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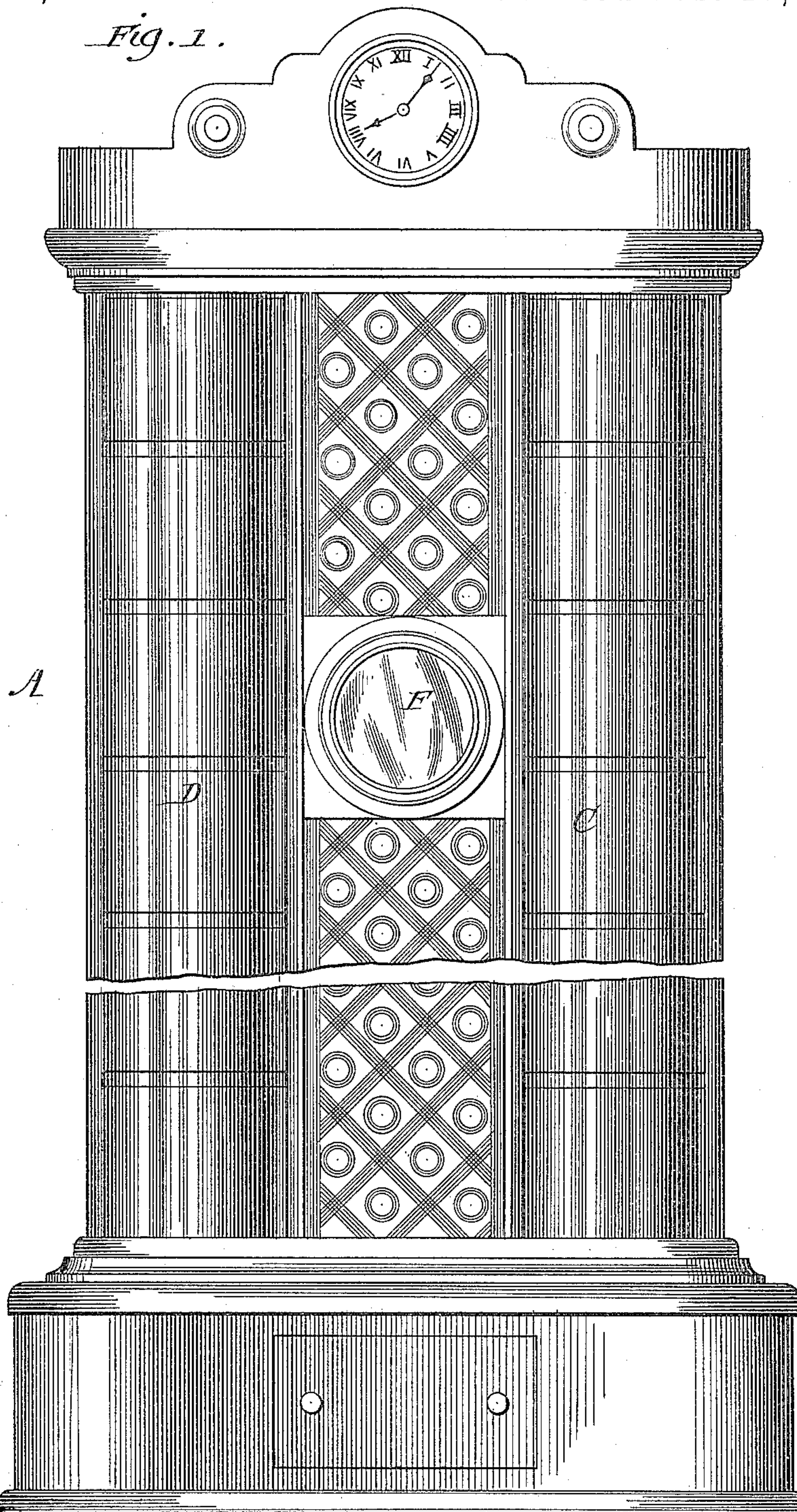
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J. W. FAWKES, Sr., & J. W. FAWKES, Jr.
CARD EXHIBITING DEVICE.

No. 446,439.

Patented Feb. 17, 1891.

Fig. 1.



Witnesses:

Ambrose Risdon
Frank L. Stevens.

Inventor:

Joseph W. Fawkes Sr.
Joseph W. Fawkes Jr.
By Cyrus K. H.
Atty.

(No Model.)

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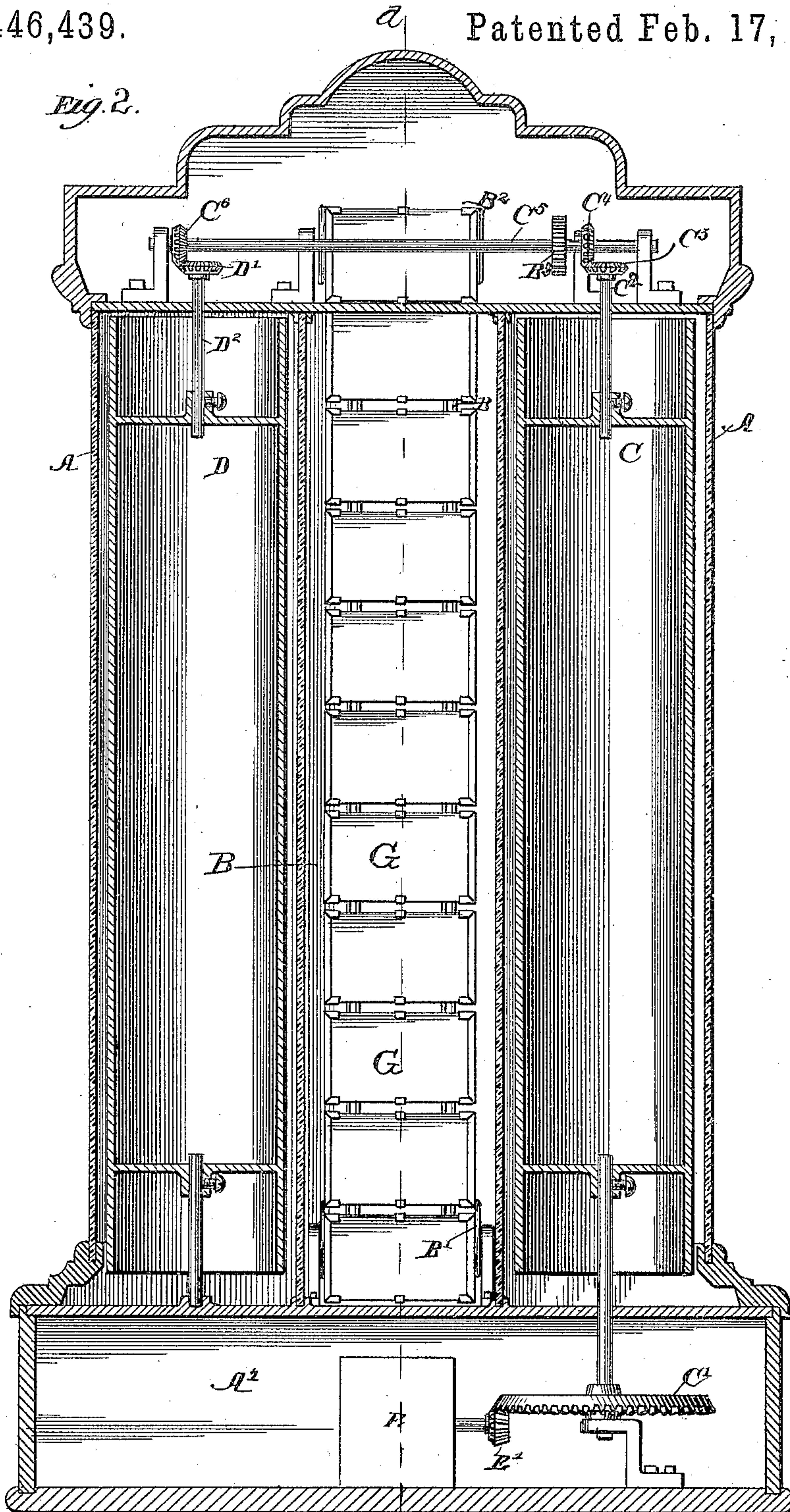
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Fig. 2.



Witnesses:

Ambrose Risdon
Frank L. Stevens.

Inventor:

Joseph W. Fawkes Sr.
Joseph W. Fawkes Jr.
By Cyrus D. Eddy
Att'y

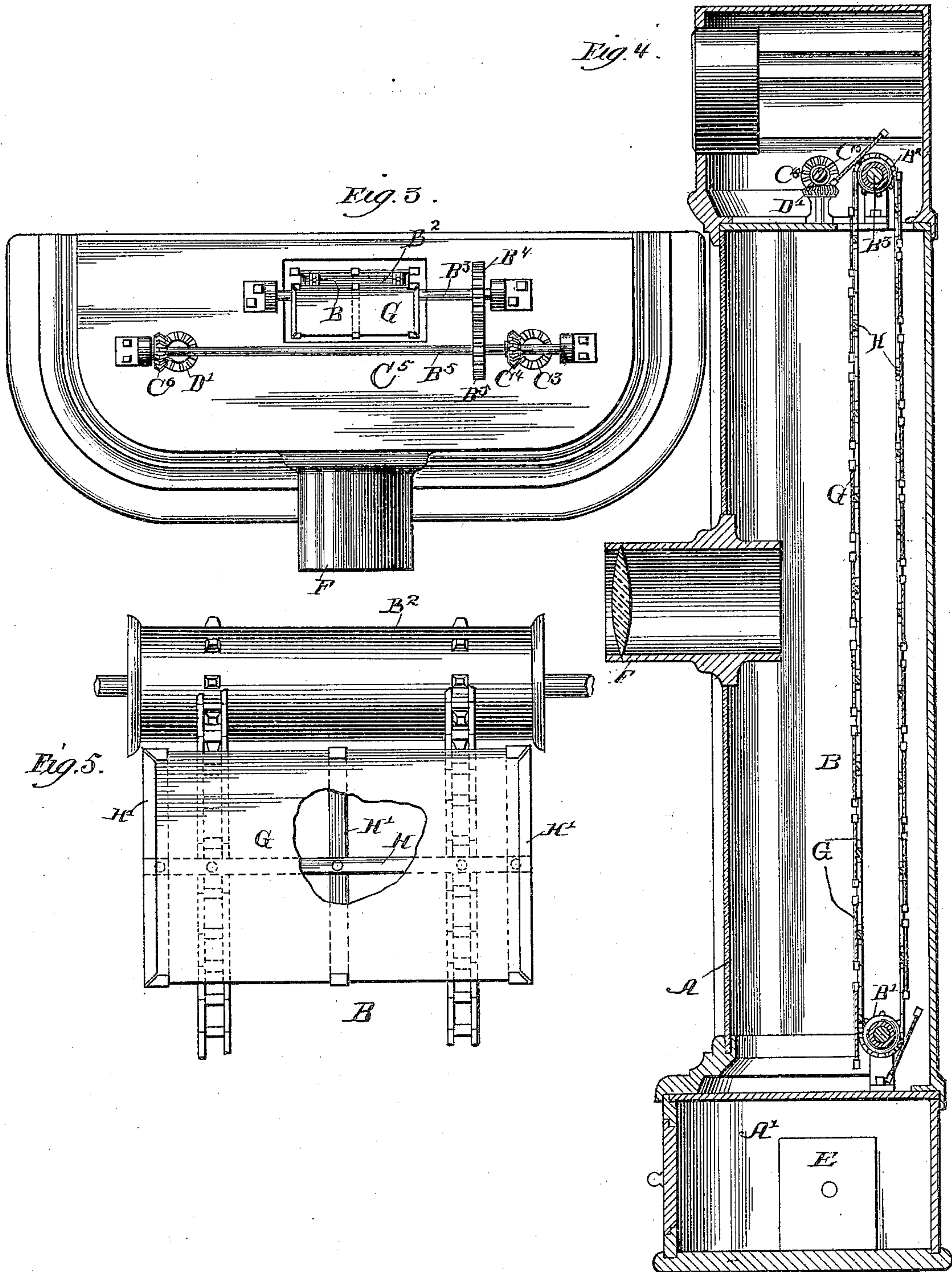
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By Cyrus H. H. H.

UNITED STATES PATENT OFFICE.

JOSEPH W. FAWKES, SR., AND JOSEPH WESLEY FAWKES, JR., OF BURBANK, CALIFORNIA.

CARD-EXHIBITING DEVICE.

SPECIFICATION forming part of Letters Patent No. 446,439, dated February 17, 1891.

Application filed June 28, 1890. Serial No. 357,062. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH W. FAWKES, Sr., and JOSEPH WESLEY FAWKES, Jr., citizens of the United States, residing at Burbank, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Card-Exhibiting Devices; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Our invention relates to an improved endless belt or chain for carrying and exhibiting cards and a card-exhibiting device comprising an endless belt for carrying cards upon their surfaces.

In the accompanying drawings, Figure 1 is a front view of an apparatus embodying our improvement. Fig. 2 is a front view showing the interior of the mechanism. Fig. 3 is a top view with the upper portion of the case removed to expose the mechanism. Fig. 4 is a vertical section in line *a b* of Fig. 2. Fig. 5 is a detail view of the endless belt for carrying cards.

A is the case inclosing and forming a support for the mechanism.

A' is a space in the lower portion or base of the case.

B is the endless belt for carrying cards. This is arranged vertically at the middle of the apparatus and has one side turned toward the front of the case. At its lower end it extends around a horizontal idle roller B'. At its upper end said belt extends around a driven roller B².

C is a vertical rotating cylinder located at the right of the belt B and having upright bearings so that it may be turned on the vertical axis.

E is a motor located within the space A' and is suitably geared to the cylinder C. The drawings show bevel-gears E' and C' for this purpose. The motor drives these gears, and the latter turn the cylinder C.

Instead of locating a motor E within the case, power may be led to the cylinder C in

any suitable manner. The cylinder C is to be covered with cards which are to be displayed, and the wall of the case in front of said cylinder is to be of glass, so that the cards upon said cylinder can be seen. D is a similar cylinder located at the left side of the belt and also mounted in vertical bearings.

To the upper end of the axle C² of the roller C is applied a bevel-gear C³, and extending horizontally across the upper portion of the case to a point above the upper end of the cylinder D is a shaft C⁵, bearing the bevel-gear C⁴ and meshing into the bevel-gear C³. At the opposite end of said shaft C⁵ the latter supports a bevel-gear C⁶, meshing into a bevel-gear D', mounted upon the axle D² of the cylinder D. By this means motion is transmitted from the cylinder C to the cylinder D, and if the motor E turns the former the latter must also turn.

On the axle B³ of the roller B² is mounted a spur-gear B⁴, which meshes into a similar spur-gear B⁵, mounted upon the shaft C⁵. By this means motion is transmitted from the cylinder C to the roller B² and the belt B, so that while the cylinders C and D are rotating on their vertical axes the endless belt is moving vertically and bringing its various portions successively to view. These three members might be coupled together in the base of the apparatus in lieu of the top; but we have found that by placing these connections at the top the relative size of the top and base may be made more harmonious.

All of the portion of the case in front of the belt B may be glass, so that the cards upon the front of the belt can be seen by persons in front of the case, or the case in front of said belt may be opaque and a magnifying-glass F located in the front wall of the case at a suitable height from the base. When the magnifying-glass is used, all the printed matter or views upon the various cards supported by the belt will be enlarged, according to the power of said magnifying-glass. Said belt may be a single broad band of the full width of the rollers B' and B², or it may consist of two smaller bands suitably connected and each having secured to it one end of each card. Fig. 5 shows said belt composed of two sprocket-chains, and the roller B² provided

with sprockets for engaging said chains. Said figure also illustrates means for receiving and holding the cards G. If the cards are secured to the belt by their edges, they are bent in going over the rollers, and if the edges are left free the cards warp, so that they catch as the belt progresses, and portions of each card are taken out of the focus of the magnifying-glass.

10 H is a bar extending transversely over and secured to the belt. Bars H' are extended across and secured to the bar H at right angles to the latter. The ends of the bars H' are turned forward and toward the bar H to surround the edges of the card G, and the outside of the outer bars H' may also be turned forward and toward the middle of the bar H over the ends of the cards G.

The bars H and H' constitute a frame for the cards G, which frame is secured to the belt only along the middle line of said frame, which is at right angles to said belt, and it is obvious that this frame will not be strained or twisted when turning over the rollers of the belt.

25 Instead of making the wall of the case A above and below the magnifying-glass F opaque, said portions of the wall may be of ground or other sight-obstructing glass, which will render the cards out of the range of the magnifying-glass F invisible, but will admit additional light upon the card behind the glass F.

We have found in practice that the belt B may be operated without the idle lower roller B', the belt being merely suspended from the upper roller B².

We claim as our invention—

1. The combination of the endless belt B, means for supporting said belt, the cylinders C and D, located at opposite sides of said belt and in a plane substantially parallel to the faces of said belt, and driving mechanism arranged in suitable relation to said belt and cylinders, substantially as shown and described.

2. The combination of the endless belt B, means for supporting said belt, the cylinders C and D, located at opposite sides of said belt and in a plane substantially parallel to the faces of said belt, and the case A, surrounding said belt and cylinders, substantially as shown and described.

3. The combination of the endless belt B, extending around rollers B' and B², and the cylinders C and D, located at opposite sides of said belt and in a plane substantially parallel to the faces of said belt, a case A, surrounding said belt and cylinders, and a motor E, located within said case and in communication with said belt and cylinders, substantially as shown and described.

4. The combination of the endless belt B, extending around rollers B' and B², and cylinders C and D, located at opposite sides of said belt, a case A, surrounding said belt and cylinders, said belt and one of said cyl-

inders being geared to the other of said cylinders, and means for imparting motion to one of said cylinders, substantially as shown and described.

5. The combination of the endless belt B, extending around rollers B' and B², and cylinders C and D, located at opposite sides of said belt, a case A, surrounding said belt and cylinders, said belt and one of said cylinders being geared to the other of said cylinders, and a motor E for driving one of said cylinders, substantially as shown and described.

6. In a card-exhibiting apparatus, the combination of the case A and the four members—to wit, belt B, a roller B² for supporting said belt, and cylinders C and D—located within said case at the sides of said belt, said roller and cylinder being geared to each other, substantially as shown and described.

7. In a card-exhibiting apparatus, the combination of the case A, the four members—to wit, belt B, roller B² for supporting said belt, and cylinders C and D—located within said case at opposite side of said belt, said roller and cylinder being geared to each other, and a motor located within said case and connected with one of said members, substantially as shown and described.

8. In a card-exhibiting apparatus, the combination of the case A, rotary cylinders C and D, located within said case, an endless belt located between said cylinders, and a roller for supporting said belt, said case having a glass wall in front of said cylinders and a magnifying-glass in front of said belt, substantially as shown and described.

9. In a card-exhibiting apparatus, the combination of the case A, rotary cylinders C and D, located within said case, an endless belt located between said cylinders and a roller for supporting said belt, said case having a glass wall in front of said cylinders and a magnifying glass in front of said belt, and a motor located within said case below and connected with said belt and cylinders, substantially as shown and described.

10. In a card-exhibiting apparatus, the combination of the case A, rollers B' and B², belt B, extending around said rollers, gear B⁴ upon the axle B³ of the roller B², cylinders C and D, located on opposite sides of the belt B, gear C³ on the cylinder C, gear D' on the cylinder D, shaft C⁵, supporting the gear C⁶, meshing into the gear D', the gear C⁴, meshing into the gear C³, and means for imparting motion to the train of mechanism composed of the parts mentioned, substantially as shown and described.

11. In a card-exhibiting apparatus, the combination of the case A, rollers B' and B², belt B, extending around said rollers, gear B⁴ upon the axle B³ of the roller B², cylinders C and D, located on opposite sides of the belt B, gear C³ on the cylinder C, gear D' on the cylinder D, shaft C⁵, supporting the gear C⁶, meshing into the gear D', the gear C⁴,

meshing into the gear C³, and a motor located within the lower portion of the case to impart motion to the train of parts mentioned, substantially as shown and described.

5 12. In a card-exhibiting apparatus, the combination, with a card-carrying belt, of a card-receiving frame secured to said belt only along the middle line of said frame, which is at right angles to the length of said belt, and means for supporting and driving said belt, substantially as shown and described.

13. In a card-exhibiting apparatus, the combination, with a card-carrying belt, of a bar H, applied and secured transversely to said belt, and card-holding bars H', applied over said bar H, substantially as shown and described.

14. In a card-exhibiting apparatus, the combination, with a card-carrying belt, of a bar H, applied and secured transversely to said belt, bars H', crossing and secured to said bar H at right angles, the outer of said bars H² having their ends and outer sides turned toward the bar H, and the intermediate bars H' having their ends turned toward the bar H, substantially as shown and described.

15. An endless card-carrying belt composed of a pair of sprocket-chains, a card-receiving frame secured to said belt only along the mid-

dle line of said frame, which is at right angles to the length of said belt, and means for supporting and driving said belt, substantially as shown and described.

16. An endless card-carrying belt composed of a pair of sprocket-chains, bars H, applied and secured transversely to said sprocket-chains, and bars H', crossing and secured to said bar H and having turned edges for engaging the edges of the cards, substantially as shown and described.

17. In a card-exhibiting apparatus, the combination of an endless belt B, means for supporting said belt, cylinders C and D, located at opposite sides of said belt, means for driving said belt and cylinders, a case A, surrounding said belt and cylinders and having ordinary glass in front of said cylinders, and a magnifying-glass and sight-obstructing glass in front of said belt, substantially as shown and described.

In testimony whereof we affix our signatures, in presence of two witnesses, this 9th day of June, 1890.

JOSEPH W. FAWKES, SR.

JOSEPH WESLEY FAWKES, JR.

Witnesses:

W. M. URBEE,

JNO. C. REID.