K. L. EDDY.

LOOSE LEAF DEVICE.

APPLICATION FILED MAR. 30, 1914.

1,276,503.

Patented Aug. 20, 1918.

3 SHEETS—SHEET 1.

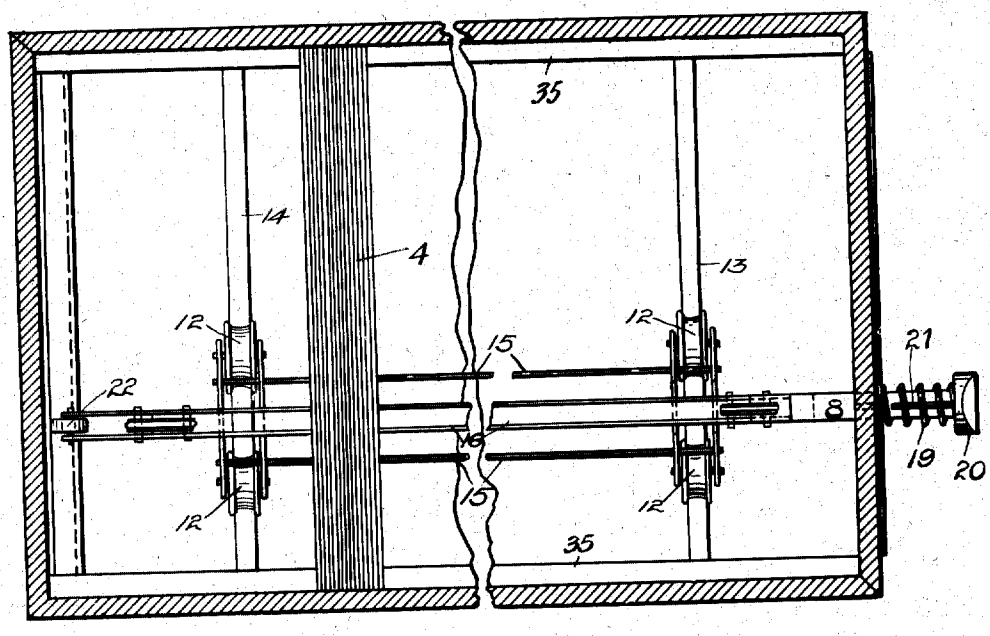


Fig 2

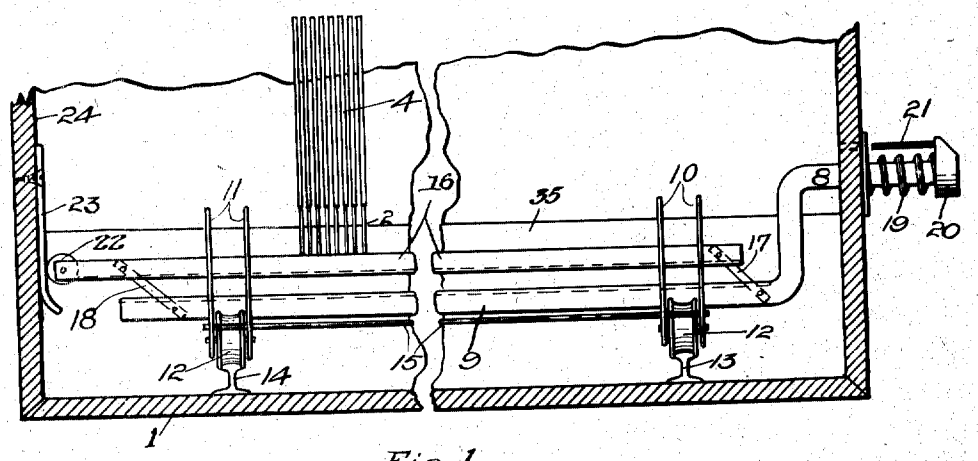


Fig 1

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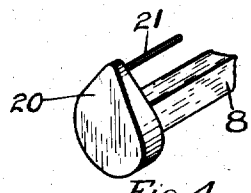


Fig 4.

Fig 3

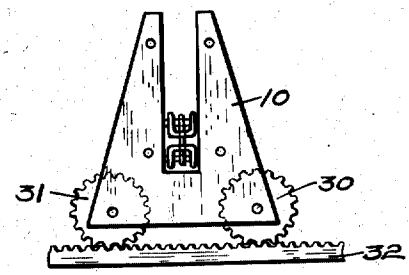


Fig 11

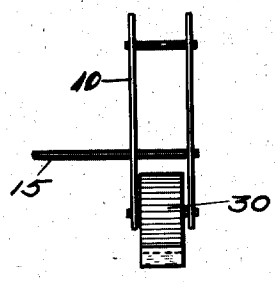


Fig 12

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3 SHEETS—SHEET 3.

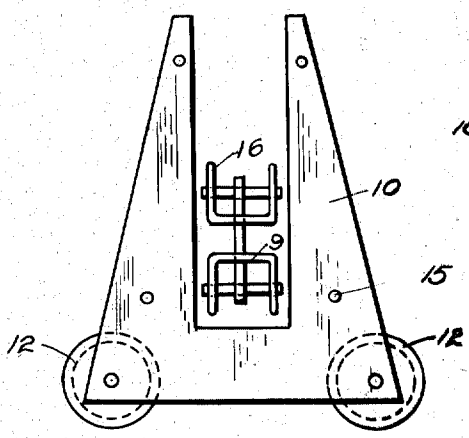


Fig 5

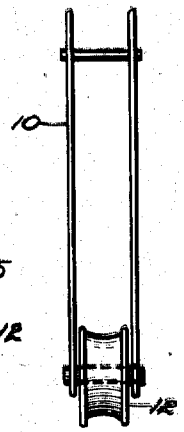


Fig 6

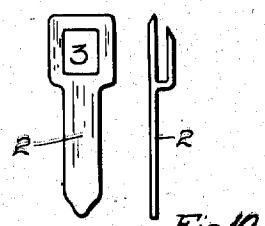


Fig 9

Fig 10

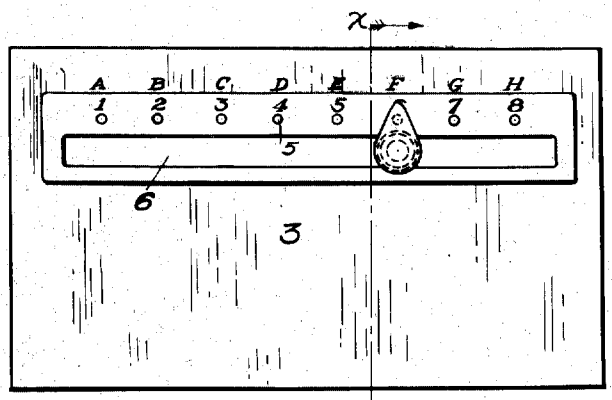


Fig 7

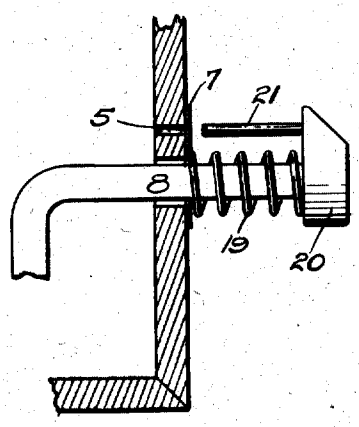


Fig 8

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UNITED STATES PATENT OFFICE.

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LOOSE-LEAF DEVICE.

1,276,503. Specification of Letters Patent. Patented Aug. 20, 1918.

Application filed March 30, 1914. Serial No. 828,173.

To all whom it may concern:

Be it known that I, KENNETH L. EDDY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Loose-Leaf Devices, of which the following is a specification.

My invention relates to that class of devices which are designed to lift a card or a group of cards above their normal plane.

Devices of this character, with which I am familiar, usually comprise a containing case, a plurality of loose-leaf cards mounted therein, the cards being provided with indicia on their lower edge, and metal clips which are adjustable longitudinally on the lower edge of the cards and are adapted to be placed in varying positions on the card. In the bottom of the containing case are generally mounted a number of devices which engage the clips on the bottom of the card.

As it is necessary that these lifting devices should be exact in operation, and move with a great deal of ease, it necessarily follows that they have to be constructed with a great deal of care, and inasmuch as the space in the bottom of the box is necessarily somewhat limited, it results that they have to be extremely small which results in increasing the necessity for fine workmanship upon them. The result of all this is that the devices are exceedingly expensive to manufacture.

My invention has for its object to overcome this feature and to provide a device in which one raising mechanism can be employed for the purpose of elevating or raising any series or group of cards, and has for its further object to provide means to insure the rising bar always engaging the ends of the pins which are in alinement therewith.

My means of accomplishing the foregoing may be more readily understood by having reference to the accompanying drawings, which are hereunto annexed and are a part of this specification, in which:

Figure 1 is a side view of my loose leaf card index box, the side wall being omitted to show the interior construction.

Fig. 2 is a top or plan view of the same.

Fig. 3 is an isometric perspective view of the carriage and lifting device together with one of the cards, the casing being omitted for the sake of clearness.

Fig. 4 is an enlarged detail view of the guide.

Fig. 5 is an enlarged detail view of the carriage.

Fig. 6 is an end elevation of one member of the same.

Fig. 7 is a view of the front of the box, showing the manner of guiding the longitudinal movement of the bar.

Fig. 8 is a sectional view taken on the line x—x in Fig. 7, in the direction indicated by the arrows.

Fig. 9 is an enlarged detail view of one of the pins.

Fig. 10 is an edge view of the same.

Fig. 11 is a front view of a modified form.

Fig. 12 is an end elevation of the same.

Similar reference numerals refer to similar parts throughout the entire description.

As shown in the drawings, my invention consists of a box or casing 1, in which is mounted a plurality of loose leaves 4. The lower edges of these leaves have secured thereto and depending therefrom a plurality of metal clips or pins 2. These pins are clearly shown in the detail views, Figs. 9 and 10, and consist of a downwardly depending portion and a card engaging portion, the center of the card engaging portion being punched out to leave an opening 3, the card being inserted between the punched out portion and the remaining card engaging portion of the pin.

The lower edge of the card is printed with a number of devices which may consist of letters of the alphabet or numerals, and the pins 2 are arranged to engage the said numerals in any designated position, the pin being provided with an opening 3 formed by the portion punched out of the central portion of the pin, and this opening shows clearly the numeral or letter on the lower edge of the car as clearly seen in Fig. 3.

On the front wall 3, of the casing 1, is

provided a plate 7, which has a plurality of perforations 5, which are designated by certain letters or numerals, the numbers corresponding in position to the numbers or letters printed upon the lower edge of the cards 4.

A slot 6, is formed in the lower portion of the plate 7, in which is slidably mounted the outwardly extending portion 8, of the longitudinally movable bar 9. This bar is mounted in two carriages 10 and 11, which are provided with wheels 12, adapted to roll upon rails 13 and 14, mounted on the bottom of the casing 1, near the forward and rear ends of the casing. The carriages 10 and 11, are connected together by tie rods 15, which serve to hold them in perfect alinement.

A rising bar 16, is connected to the longitudinally movable rod 9, by means of toggles 17 and 18. A coil spring 19, is located intermediate a push button 20, and the front wall of the casing, and is provided to hold the longitudinally movable bar 9, normally in an outwardly projected position.

The push button 20, of suitable size and shape is mounted upon the end of the outwardly projecting bar 8, of the longitudinally movable bar 9, and is provided with a stud 21, which extends inwardly and is fitted to and coincides with the perforations 5 formed in the plate 7. The inner end of the rising bar 16, is provided with a roller 22, adapted to engage a metal guide plate 23, secured to the rear wall 24, of the casing 1.

The operation of the device is as follows:

The pins 2, having been placed in the desired position upon the cards 4, the cards are then dropped into the box resting on a shoulder 35 near the bottom of each of the side walls of the casing, and it will be apparent that it does not matter where they are arranged longitudinally in the box; all of the pins for a given letter, for example, the letter A, will be in alinement and so on throughout all of the indicia printed on the bottom of the cards 4.

If the operator desires to secure all of the E cards for example, he moves the push button 20, laterally until the stud 21 is in a position to register with the perforation 5 underneath the letter E. By pushing in the button 20, the bar 16 will move longitudinally carrying with it the lower end of the toggles 17 and 18, and as the rising bar 16 is held against longitudinal movement by the guide plate 23, it follows that the said bar is raised and in its upward movement it engages the lower ends of the pins 2 in line therewith and elevates them above the plane occupied by the remainder.

Upon releasing the push button 20, the coil spring 19, immediately returns the longitudinal bar to its normal position. It will be apparent to persons skilled in the art that this construction permits of the use of a single longitudinal movable bar and its accompanying rising bar to operate any desired number of letters or numerals, the number only being limited by the space taken up by the width of the casing 1, and that instead of having to use a number of these devices corresponding to the number of letters or numerals printed on the bottom of the card, a single one will serve the purpose as it is easily moved from side to side of the casing 1, by reason of the free travel of the carriages 10 and 11.

It might be found desirable in practice, instead of providing the smooth rollers 12 and rails 13 and 14, as above described, to use the modified form shown in Fig. 6, in which the place of the rollers is taken by pinions 30 and 31, the teeth of which are adapted to engage the teeth of a rack 32, the construction otherwise would be identical.

Where this construction is employed, the carriage will not move as freely as it will on the smooth rails and hence will serve to prevent the carriages from being so liable to be accidentally moved laterally during the operation of the push button 20, with the result that the stud 21, might not engage the perforation 5, but strike against the plate 7. It is thought that this form might be freer from objection than the other though more expensive to manufacture.

Having described my invention what I regard as new, and desire to obtain by Letters Patent is:

1. In a device of the character described, the combination with a casing having a plurality of loose leaves assembled in a pack therein, means whereby a predetermined leaf or class of leaves can be elevated above their normal position in the pack, and means whereby the displacer can be moved so that a portion thereof passes across the face of the pack of leaves.

2. The combination with a loose leaf card index casing having a plurality of loose leaves assembled in a pack therein, a mechanism movable so that a portion thereof moves across the face of said pack of leaves, and means carried by said mechanism whereby a predetermined class of leaves may be elevated above the plane of the edges of the remainder of the pack.

3. The combination with a loose leaf card index casing having a plurality of loose leaves therein, of mechanism movable across the face of said leaves, a plurality of pins depending from the lower portion of said leaves, and means carried by the said mech-

anism whereby a predetermined class of leaves may be elevated above the plane of the remainder.

4. A device of the character described comprising a casing, a plurality of loose leaves therein, a plurality of pins depending from the lower portion of said leaves, rails extending laterally across the bottom of the casing adjacent the forward and rear ends, travelers adapted to move upon said rails, and comprising rollers upon which they roll, a longitudinally movable bar carried by said travelers, means adapted to engage said pins whereby the longitudinal movement of said bar will elevate a leaf or class of leaves above their normal position.

5. A device of the character described comprising a casing, a plurality of loose leaves therein, a plurality of pins depending from the lower portion of said leaves, rails extending laterally across the bottom of the casing adjacent the forward and rear ends, travelers adapted to move upon said rails, and comprising rollers upon which they roll, a longitudinally movable bar carried by said travelers, means adapted to engage said pins whereby the longitudinal movement of said bar will elevate a leaf or class of leaves above their normal position, the front wall of said casing having a transverse slot formed therein, and a plurality of perforations, the latter corresponding in number to designations printed on the lower edge of the leaves, the forward end of the longitudinal bar extending outwardly through said slot, a push button secured to the end of said rod, means to hold said rod normally in a projected position.

6. A device of the character described comprising a casing, a plurality of loose leaves therein, a plurality of pins depending upon the lower portion of said leaves, rails extending laterally across the bottom of the casing adjacent the forward and rear ends, travelers adapted to move upon said rails, and comprising rollers upon which they roll, a longitudinally movable bar carried by said travelers, means adapted to engage said pins whereby the longitudinal movement of said bar will elevate a card or class of cards above their normal position, the front wall of said casing having a transverse slot formed therein, and a plurality of perforations, the latter corresponding in number to designations printed on the lower edge of the cards, the forward end of the longitudinal bar extending outwardly through said slot, a push button secured to the end of said rod, means to hold said rod normally in a projected position, a guide to insure said longitudinally movable rod being in alinement with the proper pins on the cards.

7. In a device of the character described, the combination with a casing having a plurality of loose leaves therein, means whereby a predetermined leaf or class of leaves can be elevated above their normal position, a longitudinally movable bar which carries said means, means whereby the displacer can be moved so that a portion thereof moves across the face of the leaves.

8. The combination with a loose leaf card index casing having a plurality of loose leaves therein, mechanism moved across the face of said leaves, a plurality of pins depending from the lower portion of said leaves and means carried by the said mechanism, whereby the predetermined class of leaves may be elevated above their normal position, the front wall of the casing having a transverse slot formed therein and a plurality of perforations, the latter corresponding in number to designations printed on the lower edge of the leaves and bearing similar characters, a guide adapted to enter each one of said perforations whereby the elevating means will engage leaves having pins depending from corresponding designations.

9. A device of the character described comprising a casing, a plurality of loose leaves therein, a plurality of pins depending from the lower portion of said leaves, racks extending laterally across the bottom of the casing adjacent the forward and rear ends, pinions adapted to mesh with the teeth in said racks, carriages in which said pinions are mounted, and means carried by said carriages and adapted to engage said pins whereby a predetermined class of leaves may be elevated above the plane of the remainder.

10. A device of the character described comprising a casing, a plurality of loose leaves therein, a plurality of pins depending from the lower portion of said leaves, racks extending laterally across the bottom of the casing adjacent the forward and rear ends, pinions adapted to mesh with the teeth in said racks, carriages in which said pinions are mounted, and means carried by said carriages and adapted to engage said pins whereby a predetermined class of leaves may be elevated above the plane of the remainder, a guide to insure said rising means engaging all of the predetermined class of leaves.

11. The combination with a loose leaf card index casing having a plurality of loose leaves therein, a mechanism movable so that a portion thereof moves across the face of said leaves, and means carried by said mechanism to lift a predetermined class of leaves above their normal position, a plurality of

pins depending from the lower portion of said leaves, a guide to insure the elevating means engaging all of the pins on the predetermined class of leaves.

12. The combination with a loose leaf card index casing having a plurality of loose leaves therein, a mechanism movable so that a portion thereof moves across the face of said leaves, and means carried by said mechanism whereby a predetermined class of leaves may be elevated above the plane of the remainder, means to hold said laterally movable mechanism in a predetermined position during the elevation of the said leaves.

In witness whereof I have signed the foregoing specification.

KENNETH L. EDDY.

Witnesses:
C. M. BAUMEISTER,
V. C. LINDSTROM.