  $a^2$  in any manner, as by plates  $c^5$  and screws  $c^6$ , although it is to be understood that they may be secured in place in any other manner, and the lamp-chimney enters the mouthpiece  $c^7$ , which is provided at the opening  $c^3$ , so that there will be no escape into the brooder of incomplete products of combustion from the lamp. By the arrangement shown it will be seen that the radiator may be turned back out of the way of the lamp, so that access to the brooder may be had without in any manner disturbing any of its parts, and should it be desired to cleanse the interior of the radiator it will only be necessary to loosen the screws  $c^6$  and detach the plates  $c^5$ . Arranged between the heat-radiator and the lid  $a^2$  is a convex heat-reflector  $c^8$ , the convex side whereof is arranged downward, so that the heat that radiates from the top of the radiator will be thrown downward and distributed into the chamber.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination with a brooder having a movable cover, of a heat-radiator secured thereto, a spiral flue within the radiator and heating means in communication with the heat-radiator, substantially as described.

2. The combination with a brooder having a movable cover, of a heat-radiator secured thereto, a deflecting-plate between the radiator and the cover, and heating means in communication with the heat-radiator, substantially as described.

3. The combination with a brooder, of an exteriorly-arranged heating-chamber divided by a horizontal partition into two compartments, the lower compartment communicating with the outside air, a lamp or other like heating means having its reservoir arranged below the partition, and a chimney extending into the brooder, an air-escape space formed in the partition whereby the air taken into the lower portion of the chamber may be fed to the upper portion thereof to support combustion, in combination with a heat-radiator carried by the cover of the brooder and with which the chimney communicates, substantially as described.

4. The combination with a brooder, of an exteriorly-arranged heating-chamber divided by a horizontal partition into two compartments, a lamp or other like heating means having its reservoir arranged below the partition and its chimney extending into the brooder, a lining in the heating-chamber, the lining being so arranged that air-space is left around it between the sides and top of the chamber, vents in the heating-chamber for supplying air from the reservoir-compartment upward into the combustion-chamber, the lining being likewise provided with vents, whereby heated air can pass up between the



lining and the walls of the heating-chamber  
and escape through suitable openings formed  
in the wall of the brooder, and a heat-radia-  
tor carried by the brooder, and with which  
5 the chimney of the lamp or the like commu-  
nicates, substantially as described.

In testimony whereof we affix our signa-

tures in the presence of two subscribing wit-  
nesses.

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