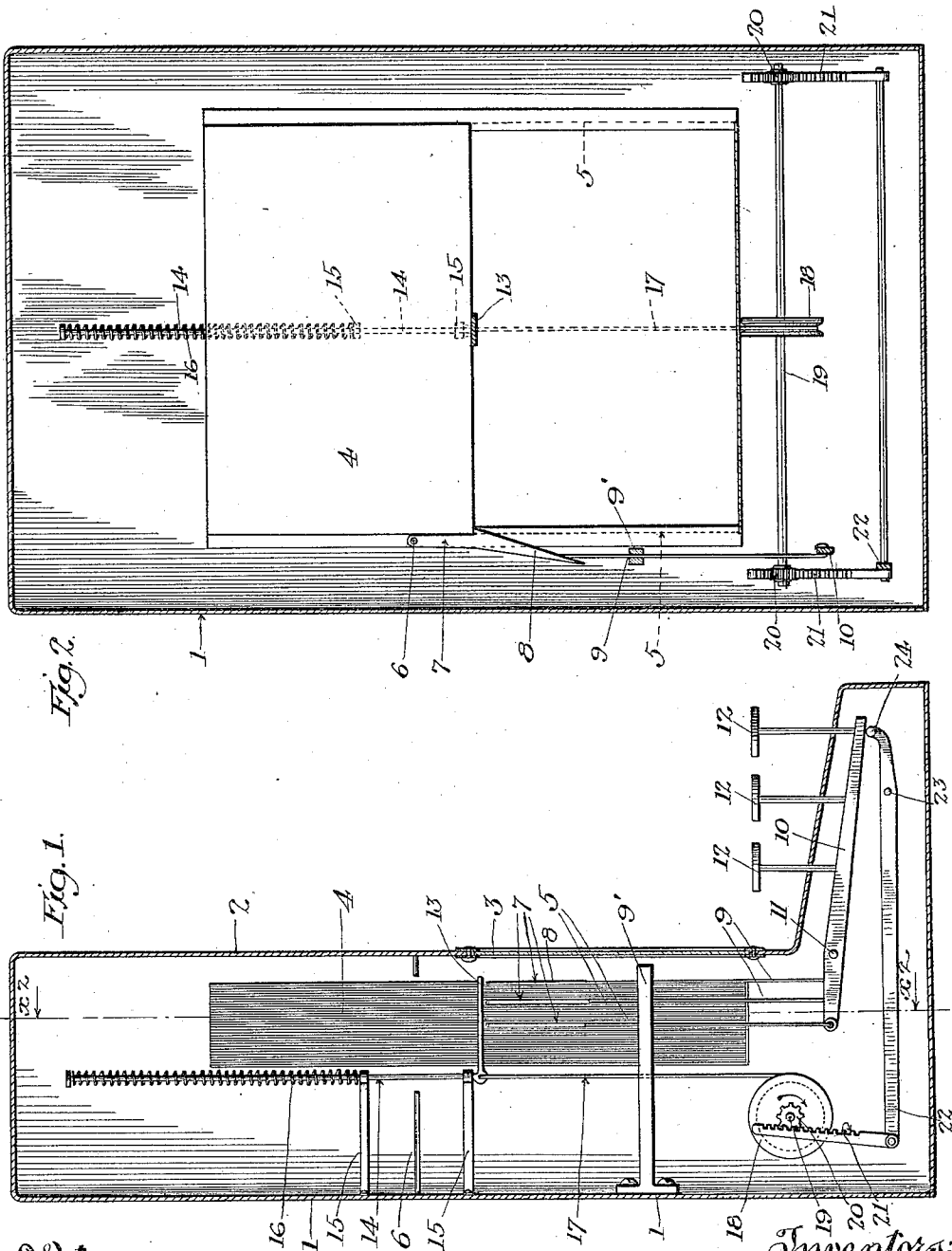


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KEY OPERATED DIRECTORY.
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1,024,211.

Patented Apr. 23, 1912.



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UNITED STATES PATENT OFFICE.

GEORGE I. LEONARD AND WILLIAM C. CUTLER, OF LOS ANGELES, CALIFORNIA,
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KEY-OPERATED DIRECTORY.

1,024,211.

Specification of Letters Patent.

Patented Apr. 23, 1912.

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To all whom it may concern:

Be it known that we, GEORGE I. LEONARD and WILLIAM C. CUTLER, both citizens of the United States, and residing at Los Angeles, in the county of Los Angeles, State of California, have invented a new and useful Key-Operated Directory, of which the following is a specification.

This invention relates to key operated directories and has for its object to provide a machine which has a key mechanism each key corresponding to the initial letter of certain names whereby upon pressing a key, mechanism will be operated to bring a card into view bearing all of the names having the initial letter corresponding to the key which was pressed. For example, in banks the paying teller may have a set of cards in the machine each card carrying the names of depositors all having the same initial letter and the balance of those depositors may be arranged opposite their respective names so that by simply pressing a key the paying teller may bring immediately into view the card bearing the name of the depositor the balance of whose account the teller desires to know. Or each card could contain all of the names of persons in a certain business, thus if it be desired to examine a list of lawyers the key corresponding to the card containing a list of lawyers with their addresses may be pressed which will bring that card into view. This makes the device of especial value as an advertising medium. Many other uses will readily suggest themselves.

Referring to the drawings: Figure 1 is a vertical section through the machine. Fig. 2 is a cross section on line x^2-x^2 Fig. 1.

The device comprises a case 1 in the front wall 2 of which is a transparent panel 3. A series of cards 4 is arranged within the case 1 the cards being slidably mounted in vertical grooved ways 5. A shaft 6 extends along one side of the pack of cards and pivoted on the shaft 6 is a series of detents 7. In Fig. 1 the upper portion of the detents 7 are broken away for illustrative purposes and only three detents are shown although it will be readily understood that there is one detent for each card. Each detent 7 has an inclined extension 8. A plurality of push rods 9 are pivoted at their lower ends to levers 10, the upper ends of the rods 9 being slidably supported in a bar 9'. Each

lever 10 being pivoted on a shaft 11. Connected with each lever 10 is a finger button 12, each finger button 12 corresponding to the associated detent 7 and card 4. Each detent 7 normally engages under the lower edge of its associated card 4 as shown in Fig. 2.

Projecting under the pack of cards 4 is a card elevator 13 which is rigidly secured at right angles to a vertical rod 14 which is slidable in brackets 15 and a coil spring 16 serves to raise the rod 14 and card elevator 13 into position shown in Fig. 1. Attached to the lower end of the rod 14 is a flexible connection 17 which is wound on a pulley 18 the latter being rigidly secured on a shaft 19 and having pinions 20 which mesh with racks 21 the racks 21 being pivotally secured to levers 22 which are pivoted at 23 and have a universal bar 24 which extends under all of the levers 10.

In operation the cards normally stand as shown in Figs. 1 and 2 above the panel 3. When it is desired to inspect one of the cards the button 12 corresponding to that card is pressed thereby tilting lever 10 connected therewith and lifting the rod 9 associated with the lever 10. As the rod 9 is lifted its upper end slides along the inclined extension 8 and tilts the detent laterally out of engagement with its card. As the lever 10 is thus depressed it acts against the universal bar 24 and tilts the levers 22 and moves up the racks 21 thereby rotating the pinions 20 and pulley 18 in the direction of the arrow Fig. 1. As the pulley is thus rotated it pulls down on the flexible connection 17 and overcoming the spring 16, draws down the rod 14 and with it the card elevator 13. As the card elevator 13 thus moves down the particular card which had been released by the detent 8 is allowed to move down resting on the elevator 13 while the remaining cards are still kept suspended by the other detents 7 which have not been released. The card which is thus moved down appears to view through the transparent panel 3 so that the names thereon may be readily seen and the card remains in view as long as the button 12 is held depressed. As soon as the button 12 is released the spring 16 expands and moves up the rod 14 thereby drawing up the elevator 13 and the latter lifts the card 4 into its position with the rest of the pack of cards at the top

and as the card thus moves up the flexible connection 17 turns the pulley 18 in the opposite direction to that indicated in Fig. 1 and moves down the racks 21 and restores the levers 22, the universal bar 24, and lever 10.

What we claim is:

1. A series of cards slidably supported, a slidable card elevator extending underneath the cards, a series of detents engaging the respective cards, and key mechanism for operating a detent to release a card and depress said card elevator, and means for automatically lifting said card elevator to restore the card.

2. A case with a transparent panel, a series of cards slidably supported, a series of detents retaining the respective cards, a card elevator, key mechanism comprising a plurality of keys, a mechanism associated with each key for releasing the associated detent and pulling down the card elevator, and means operating automatically upon the release of a key for raising said card elevator and restoring the card.

3. A case with a transparent panel, a series of cards within the case, grooved ways supporting the cards, a card elevator slidable in the direction of said grooved ways, a spring for elevating said card elevator, a pulley, a pinion and shaft for operating

said pulley, a rack engaging said pinion, a pivoted frame carrying said rack, a series of detents engaging the respective cards, a series of key levers extending over said frame and adapted to operate the frame, a connection from each detent to each key lever, and finger pieces for operating each key lever.

4. A case provided with a transparent panel, a series of cards above said panel, a series of detents and inclined projections engaging and retaining said cards in elevated position, a series of vertical rods with their ends extending under the inclined projections of the detents, a series of key levers for operating said rods to release the detents when a key lever is depressed, a card elevator extending under the cards, and means operated by each key lever upon being depressed to lower said card elevator, and spring means for raising said elevator when a key is released.

In testimony whereof, we have hereunto set our hands at Los Angeles California this 23 day of August 1911.

GEORGE I. LEONARD.
W. C. CUTLER.

In presence of—

G. T. HACKLEY,
GLADYS RUSSELL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."