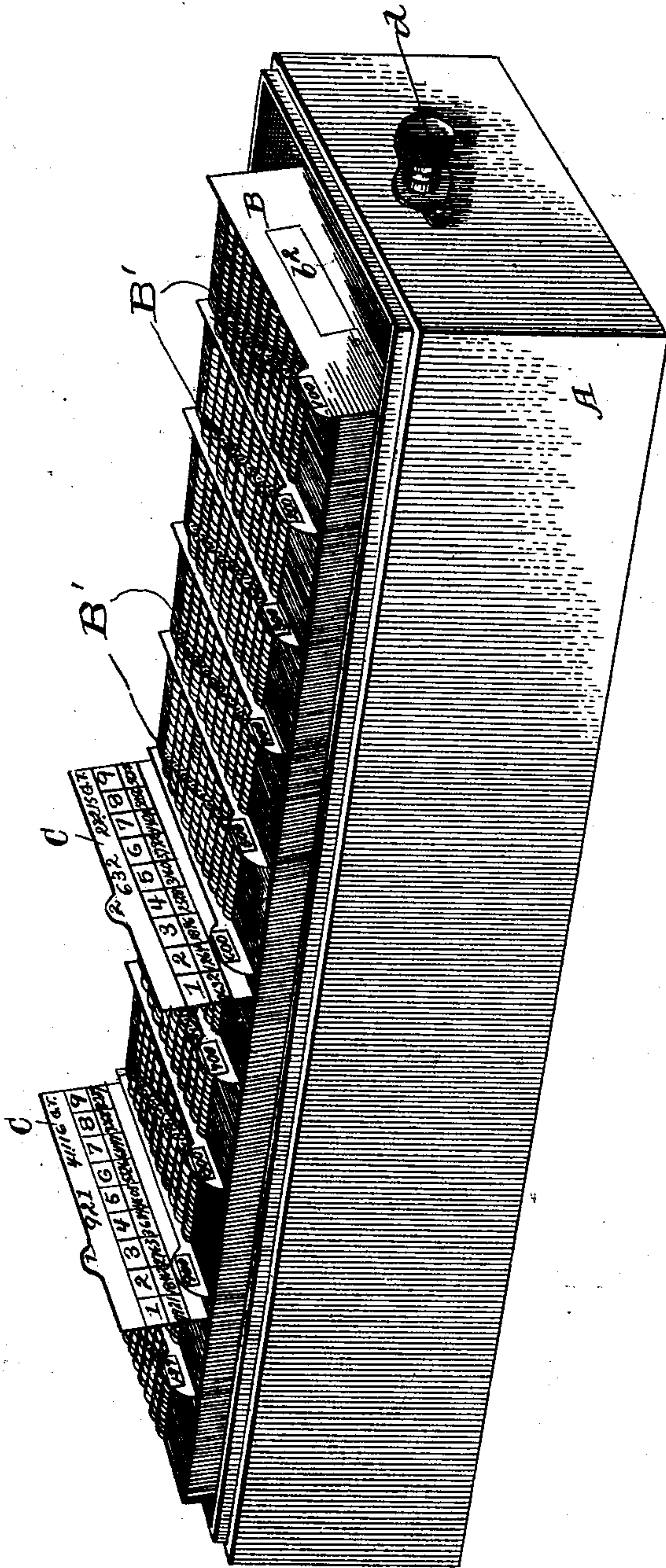


F. C. WILLIAMS.  
CARD INDEX.  
APPLICATION FILED APR. 25, 1907.

923,471.

Patented June 1, 1909.  
3 SHEETS—SHEET 1.

Fig. 1



Witnesses,  
E. R. Rodd.  
Geo. F. Oberlin

Inventor,  
Frederick C. Williams  
by J. B. Fay  
his attorney.

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3 SHEETS—SHEET 2.

Fig. 2

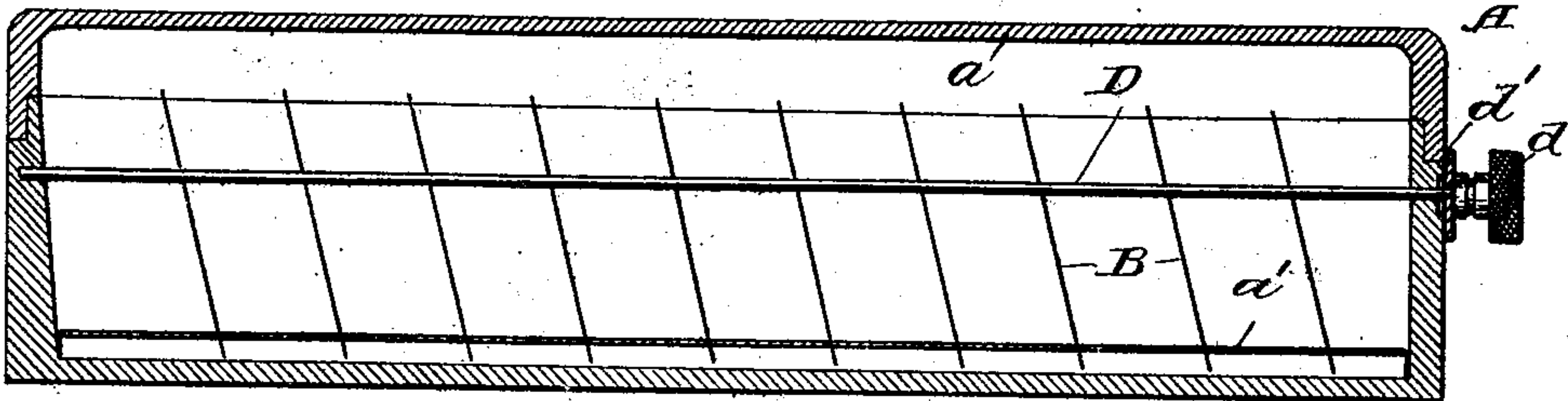


Fig. 3

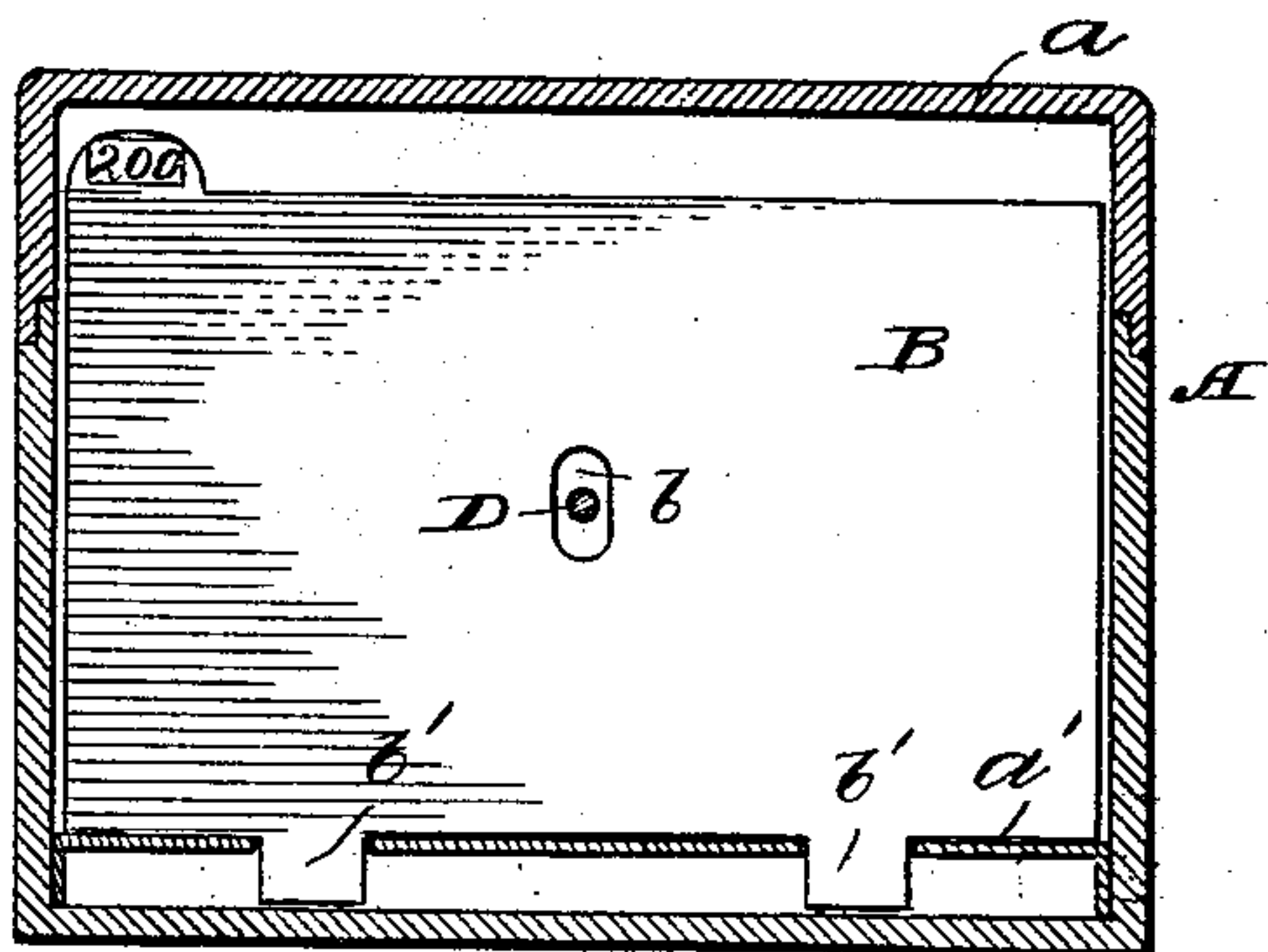
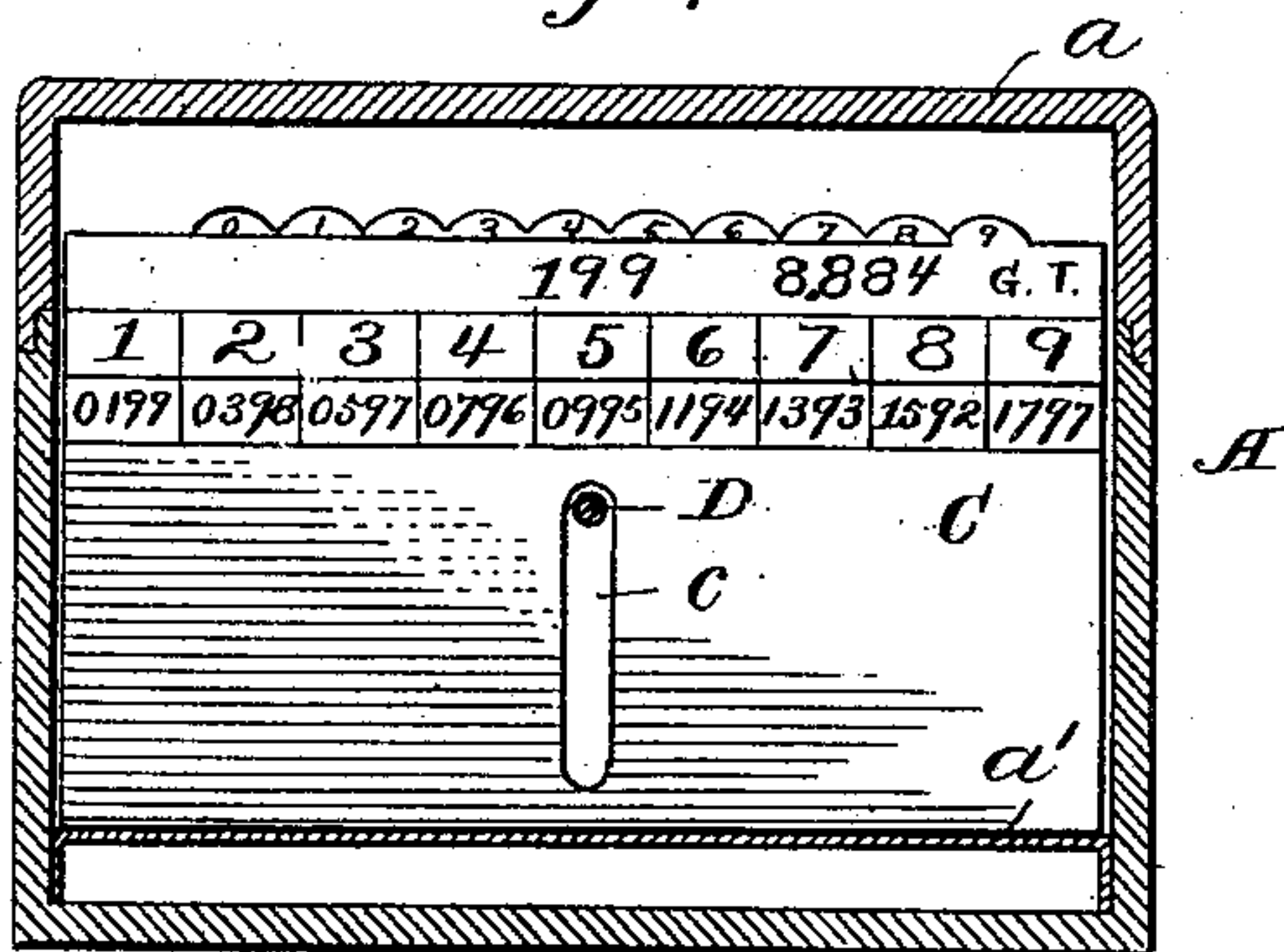


Fig. 4



Witnesses,

E. R. Rodd

Jno. F. Oberlin

Inventor,

Frederick C. Williams

by J. B. Fay  
his attorney.

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3 SHEETS—SHEET 3.

Fig. 5

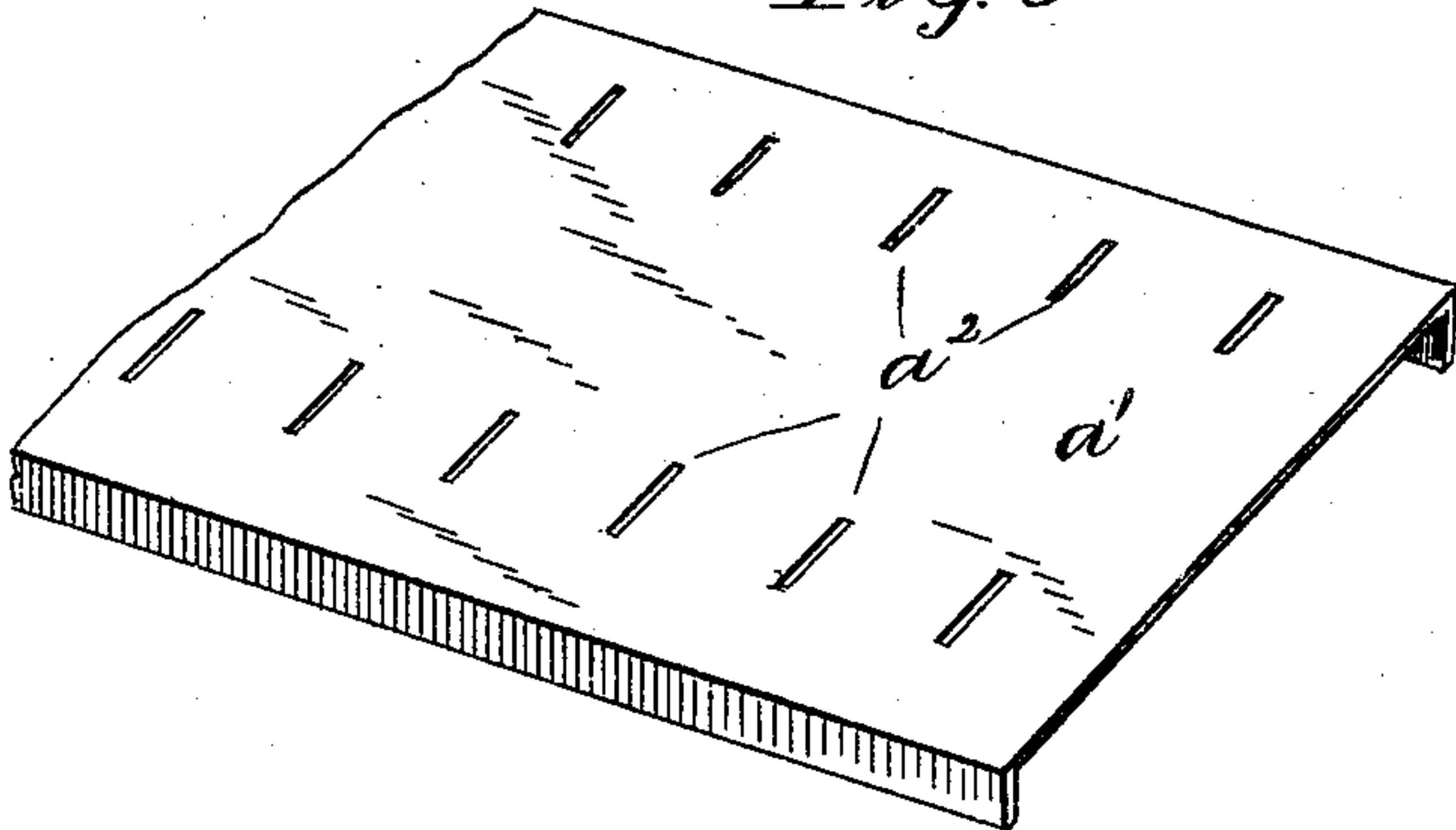


Fig. 6

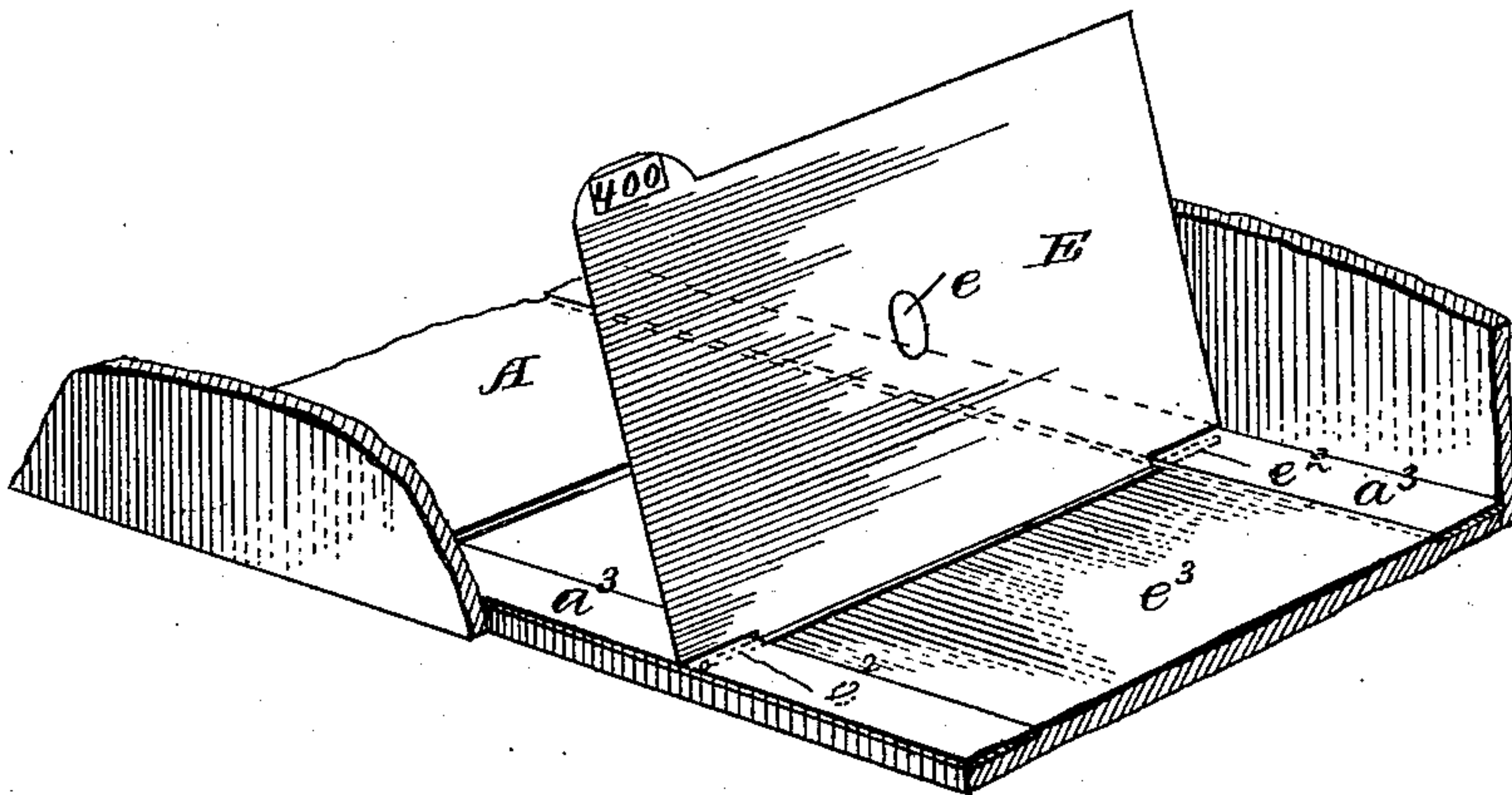
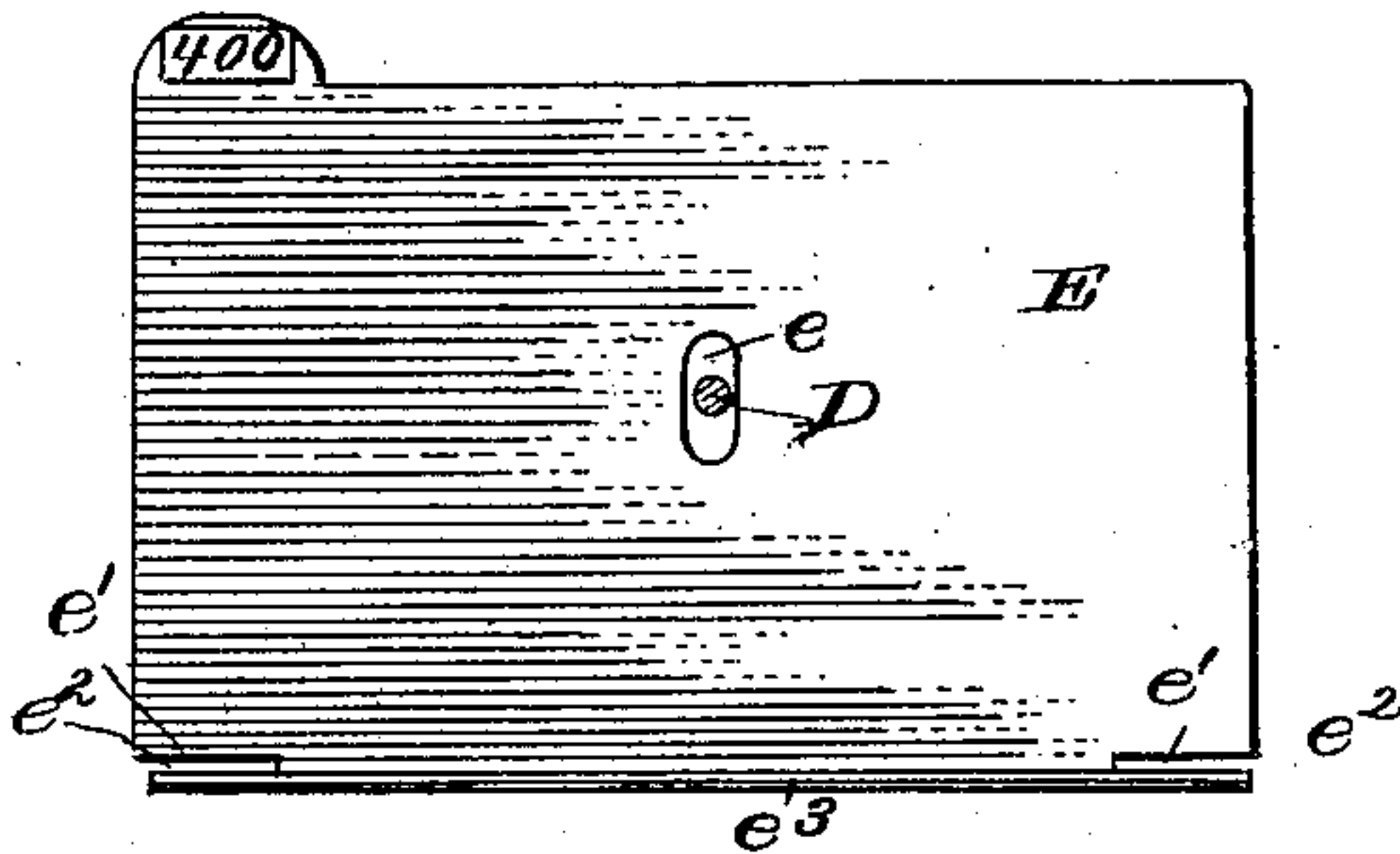


Fig. 7



Witnesses,

E. R. Rodd

Jno. F. Oberline

Inventor,

Frederick C. Williams

by

J. B. Fay

his attorney.



# UNITED STATES PATENT OFFICE.

FREDERICK C. WILLIAMS, OF CLEVELAND, OHIO.

## CARD-INDEX.

No. 923,471.

Specification of Letters Patent.

Patented June 1, 1909.

Application filed April 25, 1907. Serial No. 370,216.

*To all whom it may concern:*

Be it known that I, FREDERICK C. WILLIAMS, a citizen of the United States, resident of Cleveland, county of Cuyahoga, and State of Ohio, have invented a new and useful Improvement in Card-Indexes, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

My invention relates to card indexes and particularly to certain improvements in the card construction and the construction of the case adapted to contain the same whereby individual cards may be pivotally mounted within said case, thus adapting such index for use as a calculating device, which constitutes the particular embodiment of my invention here chosen for illustrative purposes.

Said invention consists of means hereinafter fully described and specifically set forth in the claims.

The annexed drawings and the following description set forth in detail certain means embodying the invention, such disclosed means constituting, however, but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawings: Figure 1 represents a perspective view of my improved card index and the case for containing the same, with the cover removed, two of the individual cards being raised from the body of the case in order to clearly illustrate the symbols imprinted upon them; Fig. 2 represents a longitudinal section of the case within which the index is contained, a diagram of the divisions in the body of cards contained therein being also indicated; Fig. 3 represents a vertical cross-section of the case and index taken upon the plane just in front of the second leader or guide card; Fig. 4 represents a vertical cross-section of the same taken upon the plane just in front of the file card immediately preceding said second leader or guide card, shown on Fig. 3; Fig. 5 represents a broken perspective view of a secondary bottom contained within the index case and to which the leader cards are pivotally secured; Fig. 6 repre-

sents a broken perspective view of the interior of the box showing one of the leader cards and a modified method of pivotally securing the same within the box; and Fig. 7 is a front elevation of the leader card shown in Fig. 6.

As illustrating the construction and relative disposition of the elements of my invention I have shown in the accompanying drawings a body of cards as ordinarily used in the usual card index embodying guide or leader cards B, tab cards B', and filing cards C. As shown, said index cards pertain to a calculating device and bear data in the form of numbers as hereafter set forth, incidentally to the description of the index structure proper. It is to the latter that more particular attention is here directed, the calculating device *per se* forming no part of the invention herein claimed.

I have provided the guide cards B at every hundredth card, as plainly indicated in Fig. 1, and at every tenth card I have provided the sub-guide or tab cards B'. Said guide cards B are plain, as shown in Figs. 3, 6 and 7, and are in fact, in connection with the tab cards B' which also are plain merely an aid in readily finding the card that is sought, and in holding the whole body of the cards in their proper positions, as will be more fully described hereinafter. As is usual, the file cards C are formed of heavy card-board, whereas the guide cards B and tab cards B' are formed of steel. The file cards C are consecutively numbered and, as is shown in Fig. 4, have provided thereon near their upper portion three transverse spaces horizontally alined and adjacent one to the other, within the upper of which is contained the number of the card and another designation more fully described hereinafter; within the second of which spaces are contained the digits one to nine, respectively; and within the lower one of which spaces are contained disposed adjacently to the digits, respectively, the product of the file number and the digits. For instance, in Fig. 4, it will be noted that in the top space there is contained a number 199 and a designation 8.884 G. T., in the third space adjacent to each digit of the second space is



contained the product of 199 and such digit. As is customary in card indexes said cards B and C are contained within a suitable case or box A having a cover  $a$ , being mounted upon a rod D, provided with a thumb head  $d$ , there being provided in the front of the box small grooves  $d'$ , through which, by means of a spring (not shown), suitable lugs (not shown) disposed upon the rod D are forced when the head  $d$  is properly turned, so that thus the rod D can be drawn through the cards from the box, or replaced in the same. File cards C are contained loosely within the box, they being provided with elongated vertical slots  $c$  by means of which they can be raised considerably above the body of the cards, as is shown in connection with two cards thus raised in Fig. 1.

The leader cards B and tab cards B' are provided with similar slots  $b$  which allow, however, only a comparatively limited vertical movement, as is plainly shown in Fig. 3. Within the body of the box A is disposed a secondary or false bottom  $a'$  provided with narrow transversely disposed slots  $a^2$ , a row of said slots  $a^2$  being disposed adjacently to each side of said bottom  $a'$ . Said slots  $a^2$  are adapted to receive tongues  $b'$  projecting downwardly from the leader cards B, as plainly shown in Fig. 3, so that said leader cards, by virtue of said connection with the false bottom  $a'$  and by reason of their limited vertical movement, are in effect pivotally secured within said false bottom  $a'$ , and thus the bottom portions of said cards B have no movement longitudinally of the box, the whole body of cards being thus kept in proper position within the box which obviates all undue crowding of the cards in one portion of said body and the wide separation of the same at another portion, as shown in Fig. 1. I often find it desirable to provide the false bottom  $a'$  with transverse slots  $a^2$  arranged more closely one to the other, than shown in Fig. 5, in order that if the cards become unduly crowded in one portion of the case or unduly separated I may move a guide card from one slot  $a^2$  to an adjacent slot and thus remedy the congestion or undue separation of the cards. I have provided on the first leader card B a suitable space  $b^2$ , Fig. 1, for any desirable advertisement, such as the name of the device, etc.

In Figs. 6 and 7 I have illustrated a modified construction for pivotally securing the leader cards within the case A and such construction involves a slight change in the leader card itself as also in the case construction. Said modified construction is not so desirable as the form illustrated in Figs. 3 and 5, since I have found the same to be a more expensive construction, and therefore I prefer to use the construction of card B and false bottom  $a'$  shown in said Figs. 3

and 5. Said modified card E is provided along its bottom edge with a stiffening member  $e^3$  and longitudinally of the card adjacent to said lower edge are cut two grooves  $e'$ , thereby providing tongue or bearing portions  $e^2$  in the card itself. Said stiffening edge  $e^3$  may be formed by wrapping the lower edge of the metallic card E about a suitable iron or steel wire. I have disposed of the false bottom  $a'$  and have provided in lieu thereof two longitudinal strips  $a^3$ , one adjacent to each side of the box, said strips  $a^3$  being so disposed within the case A that their upper surfaces lie flush with the bottom of said case, as is plainly shown in Fig. 6, the stiffening member  $e^3$  and the bearing portions  $e^2$  being secured within the bottom of the box A and in the strips  $a^3$ , respectively, by suitably grooving said box bottom and said strips. It will be noted that also this modified construction thus provides for a pivotal mounting of the card E within the box.

Other modes of applying the principle of my invention may be employed instead of the one explained, change being made as regards the means herein disclosed, provided the means stated by any one of the following claims or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention:—

1. In a card index the combination of a suitable case; file cards and index cards contained in said case and arranged transversely of the same; and a rod extending longitudinally of said case, said file and index cards being provided with aligned apertures for the reception of said rod, the apertures in said file cards being vertically extended relative to those in said index cards, whereby said file cards have limited vertical movement relatively to said index cards, substantially as described.

2. In a card index, the combination of a suitable case; file cards loosely contained in said case and arranged transversely of the same; index cards similarly arranged in said case but pivotally secured to the bottom thereof; and a rod extending longitudinally of said case, said file and index cards being provided with aligned apertures for the reception of said rod, the apertures in said file cards being vertically extended relatively to those in said index cards, whereby said file cards have limited vertical, as well as pivotal, movement, whereas said index cards have pivotal movement only.

3. In a card index, the combination of a suitable case; a false bottom in said case provided with a plurality of transversely disposed slots; file cards loosely contained in said case and arranged transversely of the same; index cards provided on their lower edges with projections adapted to engage the



slots in said false bottom; and a rod extending longitudinally of said case, said file and index cards being provided with alined apertures for the reception of said rod, the apertures in said file cards being vertically extended relatively to those in said index cards, whereby said file cards have limited vertical, as well as pivotal, movement, where-

as said index cards have pivotal movement only.

Signed by me this 23rd day of April, 1907.

FREDERICK C. WILLIAMS.

Attested by:

D. T. DAVIES,

JNO. F. OBERLIN.