

No. 834,738.

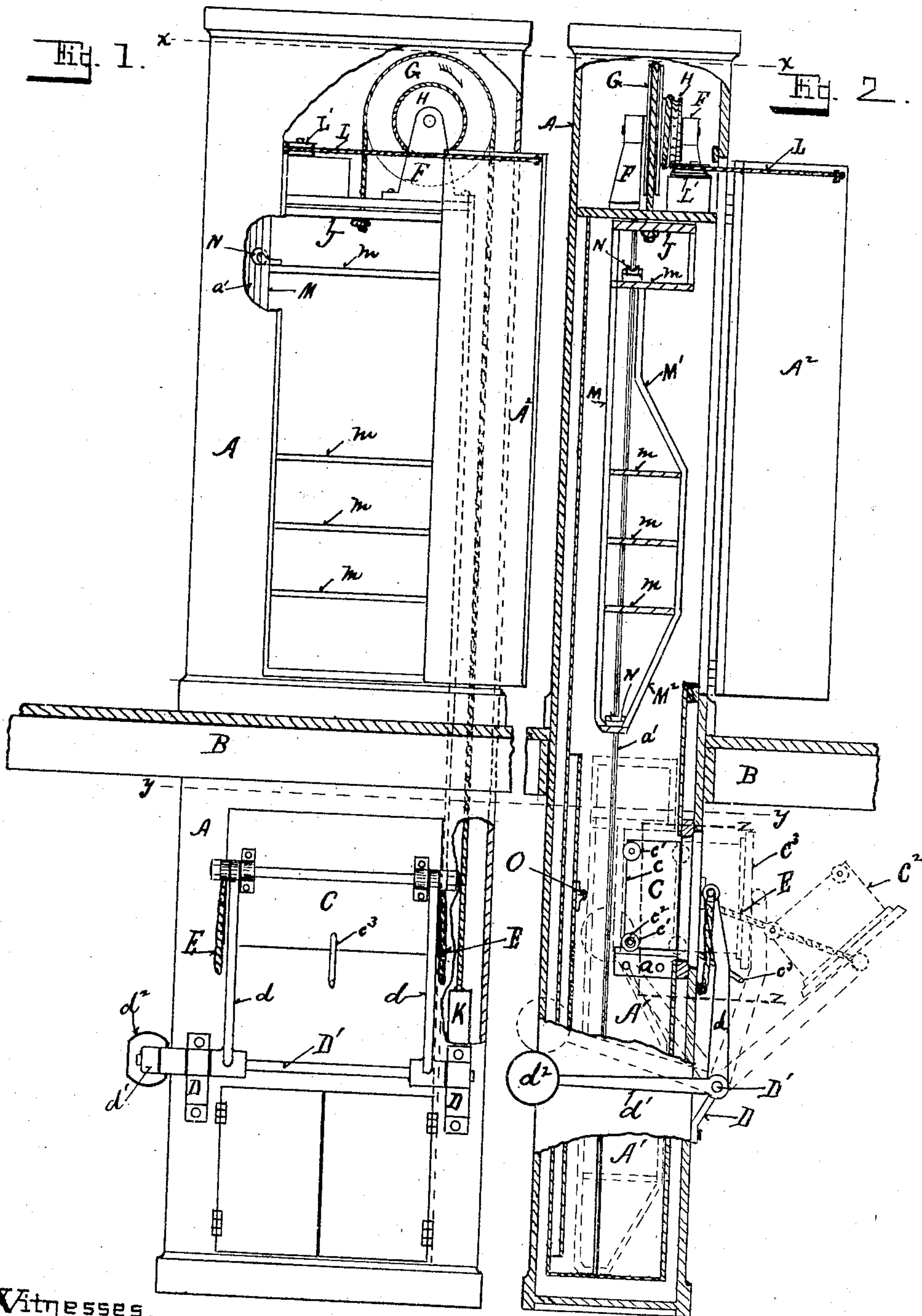
PATENTED OCT. 30, 1906.

H. KELLER.

COMBINED DUMB WAITER AND REFRIGERATOR.

APPLICATION FILED MAY 29, 1906.

2 SHEETS—SHEET 1.



Witnesses.

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Florence Stockert

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2 SHEETS—SHEET 2.

Fig. 3.

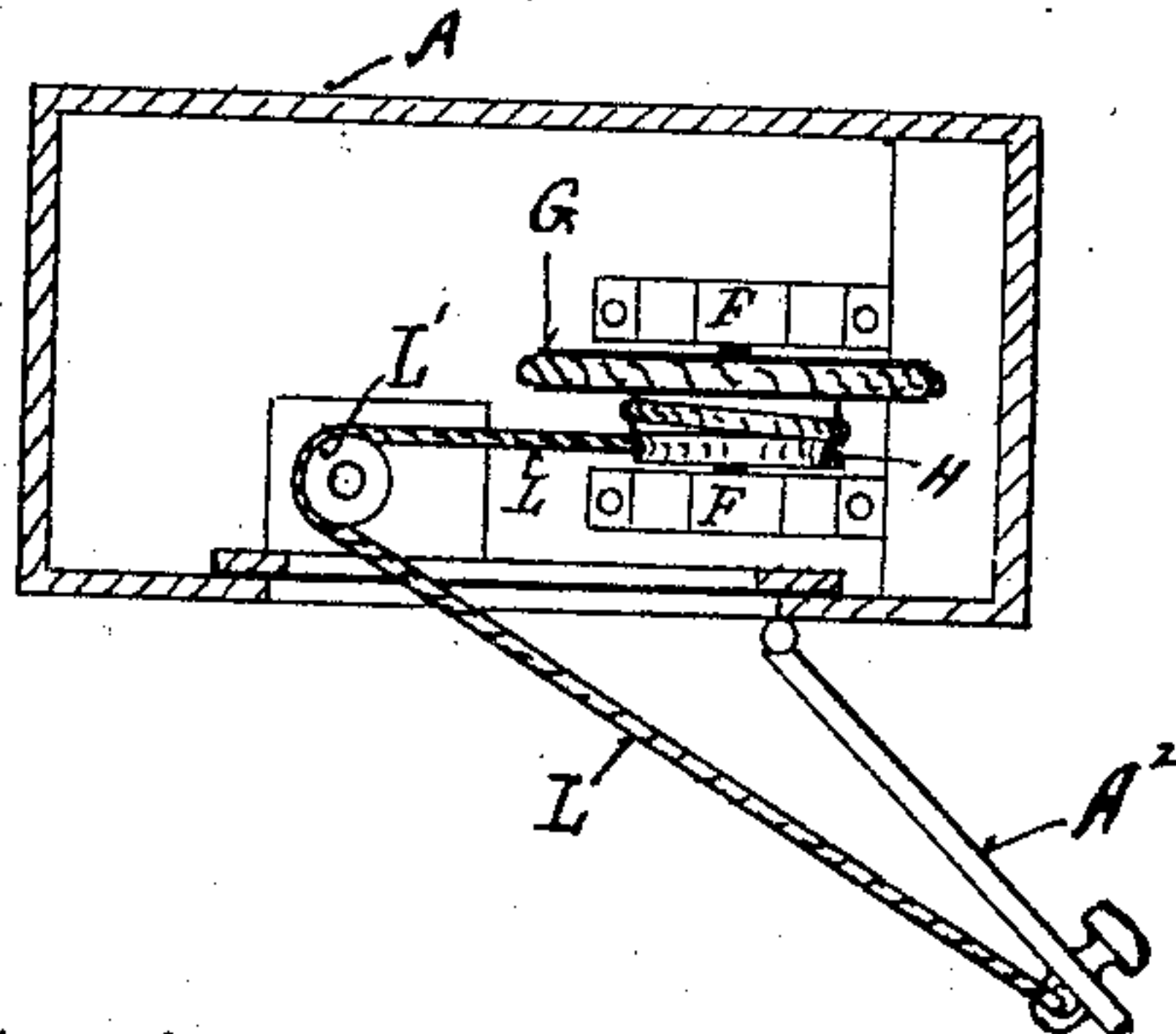


Fig. 4.

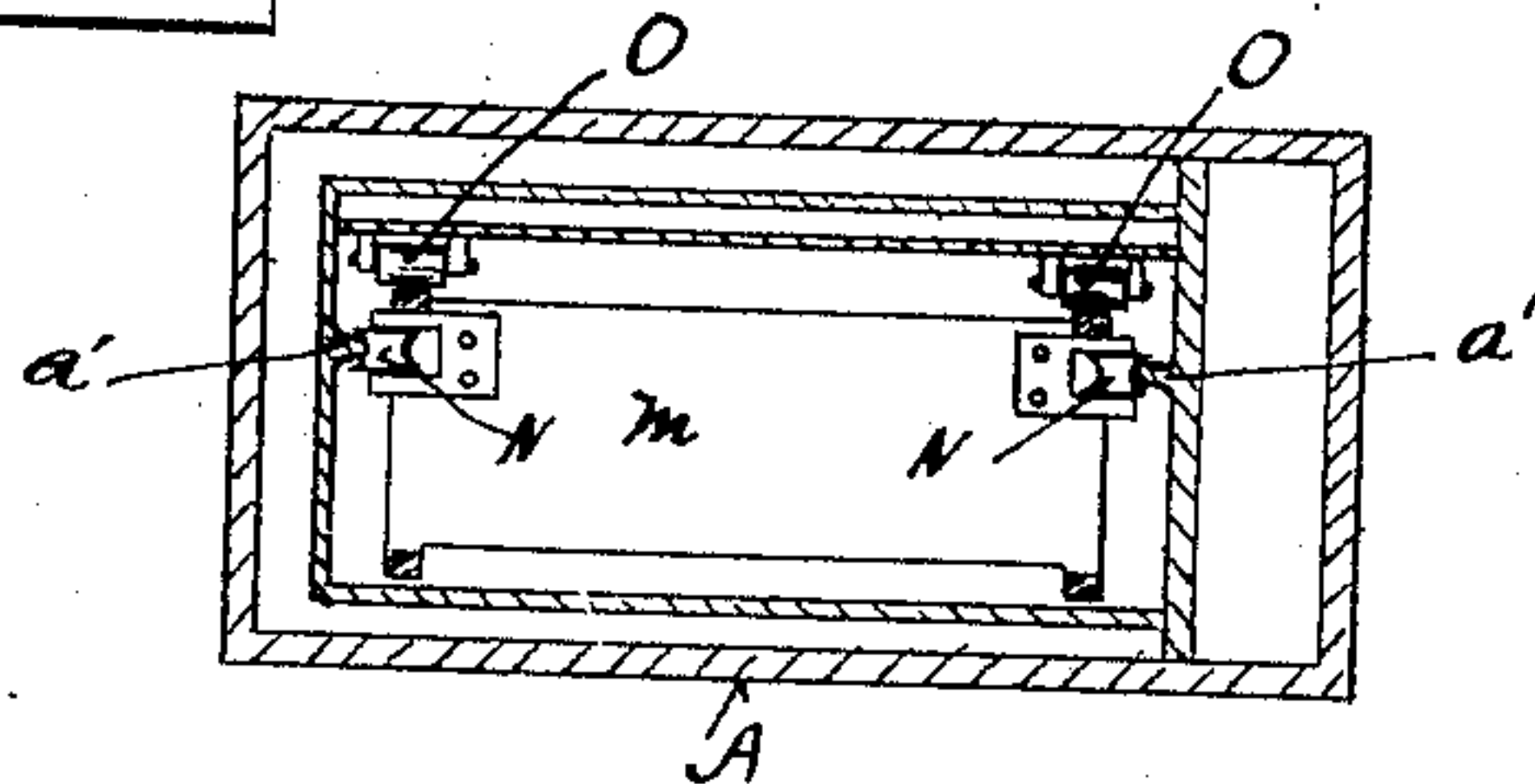
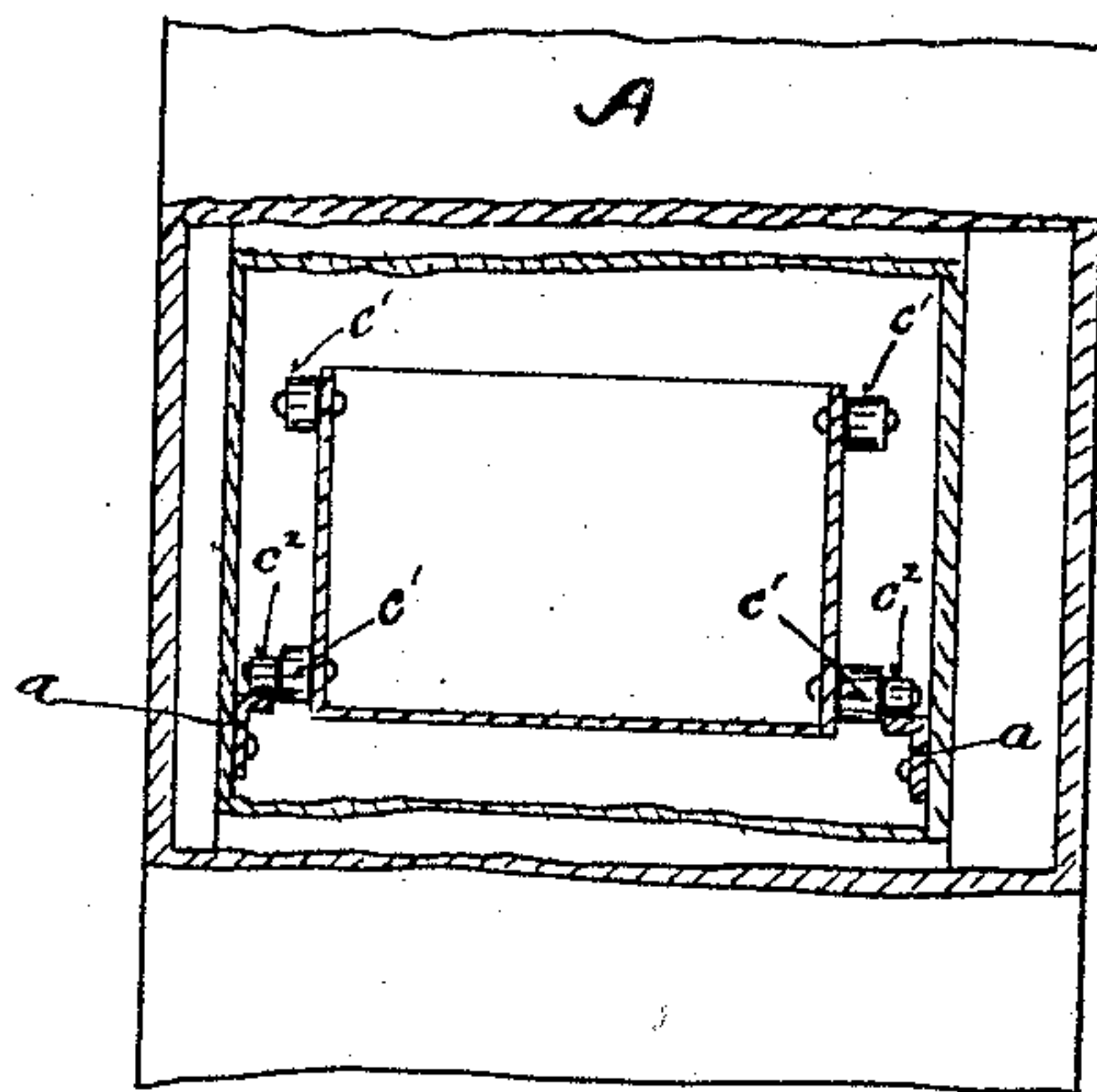


Fig. 5.



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UNITED STATES PATENT OFFICE.

HENRY KELLER, OF ERIE, PENNSYLVANIA, ASSIGNOR TO AUTOMATIC DUMB-WAITER REFRIGERATOR COMPANY, OF ERIE, PENNSYLVANIA.

COMBINED DUMB-WAITER AND REFRIGERATOR.

No. 834,738.

Specification of Letters Patent.

Patented Oct. 30, 1906.

Application filed May 29, 1906. Serial No. 319,371.

To all whom it may concern:

Be it known that I, HENRY KELLER, a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in a Combined Dumb-Waiter and Refrigerator; and I 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 the letters of reference marked thereon, forming part of this specification.

My invention relates to a combined refrigerator and dumb-waiter, and has for its object the construction of a combined refrigerator and dumb-waiter in such a manner that the receptacle for the ice is normally directly above the dumb-waiter shelves when in the refrigerator-chamber, but when the dumb-waiter shelves are moved upward said ice-receptacle is moved out of the line of traverse of said shelves, and after they have passed upward said ice-receptacle is moved back to its normal position in the dumb-waiter shaft. These and other features of my invention will appear hereinafter and are illustrated in the accompanying drawings, in which—

Figure 1 is a front view in elevation of a combined refrigerator and dumb-waiter, showing the dumb-waiter door open and the dumb-waiter raised. Fig. 2 is an edgewise view of the same with portions of the case broken away, showing the manner of operating the ice-receptacle. Fig. 3 is a transverse section of the same on the line $x x$ in Figs. 1 and 2. Fig. 4 is a like view of the same on the line $y y$ in said figures, with the dumb-waiter shelves lowered into the refrigerator-chamber. Fig. 5 is a sectional view of a portion of my invention on the line $Z Z$ in Fig. 2 to illustrate a portion of the supporting mechanism for the ice-receptacle.

In the drawings illustrating my invention, A is a dumb-waiter case extending up through two or more stories of a building, and B is the floor of the second story thereof. In the lower part of the case A, below the floor B, I have shown a refrigerator-chamber A', and through one side thereof I make an opening into which I fit an ice-receptacle C, which closely fits said opening when in its normal position, as shown by full lines in Figs. 1 and

2. On each end of the ice-receptacle, adjacent to the inner side c thereof, I secure rollers $c' c'$, and on the lower corners thereof outside of said rollers $c' c'$ I place two other rollers $c^2 c^2$, which bear upon the supports $a a$ for the purpose of supporting the rear end of the ice-receptacle C.

For supporting the front end of the ice-receptacle C, I preferably secure to the front of the case A, below the floor B, near each side thereof, brackets D D, having shaft-bearings therein, and in these bearings I mount a transverse rock-shaft D'. Secured upon this rock-shaft D', inside of the brackets D, are arms $d d$, which extend upward to and are pivotally secured to the front side of the ice-receptacle C, thereby securely supporting the same. Upon the end of the shaft D', I secure a counterweight lever d' , and upon the free end thereof I place a counterweight d^2 , which operates through the shaft D' and arms $d d$ to retain the ice-receptacle in its normal position, as shown by full lines in Fig. 2. I also provide stays E, of rope or chain, to support the receptacle C, when the same is swung outward, as shown by the broken lines C² in Fig. 2 for the purpose of filling the same with ice.

The ice-receptacle C, I preferably construct in the shape of an open-top box, of sheet metal galvanized, or of other sanitary non-corrodible material, having the ends and rear side of open lattice-work with a pan at the bottom to catch the drip which is carried off through the waste-pipe c^3 . The exact construction of this ice-receptacle is not material to my invention.

Within the case A, at each side thereof, I place a rib or guide a' , which extends from the bottom to the top of the dumb-waiter shaft. In the top of the case A, upon suitable supports F, I mount a pulley G, having on the side thereof a smaller drum or pulley H. Over the pulley G a cable G' is placed, having secured at one end thereof the dumb-waiter J and at the other a counterweight K. (See Fig. 1.)

In the front of the case A above the floor B there is a door A², which when open gives access to the dumb-waiter shaft. Secured to and wrapped around drum H is an operating rope or cable L, which passes around an idler-pulley L' and is preferably secured to the door A². This cable L may, however,

be operated by hand, as desired, instead of by the opening of the door A^2 ; but I prefer to operate the same as shown in the drawings.

5 The side frames M of the dumb-waiter are constructed with inclined cams M' and M^2 in the fronts thereof for the purpose hereinafter set forth. Between these side frames M there are shelves m , upon which articles
10 which it is desired to place in the refrigerator are placed. At the top and bottom of the side frames M at each side of the dumb-waiter small grooved rollers are placed N , which engage with the ribs or guides a' at each side
15 of the dumb-waiter shaft and serve to guide the dumb-waiter and prevent it from swinging laterally in the case A .

Within the refrigerator-chamber A' , opposite the ice-receptacle C upon the back of
20 the chamber, are secured rollers O , (see Figs. 2 and 4,) for the purpose hereinafter set forth.

In operation when it is desired to lower the dumb-waiter into the refrigerator-chamber A' it is loaded with such articles as may be
25 desired and sufficient weight placed thereon to overcome the counterweight K when the door A^2 is slowly closed, allowing the dumb-waiter to descend in the shaft until the inclined cam M^2 on the lower end of the side
30 frames thereof contact with the upper rollers c' on the ice-receptacle and forces the same outward, as shown by the dotted lines C^3 in Fig. 2. At this time the rear or straight side
35 of the side frames M of the dumb-waiter contacts with the rollers O , which assist the grooved rollers N in preventing the dumb-waiter from being swung backward by the ice-receptacle. As the dumb-waiter passes
40 downward and the lower roller c' on the ice-receptacle C passes over and off of the inclined surface M' the counterweight d^2 through the arms d' and d forces the ice-receptacle C back to its normal position, as
45 shown by full lines in Fig. 2, during which operation the rear end of the ice-receptacle is supported upon the rollers c^2 . When it is desired to raise the dumb-waiter, the opening
50 of the door A^2 through the cable L causes the pulley G to rotate in the direction of the arrow in Fig. 1, which raises the dumb-waiter.

Having thus described my invention so as to enable others to construct and use the same, what I claim as new, and desire to secure by Letters Patent of the United States,
55 is—

1. In a combined refrigerator and dumb-waiter the combination of a dumb-waiter shaft, dumb-waiter shelves in said shaft,
60 means to raise and lower said shelves, an ice-

receptacle in said shaft, means to move said ice-receptacle out of the line of said shaft when said shelves are raised or lowered, and means to return said ice-receptacle into the line of said shaft after the dumb-waiter
65 shelves have passed the plane of said receptacle, substantially as set forth.

2. In a combined refrigerator and dumb-waiter, the combination of a dumb-waiter shaft, dumb-waiter shelves therein, and a
70 horizontally-movable ice-receptacle in said dumb-waiter shaft, substantially as set forth.

3. The combination in a dumb-waiter, of a dumb-waiter shaft, dumb-waiter shelves therein, mechanism adapted to support and
75 operate said shelves, a door in said shaft, and mechanism secured to said door adapted to cause said shelf-supporting mechanism to operate when said door is opened or closed,
80 substantially as set forth.

4. The combination in a dumb-waiter and refrigerator, of a dumb-waiter shaft, dumb-waiter shelves vertically operable in said shaft, an ice-receptacle in said shaft pivoted
85 on supports so as to be swung out of said shaft when the dumb-waiter shelves are raised or lowered, and counterweight and lever mechanism adapted to return said ice-receptacle into said shaft and retain it there-
90 in after said shelves have passed above or below it, substantially as set forth.

5. In a combined dumb-waiter and refrigerator, the combination of a dumb-waiter shaft, dumb-waiter shelves in said shaft, means adapted to support and operate said
95 shelves, cams secured to said shelves, a horizontally-movable ice-receptacle in said shaft adapted to be engaged and moved outward by said cams on said shelves, brackets in said shaft to support said receptacle in the line of
100 traverse of said shelves, lever and weight mechanism adapted to return said ice-receptacle to its normal position within said shaft after said cams have passed out of engagement therewith, substantially as set forth.
105

6. In a dumb-waiter the combination of a dumb-waiter shaft, dumb-waiter shelves mounted upon guides therein, a pulley in the upper part of said shaft, a counterweight, a cable, having one end attached to said dumb-
110 waiter shelves and the other attached to said counterweight and operable over said pulley, and means to operate said pulley, substantially as described.

In testimony whereof I affix my signature
115 in presence of two witnesses.

HENRY KELLER.

Witnesses:

H. M. STURGEON,
L. G. SKINNER.