

No. 686,843.

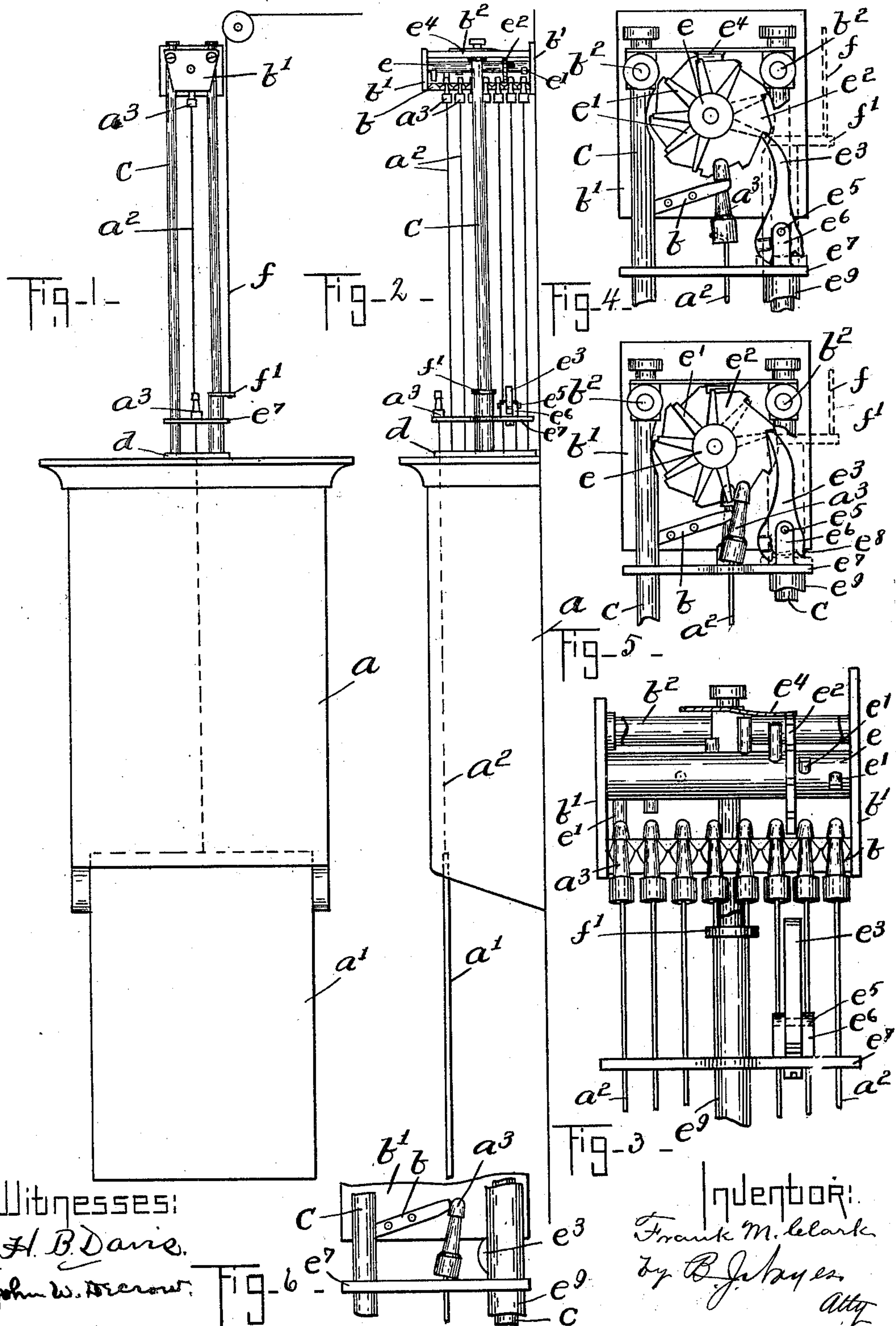
Patented Nov. 19, 1901.

F. M. CLARK.
CARD EXHIBITING DEVICE.

(Application filed Feb. 25, 1901.)

(No Model.)

2 Sheets—Sheet 1.



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2 Sheets—Sheet 2.

Fig. 7.

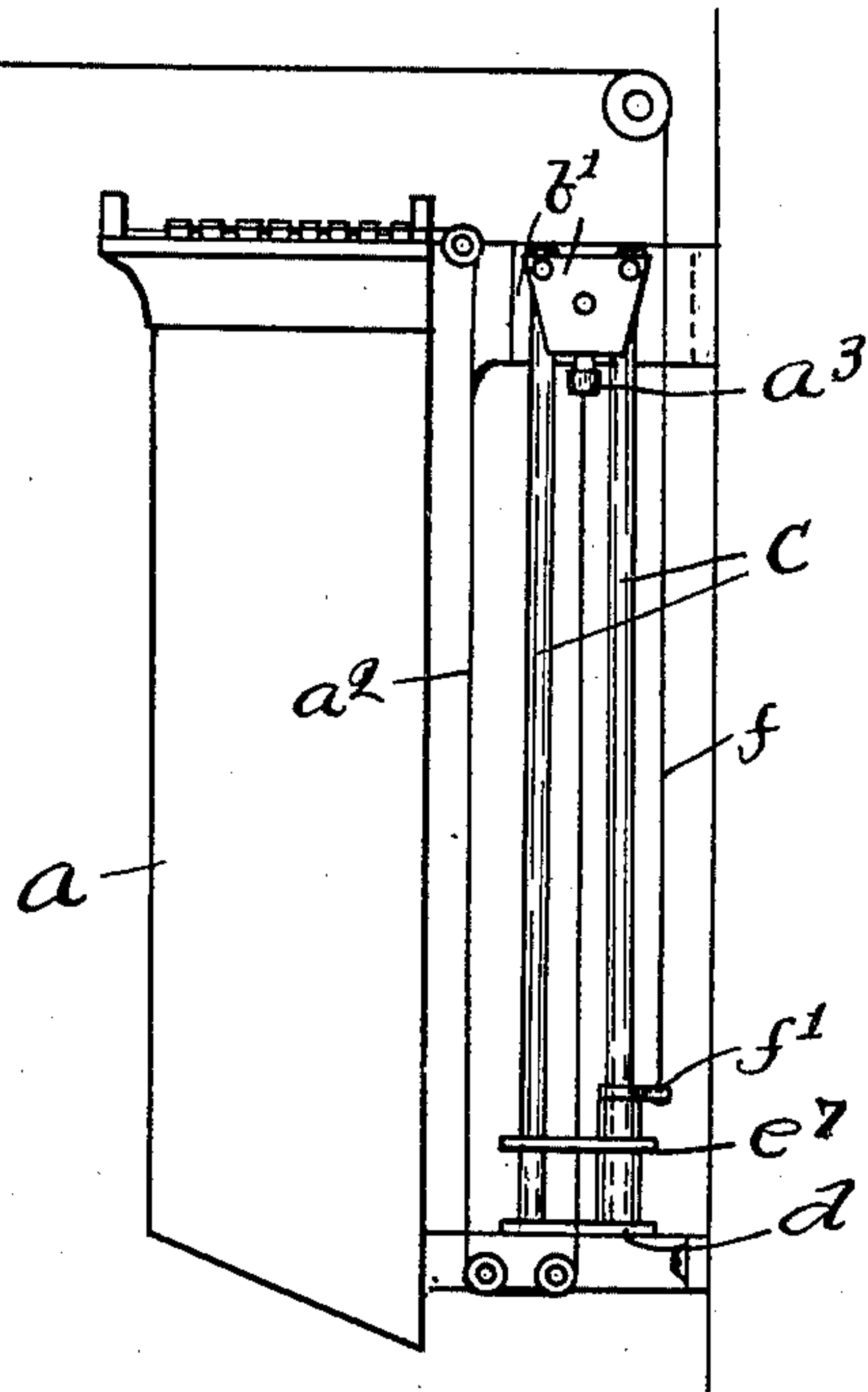
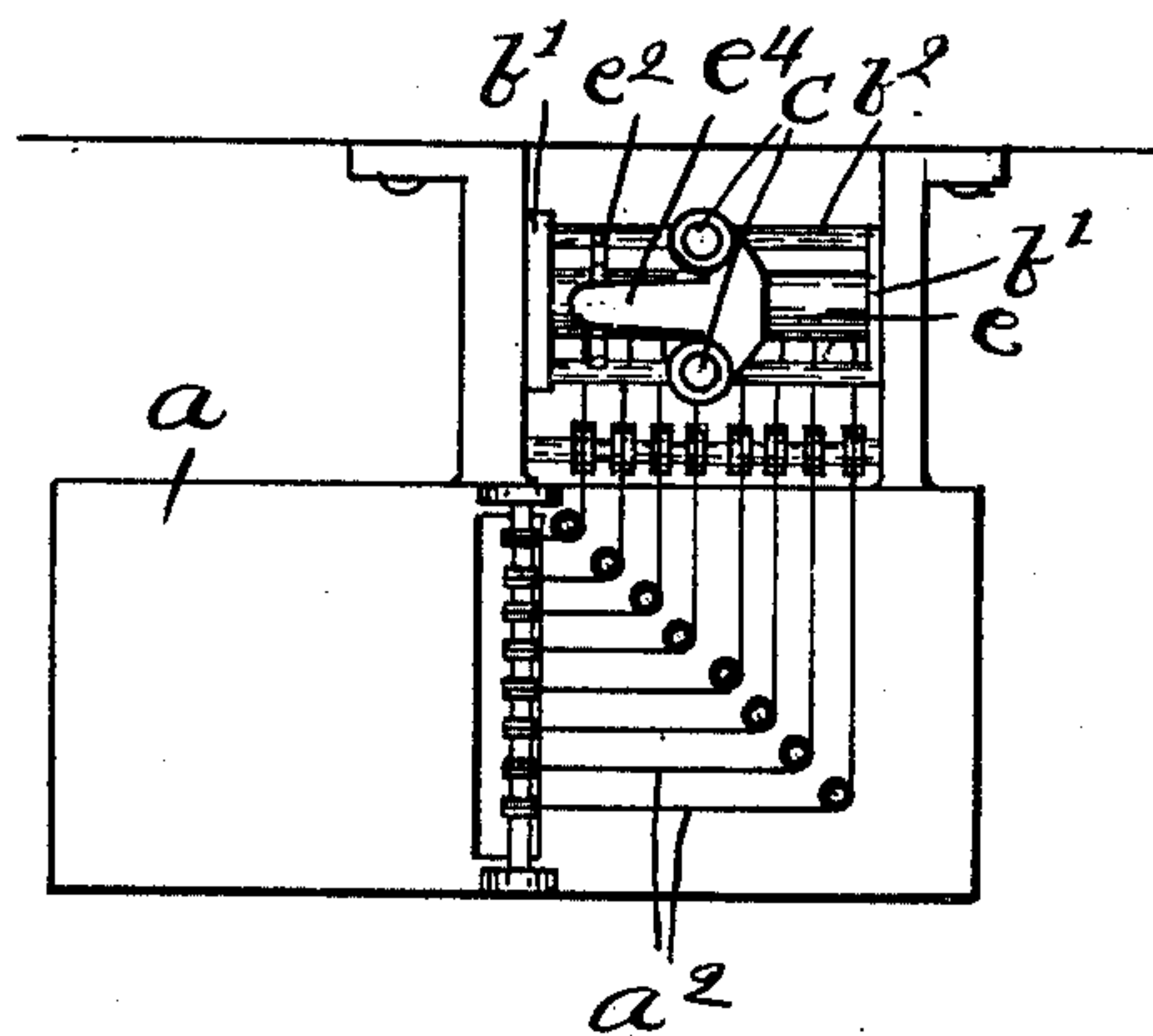


Fig. 8.



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UNITED STATES PATENT OFFICE.

FRANK M. CLARK, OF TILTON, NEW HAMPSHIRE, ASSIGNOR TO BROWN & BURPEE, OF MANCHESTER, NEW HAMPSHIRE, A COPARTNERSHIP.

CARD-EXHIBITING DEVICE.

SPECIFICATION forming part of Letters Patent No. 686,843, dated November 19, 1901.

Application filed February 25, 1901. Serial No. 48,659. (No model.)

To all whom it may concern:

Be it known that I, FRANK M. CLARK, of Tilton, county of Belknap, State of New Hampshire, have invented an Improvement
5 in Card-Exhibiting Devices, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to construct
10 a card-exhibiting device especially adapted for exhibiting ophthalmic cards or charts which are designed to be exhibited in a pre-arranged order, yet the invention may be used for any other purpose whereby cards or charts
15 or any other devices are employed which are to be displayed or successively operated.

In accordance with this invention a number of cards are employed, preferably contained in a case, each card being suspended by a
20 cord, and a holder is provided on each cord and a support provided for the several holders, whereby they may be held with the cards normally concealed or otherwise retained in normal position. The holders may be made as
25 headed pins, and the support for said holders may be made as a plate provided with a number of recesses each adapted to receive and hold one of said headed pins. A step-by-step device is provided for releasing the several
30 holders successively—*i. e.*, disengaging them from the support—whereby the cards will be successively displayed. The step-by-step device is adapted to be operated from a distant point by a cord or by any other suitable means.
35 The step-by-step device, which is herein shown for the sake of illustrating this invention, comprises, essentially, a shaft having a number of arms projecting radially from it in different directions, as many arms being provided as
40 there are holders, and a ratchet-wheel is secured to said shaft for rotating it and a pawl provided for turning said ratchet-wheel step by step, which is adapted to be operated from a distant point. The shaft is so disposed with
45 relation to the support that the arms will strike the headed pins and remove them from the support. Means are also provided for receiving each holder when released or disengaged from the support and for conveying it
50 to a position whereby the card will be displayed and for thereafter returning it to the

support, and said means will also be operated from a distant point. For the sake of illustrating this invention said means may comprise a plate adapted to slide up and down on
55 suitable guides provided for it, and said plate will have a number of holes through it for the several cords, and when said plate is operated it will be first moved into position to receive upon it any one of the holders, which
60 may be removed from the support, then while carrying said holder may be moved into position to display the card and thereafter returned to return said holder to the support. The pawl for turning the ratchet-wheel of
65 the step-by-step device may be carried by said plate, and in such event when said plate is raised into a position to receive upon it one of the holders or to return one of the holders supported upon or carried by it said pawl
70 will engage the ratchet-wheel and turn it, and thereby release the next holder. Thus while one holder is being returned to the support the next one will be released.

Figure 1 shows in front elevation a card-exhibiting device embodying this invention. 75
Fig. 2 is a side elevation of the card-exhibiting device shown in Fig. 1. Fig. 3 is a detail, full size, showing the several holders, the support for said holders, means for releasing
80 said holders, and means for conveying them to a position to display the card and for finally returning them to the support. Fig. 4 is an end view of the parts shown in Fig. 3 in the position they will occupy when one of the
85 holders is about to be released. Fig. 5 is a similar view showing the parts in the position they will occupy when the holder is released. Fig. 6 is a detail showing one of the holders on the plate canted out of vertical position
90 by the support preparatory to moving into engagement with said support. Fig. 7 is a modification showing in side elevation the operating device disposed back of the card-holder instead of above, and Fig. 8 is a plan
95 view of the apparatus shown in Fig. 7.

The case *a*, which may be of any suitable shape and size, is adapted to contain a number of cards *a'*, separately suspended from
100 cords *a²* and normally held concealed within the case. The cards may be held in a group and the case *a* omitted. Each cord *a²* passes

up through a hole in the top wall of the case and has a holder a^3 attached to its upper end, which is herein represented as a headed pin.

The support which is provided for the several holders a^3 consists of a plate b , attached at its ends to a pair of side plates $b' b'$, which are secured together by a pair of cross-bars $b^2 b^2$. The support or plate b is disposed obliquely to a horizontal plane, and one of its edges is provided with a number of recesses adapted to receive headed pins or holders a^3 , and thereby support the cards in elevated position normally concealed within the case a . The side plates $b' b'$, supporting the plate b , are held in an elevated position by a pair of upright rods or bars $c c$, which are connected at their upper ends to the cross-bars $b^2 b^2$, the lower ends of said upright bars $c c$ being secured to a bottom plate d , which is adapted to be secured to the top wall of the case a .

To remove the holders a^3 from the support b successively, a horizontal shaft e is journaled in the side plates $b' b'$, having arms e' projecting radially from it in different directions, said arms being disposed on the shaft opposite the several holders a^3 and said shaft being disposed with relation to said holders so that as the shaft is revolved the arms e' will strike the holders and remove them from the recesses in the support. The shaft e is adapted to be rotated step by step, and as a device for performing this function a ratchet-wheel e^2 is secured to the shaft e and a pawl e^3 provided for engaging and turning said ratchet-wheel step by step. A flat spring-acting plate e^4 is attached at its ends to the cross-bars $b^2 b^2$, having a projecting portion which bears upon said ratchet-wheel and serves as a back click therefor. The pawl e^3 is pivoted at e^5 to a stand e^6 , erected upon the plate e^7 , and is provided with a projection e^8 , which limits its movement in both directions. The plate e^7 , bearing said pawl, is adapted to slide up and down on the upright rods or bars $c c$, said rods or bars serving as guides for said plate. To facilitate sliding the plate up and down on the guide-rods, it is provided with a guiding portion or sleeve e^9 , extending both above and below the plate for a short distance. To move the plate e^7 , a cord f is attached to an ear f' , projecting from the sleeve, which extends up over a pulley and from said pulley to any distant point. As the cord is drawn the plate e^7 will be raised and the pawl e^3 , carried by it, will engage and turn the ratchet-wheel e^2 , thereby turning the shaft e and causing one of its arms to strike one of the holders a^3 and remove it from the support.

The plate e^7 , which slides up and down on the guide-rods $c c$, has a number of holes through it for the cords a^2 , to which the cards are attached, and when said plate is elevated to a position for the pawl e^3 to engage the ratchet-wheel e^2 it will bear upon the bottoms of all the holders a^3 . The plate is made flat,

and the bottoms of all the holders are likewise made flat, so that when the plate is brought up against them they will be caused to occupy a vertical position thereon. As the ratchet-wheel is turned and one of the arms strikes and releases one of the holders it will be understood that the plate e^7 will at such time be in proper position to receive upon it the holder thus released, and as the plate is lowered the holder thus released will remain in vertical position on the plate and will descend with the plate and the card attached to the cord to which said holder is attached will likewise descend. Thus the card will be displayed. As the plate e^7 is again raised for the pawl to again engage and operate the ratchet-wheel the holder thereon will be raised with it; but just before or as the pawl engages said ratchet-wheel the tip or headed end of the holder will strike the support b and will be canted on the plate more or less, as represented in Fig. 6, until its headed end passes above the support, when the holder immediately resumes its vertical position on the plate and thereupon enters one of the recesses of the support and will be held by said support when the plate again descends. Thus it will be seen that each time one of the holders is released the holder previously released will be returned to the support. The holder is caused to occupy a vertical position on the plate by the weight of the card, which under ordinary circumstances will be sufficient to hold it in such position.

I do not desire to limit my invention to the particular construction of mechanism herein shown for accomplishing the several functions herein described nor to the relative location of the case and card-operating devices.

With reference to the relative location of the card-operating devices and the case or card-holder it will be seen by referring to Fig. 7 that the card-operating devices are disposed back of the case instead of above it, and consequently a number of additional pulleys or sheaves will be required for the cards, a detailed description of which view is deemed unnecessary.

I claim—

1. In a card-exhibiting device, the combination of a number of cards, each suspended from a cord, a holder on each cord, a support adapted to receive the several holders and thereby normally support the cards, means for disengaging the several holders from the support, and means for receiving each holder when disengaged and for supporting it while the card is being exhibited and thereafter returning it to said support, substantially as described.

2. In a card-exhibiting device, the combination of a number of cards, each suspended from a cord, a holder on each cord, a support adapted to receive the several holders and thereby normally support the cards, means operated from a distant point for releasing the several holders, and a movable plate also

operated from a distant point which receives each holder when released and supports it while the card is being exhibited and thereafter returns it to said support, substantially as described.

3. In a card-exhibiting device, the combination of a number of cards, each suspended from a cord, a headed holder on each cord, a support having a number of recesses adapted to receive said headed holders and thereby normally support the cards, means for disengaging said headed holders from the support, and a movable plate which receives each holder when released and supports it while the card is being exhibited and thereafter returns it to said support, substantially as described.

4. In a card-exhibiting device, the combination of a number of cards, each suspended from a cord, a headed holder on each cord, a support having a number of recesses adapted to receive said headed holders and thereby normally support the cards, means operated from a distant point for disengaging the several holders from the support, and means for supporting each holder while the card is being exhibited and for restoring said holder when the next holder is being disengaged, substantially as described.

5. In a card-exhibiting device, the combination of a number of cards, each suspended from a cord, a headed holder on each cord, a support having a number of recesses adapted to receive said holders and thereby normally support the cards, a shaft having a number of arms projecting radially from it in different directions for disengaging said headed holders from the support, means for rotating said shaft step by step, and means for receiving each holder when released, for supporting it while the card is being exhibited and for thereafter restoring it, substantially as described.

6. In a card-exhibiting device, the combination of a number of cards, each suspended from a cord, a headed holder on each cord having a flat bottom, a support having a number of recesses adapted to receive said headed holders, means for disengaging said headed holders from the support, and a movable plate operated from a distant point which receives each holder when released and supports it in vertical position while the card is being exhibited and returns it into engagement with the support, the holder being canted on the plate by said support while being restored, substantially as described.

7. In a card-exhibiting device, the combination of a number of cards, each suspended from a cord, a headed holder on each cord having a flat bottom, a support having a number of recesses adapted to receive said headed holders, a shaft having a number of arms

projecting radially from it in different directions for disengaging said headed holders, a step-by-step device for rotating said shaft, a movable plate which receives each holder when released and supports it in vertical position while the card is being exhibited, and thereafter returns it into engagement with the support, the holder being canted on said plate by the support when moved into engagement with it, substantially as described.

8. In a card-exhibiting device, the combination of a number of cards, each suspended from a cord, a holder on each cord, a support adapted to receive the several holders and thereby normally support the cards, a step-by-step device for releasing the several holders, a movable plate having a hole through it for each cord, guides on which said plate travels, and means for moving said plate into position to receive any one of the holders which may be released to thereafter convey said holder to a position to display the card and finally return said holder to the support, substantially as described.

9. In a card-exhibiting device, the combination of a number of cards, each suspended from a cord, a holder on each cord, a support adapted to receive the several holders and thereby normally support the cards, a step-by-step device for releasing the several holders, a movable plate having a hole through it for each cord, bearing the actuating member of said step-by-step device, guides on which said plate travels, and means for moving said plate into position to receive any one of the holders which may be released, to thereafter convey said holder to a position to display the card and finally return said holder to the support, substantially as described.

10. In a card-exhibiting device, the combination of a number of cards, each suspended from a cord, a holder on each cord, a support adapted to receive the several holders and thereby support the cards, a shaft having a number of arms projecting radially from it in different directions for disengaging the several holders, a ratchet-wheel on said shaft, a movable plate having a hole through it for each cord, bearing a pawl for turning said ratchet-wheel, guides on which said plate travels, and means for moving said plate into position to receive any one of the holders which may be released, to thereafter convey said holder to a position to display the card, and finally return said holder to the support, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANK M. CLARK.

Witnesses:

B. J. NOYES,
JOHN W. DECROW.