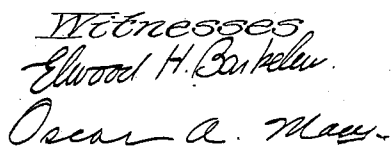


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Inventor
Orlando H. Kellum
by James T. Bucklew
his attorney.

UNITED STATES PATENT OFFICE.

ORLANDO E. KELLUM, OF LOS ANGELES, CALIFORNIA, ASSIGNOR TO NATIONAL STREET AND STATION INDICATOR COMPANY, OF LOS ANGELES, CALIFORNIA, A CORPORATION OF CALIFORNIA.

EXHIBIT DEVICE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ORLANDO E. KELLUM, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles, State of California, have invented new and useful Improvements in Exhibit Devices, of which the following is a specification.

This invention relates to an exhibit device of the class adaptable for street and station indicators; and the invention consists particularly in a novel combination of a chain of exhibit plates and a rotatable member, preferably polygonal, and a set of guides by which the exhibit plates are moved from one suitable storage chamber into another.

One of the novel features of my device consists in the guide mechanism by which the exhibit plates are forced to pile flatly one on the other in the storage chambers, being thus stored in a minimum space.

In the embodiment of my invention shown in the drawings, there are many features which may be changed without changing the invention. I have shown a polygonal rotatable member of six sides, but this is used for no other reason than that the actuating mechanism which I now use to operate this exhibit device is capable of rotating the device most efficiently through a sixth of a revolution. The specific arrangement of guides and the relative arrangement of the storage chambers and the rotatable member are not necessarily in the form shown in the drawings; it being possible to make other arrangements, which arrangements will become clear from the following specification.

In the accompanying drawings: Figure 1 is a vertical section of my improved device. Fig. 2 is a vertical section taken on line 2—2 of Fig. 1. Fig. 3 is a horizontal section taken on line 3—3 of Fig. 1. Fig. 4 is an enlarged perspective detail showing the construction of the display plates and their method of connection.

In the drawings 5 designates a case of any desired configuration, being shown as rectangular and of sufficient extent to accommodate two storage chambers 6 and rotating mechanism 7 arranged above the storage chambers. Rotating mechanism 7 consists principally of a drive shaft 8 through the medium of which the mechanism is operated, and members 9 rigidly mounted on the shaft and forming what might be termed a

skeleton drum of six sides over which the chain of display plates passes, as will be hereinafter explained. Members 9 are provided instead of a solid drum, as the inertia of the rotating parts is thereby greatly decreased, correspondingly decreasing the amount of energy required for rotating the device. Shaft 8 is situated in the upper part of case 5, and the skeleton drum formed thereon by members 9 is preferably situated above the storage chamber 6, the outermost peripheral points of members 9 being approximately over the outer edges of chambers 6 as is best shown in Fig. 1. Each of chambers 6 is provided with a guideway 10 at its ends, the guideway 10 leading from points adjacent the periphery of the skeleton drum formed by members 9 (approximately from points numbered 11 in Fig. 1) downwardly and inwardly toward each other and toward a separating wall 12 between the two storage chambers. The guide leads preferably in a gentle curve to a point close to wall 12 and then leads to the bottom of the storage chamber parallel to the wall, as is shown in the lower part of Fig. 1.

Display plates 20 are of such dimensions as to fit more or less snugly into the storage chambers, lying flatly on each other as is illustrated in Figs. 1 and 2. The display plates are pivotally joined together along their edges by some preferred means, flexible tape passed through slots in the plates having been found very efficient. In Fig. 4 I have shown the detail of plates 20 as they pass over the skeleton drum formed by members 9, and in this figure is shown in detail the construction of the plates and their method of connection. Two tapes, 21 and 22, are passed through the plates and passed from one plate to the adjacent plate from one face of one plate to the opposite face of the other plate, the tapes being "criss-crossed" between the plates. In this manner a simple and efficient means of connecting the plates together, and of rendering flexible the chain of plates thus formed, is provided.

Each plate is provided with a tab 23 on each end near one edge, the tabs on the plates being arranged adjacent when the plates are assembled into the chain. By this method of assembly the tabs are all arranged at alternate points of the juncture of the plates, so that half of the lines of piv-

otal juncture of the plates have tabs adjacent them and the other half have not. Tabs 23 are adapted to project into guideways 10 and to keep the edges of the plates to which the tabs are directly connected moving along those guideways. Thus, supposing the movement of the rotating mechanism to be that indicated by the arrow in Fig. 1, it will be seen that the edges of the plates provided with tabs 23 will be forced to move down into the storage chambers along guideway 10, the other edges of the plates hanging outwardly from the guideway in a position which they will naturally assume under gravitational action. As the mechanism is rotated and the chain of plates is moved into the left hand storage chamber, the angle between adjacent plates will be decreased until, at last, as the plates reach the pile in the bottom of the storage chamber, the plates are parallel to and lying upon each other.

The plates and their information are viewed through an aperture 35 in the side of the case. This aperture may be on either or both sides, so as to show the information carried by the plate on either or both sides of the machine. In case there are apertures on both sides of the machine, it will be seen that the apertures must be cut so as to each disclose one half of a plate, the two apertures being then arranged one at one end of the case on one side and the other at the other end of the case on the opposite side.

I have shown a means of keeping the plates 20 in position on the members 9, consisting of semi-annular members 30 engaging in notches 31 cut in the edges of the plates near their ends. The plates are thus held against the skeleton drum and also prevented from being longitudinally displaced.

It will be seen that the preferred arrangement of guideway 10 is this—that the guideway lead downwardly and laterally to a point not directly under the point of delivery of the chain of plates from the rotating mechanism. The action is most efficient when the unguided edges of the plates pile up in a line practically beneath the point of delivery of the chain of plates from the rotating mechanism and when the guided edges of the plates are moved laterally from the point of delivery by an amount practically equal to the width of the plate.

However, the arrangement may depend on other considerations and may depend greatly on the number of sides provided for members 9, and the consequent size of plates 20 as compared to the space suitable for storage chambers directly beneath the rotating

mechanism. It has been found in practice that the plates will pile up even if the guideway leads directly downwardly from the delivery from the rotating mechanism.

Having described my invention, I claim:

1. An exhibit device, comprising a pair of vertically arranged storage chambers situated adjacent each other back to back, guideways leading from the upper front to the lower rear portions of the chambers, a rotatable member located above the chambers and having its outermost peripheral lines situated approximately above the front edges of the chambers, a chain composed of transversely extending plates hingeably secured together along their longitudinal edges, each plate having guideway engaging means and having notches cut in its longitudinal edges, and a segmental plate arranged above the rotating member and adapted to have its curved edge enter the notches in the plates.

2. An exhibit device, comprising a pair of vertically arranged storage chambers situated adjacent each other back to back, guideways leading from the upper front to the lower rear portions of the chambers, a rotatable member located above the chambers and having its outermost peripheral lines situated approximately above the front edges of the chambers, a chain composed of transversely extending plates, each plate having slots therein, and flexible members extending the length of the chain of plates and passing through the slots in the plates to hingeably connect the plates together along their longitudinal edges, each plate having guideway engaging means and having notches cut in its longitudinal edges, and a segmental plate arranged above the rotating member and adapted to have its curved edge enter the notches in the plates.

3. In a device of the character described, a rotatable member, a chain of plates adapted to pass over the member, said chain being formed of a plurality of plates hingeably secured together along their edges, each plate being provided with a notch in its hinged edge near its end, and a segmental plate situated over the rotatable member and adapted to have its curved edge enter the notches in the plates.

In witness that I claim the foregoing I have hereunto subscribed my name this 9th day of March 1911.

ORLANDO E. KELLUM.

Witnesses:

JAMES T. BARKELEW,
JAS. H. BALLAGH.