

No. 667,865.

Patented Feb. 12, 1901.

A. P. BROWN.  
LOOSE LEAF BOOK AND SUPPORT.

(Application filed June 14, 1900.)

(No Model.)

Fig. 1.

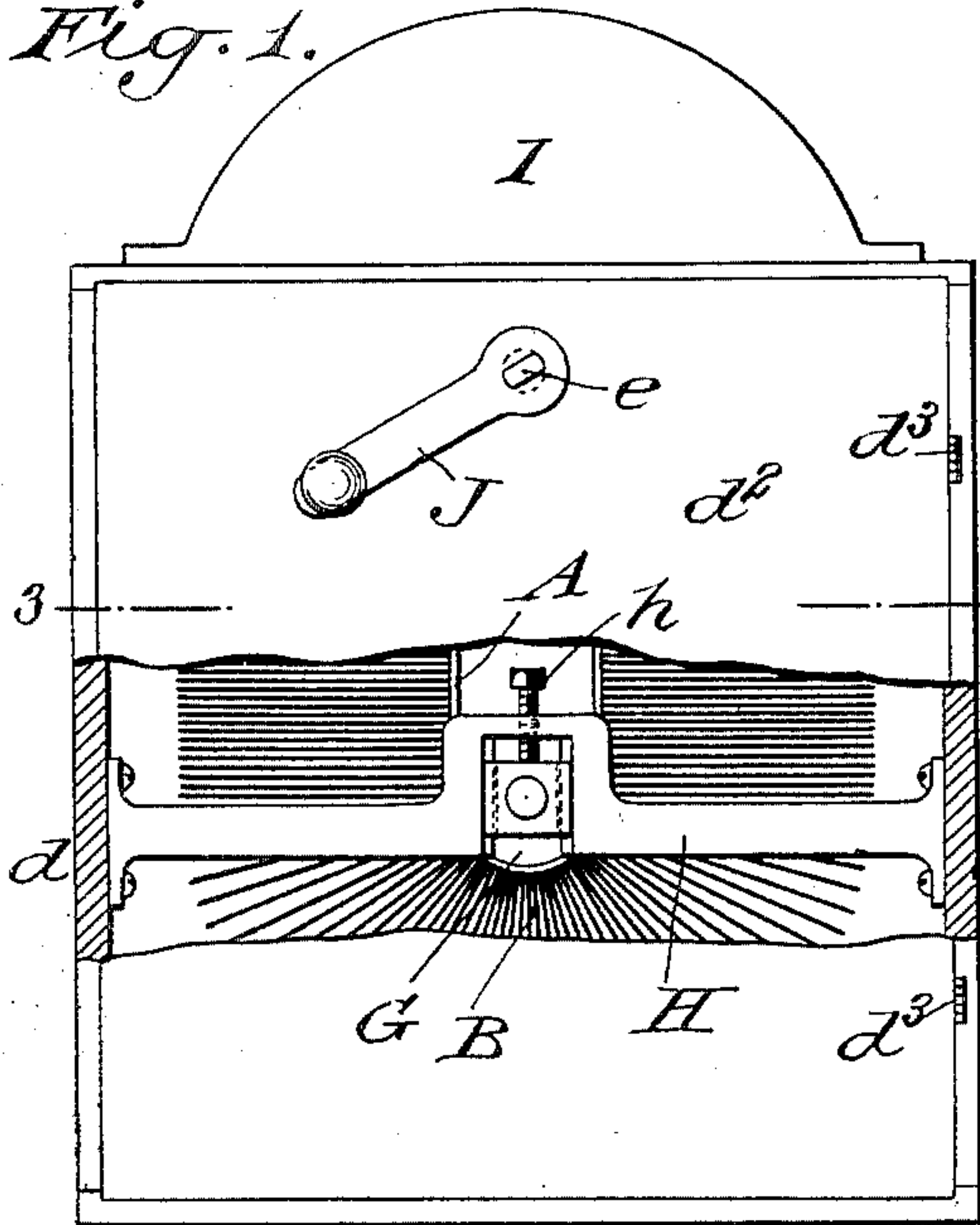


Fig. 2.

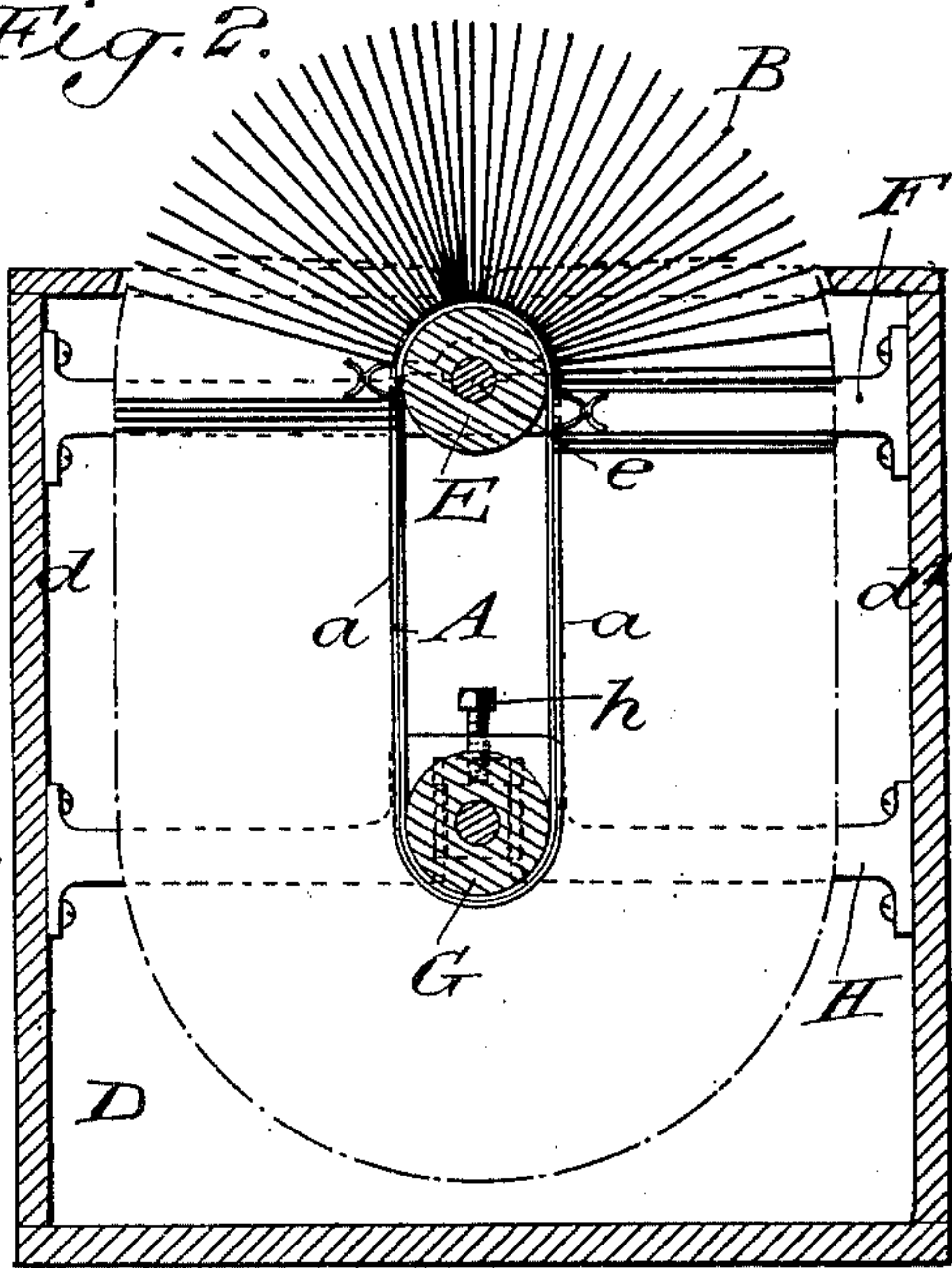


Fig. 3.

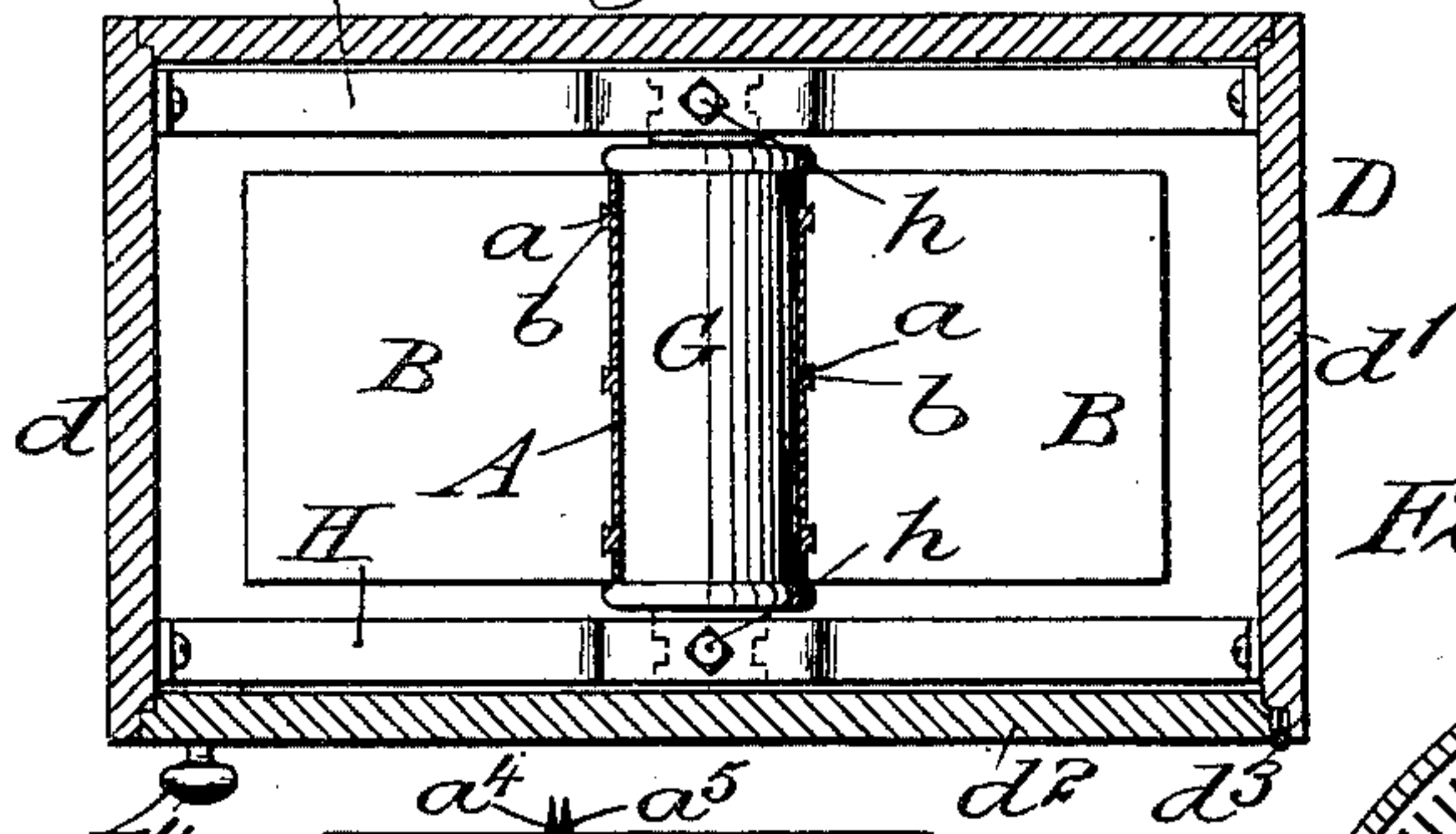


Fig. 7. Fig. 8.

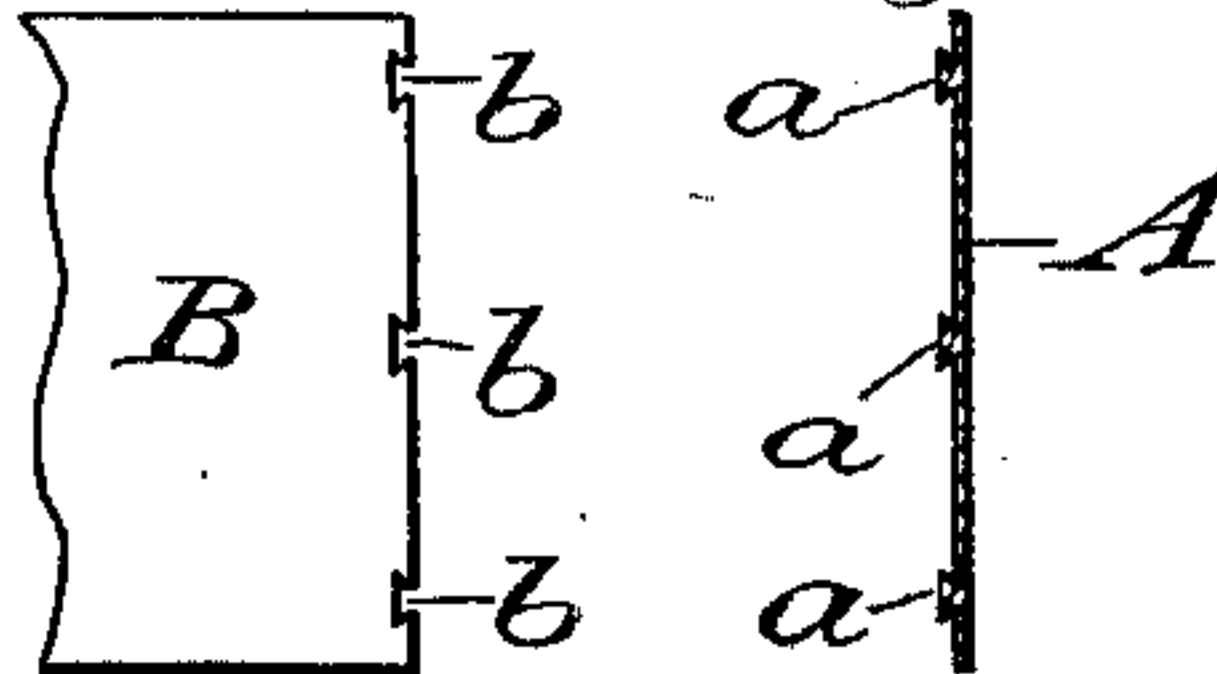


Fig. 9.

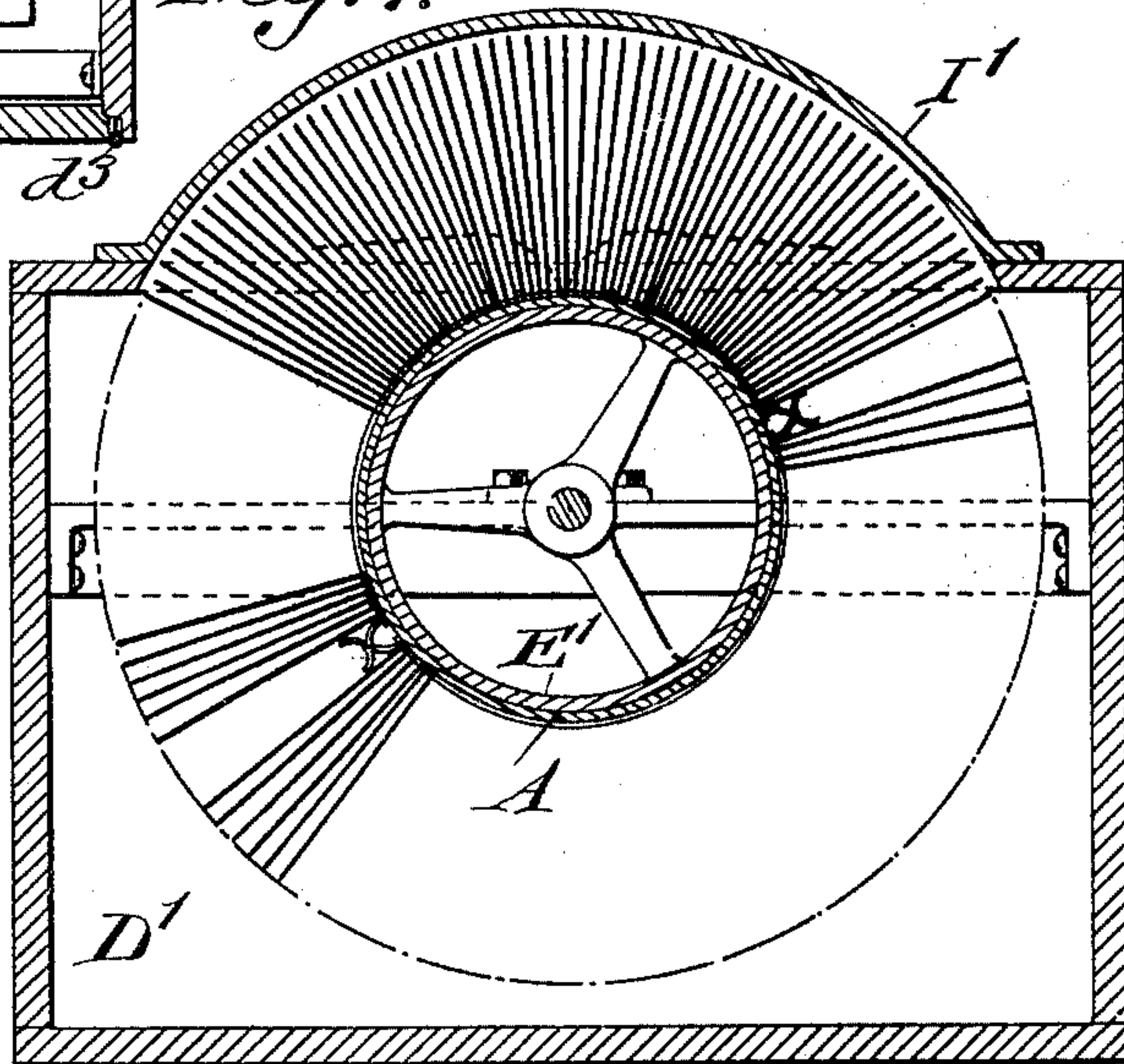


Fig. 4.

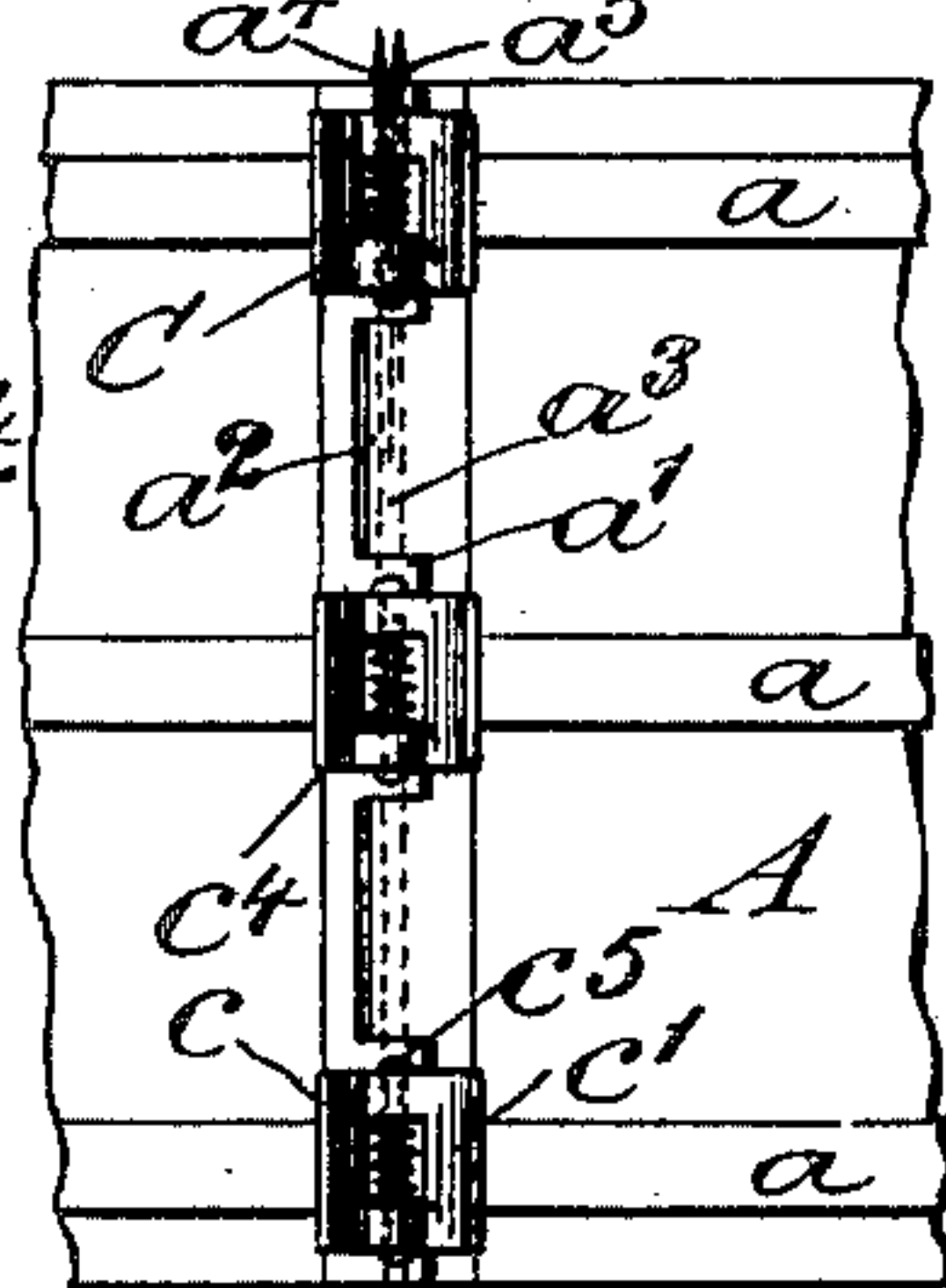
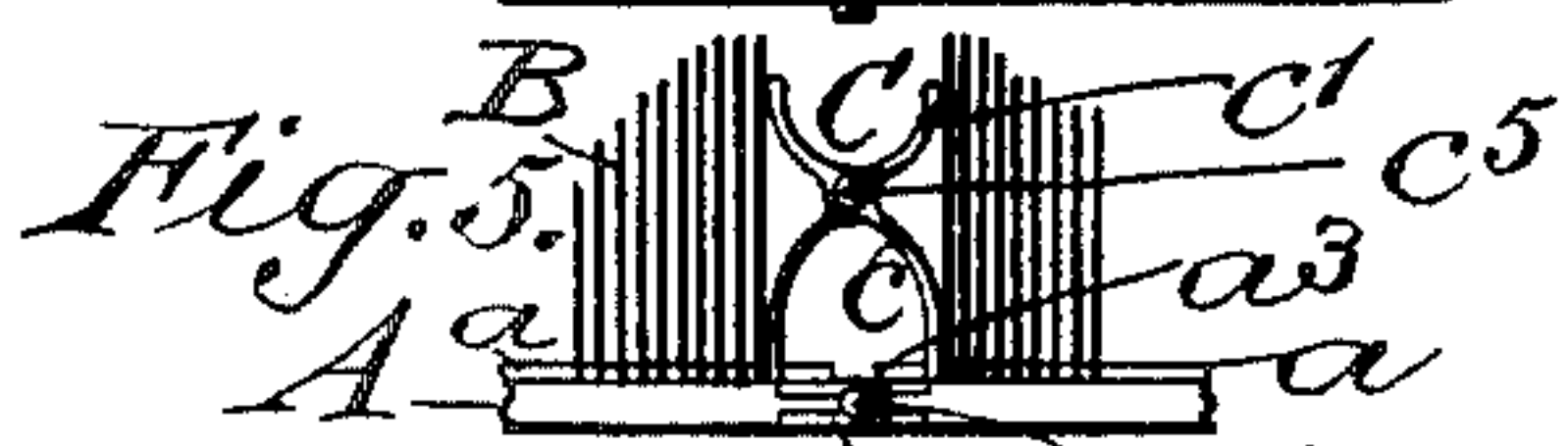


Fig. 5.



Witnesses a² a¹ c¹

George Barry Jr.

Fred Haines

Fig. 6.



Inventor:  
Alfred P. Brown  
by attorneys  
Brown & Howard



# UNITED STATES PATENT OFFICE.

ALFRED P. BROWN, OF NEW YORK, N. Y.

## LOOSE-LEAF BOOK AND SUPPORT.

SPECIFICATION forming part of Letters Patent No. 667,865, dated February 12, 1901.

Application filed June 14, 1900. Serial No. 20,228. (No model.)

*To all whom it may concern:*

Be it known that I, ALFRED P. BROWN, a citizen of the United States, and a resident of the borough of Brooklyn, in the city and State of New York, have invented a new and useful Improvement in Loose-Leaf Books and Supports Therefor, of which the following is a specification.

My invention relates to an improvement in loose-leaf books and supports therefor in which one object is to loosely bind a great number of leaves together and to mount the book in such a manner that any particular leaf can be reached for observation with great facility.

A further object is to provide a book of this character in which additional leaves may be inserted into position in the book at one or more points in a very convenient manner to make up for the leaves which have been removed therefrom, and when the additional leaves have been so inserted my object is to provide means for preventing their unintentional removal.

A practical embodiment of my invention is represented in the accompanying drawings, in which—

Figure 1 is a view in end elevation of a casing having my improved loose-leaf book mounted therein, a portion of the casing being broken away to show the interior structure thereof. Fig. 2 is a vertical transverse section through the device with the casing-cover removed. Fig. 3 is a transverse horizontal section in the plane of the line 3 3 of Fig. 1. Fig. 4 is an enlarged detail top plan view of the meeting ends of the binder-belt, showing the manner of securing the ends together and also showing the means for preventing the unintentional removal of the leaves between the meeting ends of the locking-ribs on the belt. Fig. 5 is a side view of the same with the leaves shown in position on the belt. Fig. 6 is a detail view showing in front elevation one of the leaf-retaining clips. Fig. 7 is a view of the rear portion of one of the sheets. Fig. 8 is a transverse section through the binder-belt, and Fig. 9 is a vertical transverse section showing a modified form in which the binder-belt is fitted to the periphery of a single drum.

The binder-belt is denoted by A, and it is

provided on its exterior face with one or more longitudinal ribs *a*. In the present instance three sets of such ribs are shown, which ribs are of inverted-wedge shape in cross-section. These locking-ribs *a* may be made in many different forms and of any suitable material.

The meeting ends of the binder-belt A may be removably secured in engagement with each other by providing the said ends with overlapping eye-plates *a'* *a''*, through the eyes of which may be passed a locking-pin *a'''*, the said pin being preferably split and provided at its bifurcated ends with shoulders *a''''* *a'''''* for retaining the pin in position unless the pin is intentionally removed by bringing the said shouldered ends together.

The leaves are denoted by B, and they are provided along their inner edges with one or more wedge-shaped or dovetailed notches *b*. In the present instance I have shown these leaves as being provided with three rows of coinciding notches *b*, which are adapted to be engaged by the ribs *a* on the binder-belt when the leaves are placed in position thereon. These leaves may be inserted into position upon the belt either by removing the pin *a'''* and straightening the belt, thus permitting the leaves to be slid along from the ends of the belt in both directions, if so desired, or the pin need not be removed, but the ends of the belt may be swung around into a position that will permit the leaves to be slid over the ends of the shoulders.

If desired to insert a few leaves when the belt is in position in the casing, to be hereinafter described, without removing the belt, the leaves may be slid on, for the reason that the ends of the ribs on the belt do not quite meet when the belt is in this position.

The means which I employ for preventing the leaves from sliding off the ends of the belt when the belt is in use comprise a spring-actuated locking-clip C, which consists of two short plates *c* *c'*, hinged together at a point intermediate their ends, the inner ends of the two plates being provided with notches *c''*, arranged to receive the two adjacent ends of one of the ribs *a* of the plate and slide a short distance inwardly along the same. This spring-actuated clip is normally held in its position tending to press the leaves inwardly away from the meeting ends of the



belt by means of a spring  $c^4$ , which in the present instance is shown as being coiled around the hinge-pintle  $c^5$  of the clip. If desired, these clips may extend the full width of the belt and be provided with notches  $c^2$ , arranged in position to engage all of the ribs on the belt. When it is desired to remove these clips for the purpose of permitting the insertion of additional sheets, the upper arms of the clips may be brought together, thus bringing the lower arms of the same into proximity and drawing them off from the adjacent ends of the rib.

Instead of a single longitudinal rib extending from end to end of the belt I may provide a plurality of ribs in alinement with each other, with their ends spaced a short distance apart, so that leaves may be inserted into the book at more than one place on the belt. When a plurality of ribs in alinement is used, the adjacent ends of the ribs may be engaged by the clips C for preventing the unintentional removal of the leaves from the ribs.

Proceeding to describe the form shown in Figs. 1, 2, and 3, the casing or box for containing and forming a support for a loose-leaf book is denoted as a whole by D. A roller E is mounted to rotate in bearings formed in side brackets F, which are secured to the sides  $d$   $d'$  of the casing near its top. A second roller G is mounted in sliding bearings in side brackets H, which are secured to the sides  $d$   $d'$  of the casing at points considerably below the brackets F. The bearings for the roller G may be forced downwardly away from the roller E by means of adjusting-screws  $h$ , which are carried by the side brackets H. The endless binder-belt A passes around the two rollers E and G, and the casing is of sufficient size to permit the belt, together with the leaves attached thereto, to pass freely around the two rollers. The location of the upper roller E is such that the leaves when passing around the same project upwardly through the top of the casing.

I provide a removable cover I, of semicylindrical form, for protecting the leaves at the upper end of the book when they are not in use. When the leaves are pressed down for the purpose of writing thereon, two top leaves will assume the position shown in dotted lines in Fig. 2 about on a level with the top of the casing.

The shaft  $e$  of the roller E is extended through the front of the casing D, and it is there provided with a removable crank-handle J, whereby the roller E may be positively rotated. The proper tension may be obtained upon the binder-belt A by means of the adjusting-screws  $h$ .

The front  $d^2$  of the casing D may be removed after the handle J is removed for obtaining access to the interior of the casing when it is desired to do so. In the present instance I have shown this front  $d^2$  as a door

hinged at  $d^3$  to one of the sides  $d'$ , for instance, and having a suitable knob or handle  $d^4$  for use in opening the door-front.

In the form shown in Fig. 9 the casing is denoted by  $D'$ , and mounted therein is a large drum  $E'$ , to the periphery of which is fitted the endless binder-belt A. The upper portion of the book in this form also projects above the top of the casing and may be provided with a removable cover  $I'$ .

When it is desired to use the book, the cover I is removed and the handle J is turned until the leaf which it is desired to examine or use is brought to the top of the casing. The leaves may then be parted and pressed down into position to expose the adjacent pages of two successive leaves at this point. If it is desired to examine a page upon a leaf a considerable distance from the page just examined, the crank J may again be turned, thus bringing the leaf with the desired page rapidly where it can be examined.

The engagement of the leaves with the locking-ribs is such that the leaves may be removed by a considerable pull outwardly away from the binder-belt.

When the loose-leaf book is used as a ledger, where the pages are used for temporary entry only and are removed quite frequently, a new supply of leaves may be inserted onto the belt at any time in the manner hereinbefore set forth, thus keeping the book at all times provided with substantially a predetermined number of leaves.

It is evident that changes might be resorted to in the form and arrangement of the several parts without departing from the spirit and scope of my invention. Hence I do not wish to limit myself strictly to the structure herein set forth; but

What I claim is—

1. A loose-leaf book comprising an endless belt having a longitudinal locking-rib thereon and a plurality of leaves having their inner edges engaged by the said rib for removably locking the leaves to the belt, substantially as set forth.

2. A loose-leaf book comprising an endless belt having a longitudinal locking-rib thereon of inverted-wedge shape in cross-section and a plurality of leaves having corresponding wedge-shaped notches in their inner edges arranged to engage the said rib for removably locking the leaves to the belt, substantially as set forth.

3. A loose-leaf book comprising a belt having a longitudinal locking-rib thereon, a plurality of leaves engaged by the said rib for removably locking the leaves to the belt and means for removably uniting the ends of the belt to form an endless belt, substantially as set forth.

4. A loose-leaf book comprising an endless belt having a longitudinal locking-rib thereon, the ends of the locking-rib being brought into close proximity to each other, a plurality of leaves arranged to slide along in engage-



ment with the rib for removably locking the leaves to the belt and a device engaging the adjacent ends of the rib for preventing the unintentional removal of the leaves therefrom, substantially as set forth.

5 5. A loose-leaf book comprising an endless belt having a longitudinal locking-rib thereon, the ends of the locking-rib being brought into close proximity to each other, a plurality  
10 of leaves arranged to slide along in engagement with the rib for removably locking the leaves to the belt, and a removable clip engaging the adjacent ends of the rib for preventing the unintentional removal of the leaves  
15 therefrom, substantially as set forth.

6. A loose-leaf book comprising an endless

belt having a plurality of longitudinal locking-ribs in alinement thereon, with the ends of the ribs spaced apart, a plurality of leaves having their inner edges engaged by said ribs 20 for removably locking the leaves to the belt, and means for preventing the unintentional removal of the leaves by sliding over the ends of the ribs, substantially as set forth.

In testimony that I claim the foregoing as 25 my invention I have signed my name, in presence of two witnesses, this 12th day of June, 1900.

ALFRED P. BROWN.

Witnesses:

FREDK. HAYNES,  
C. S. SUNDGREN.