O. E. KELLUM.

EXHIBIT DEVICE.

APPLICATION FILED FEB. 1, 1911.

999,314. Patented Aug. 1, 1911.

Fig. 1.

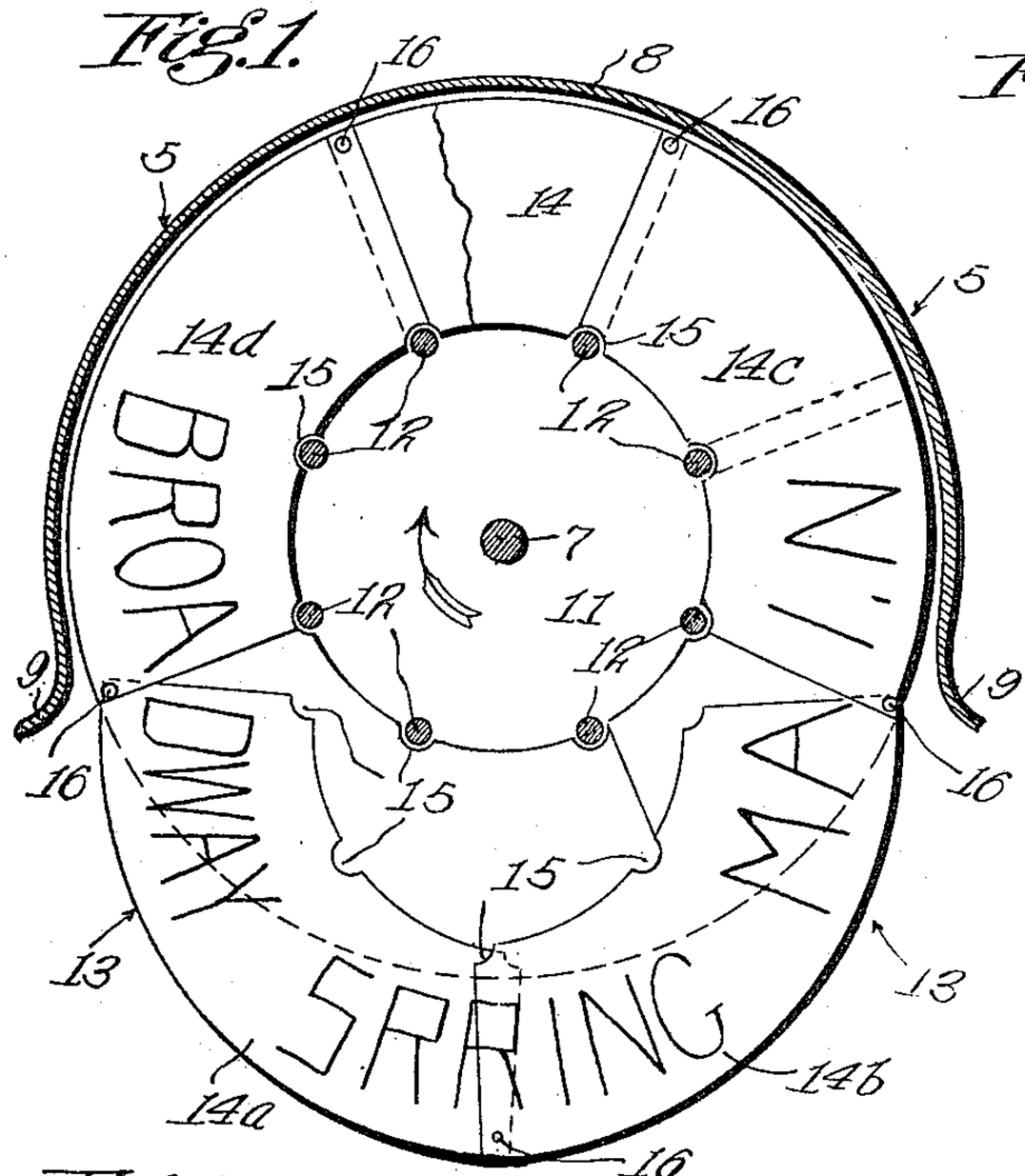


Fig. 2.

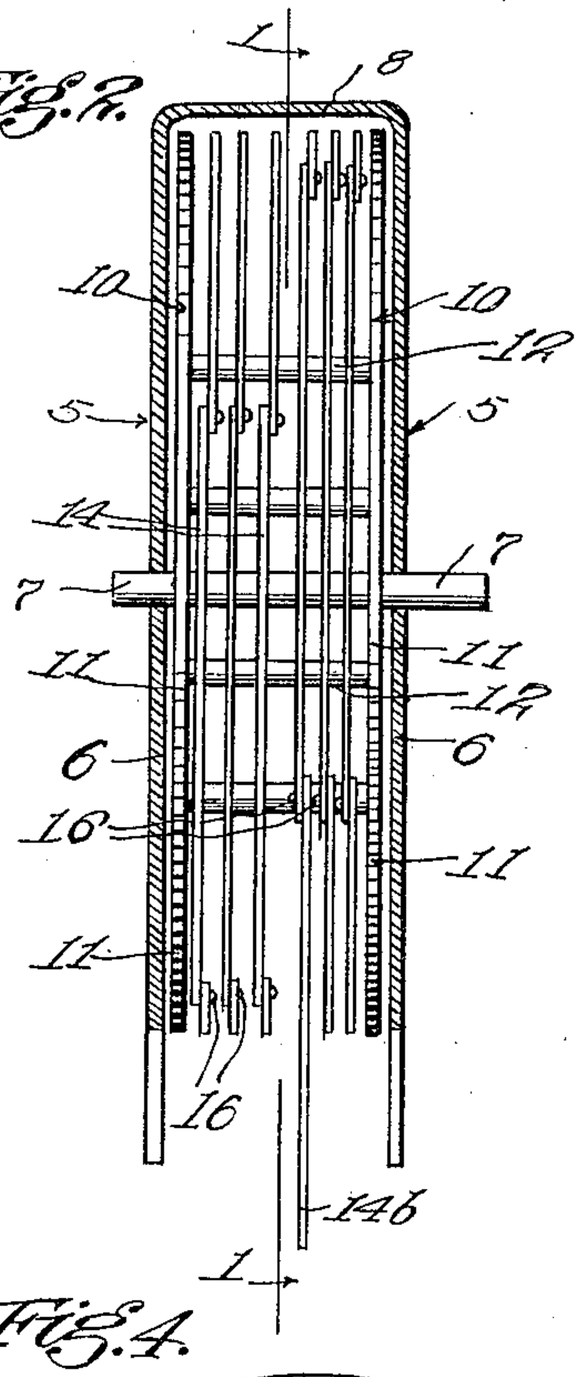


Fig. 3.

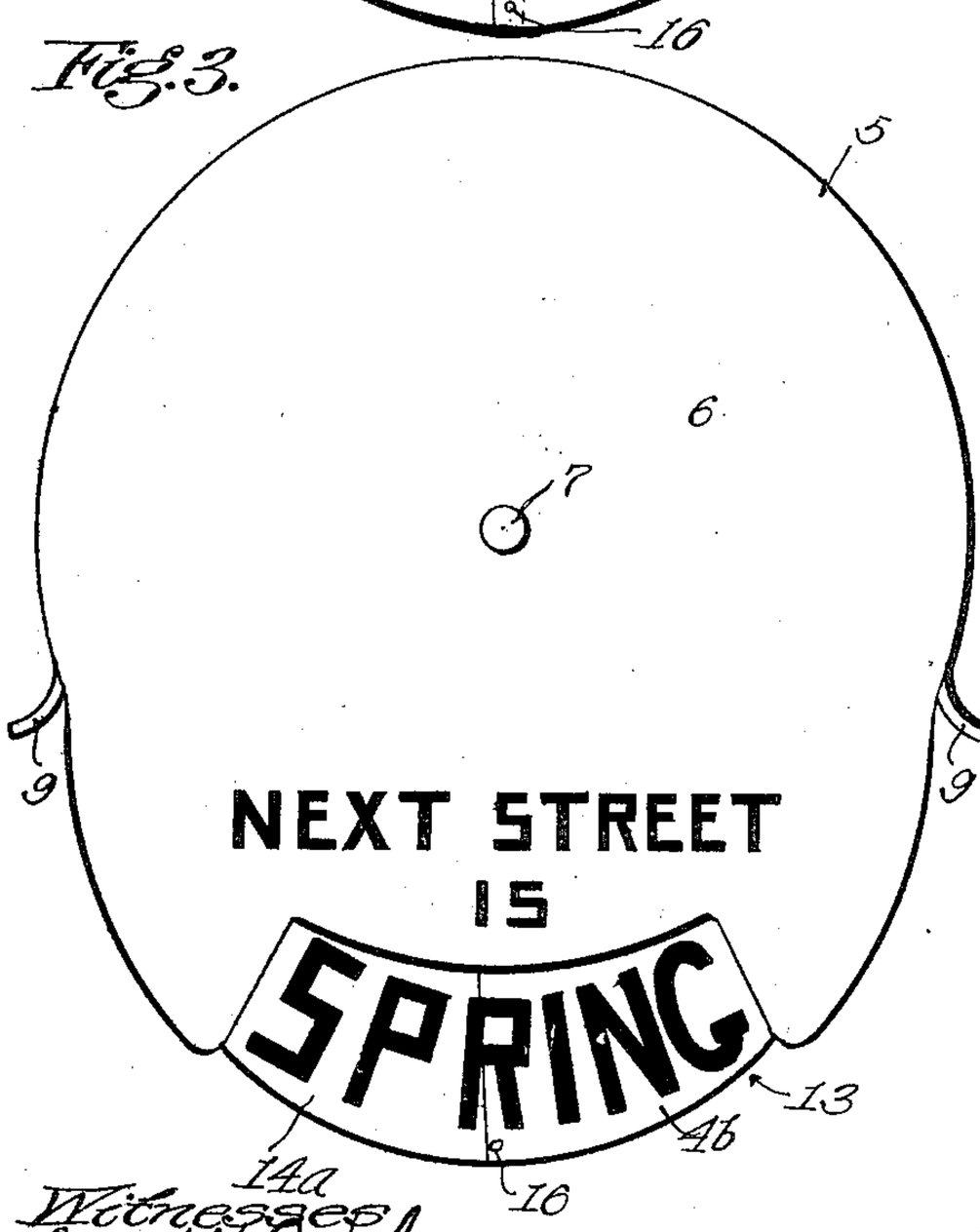
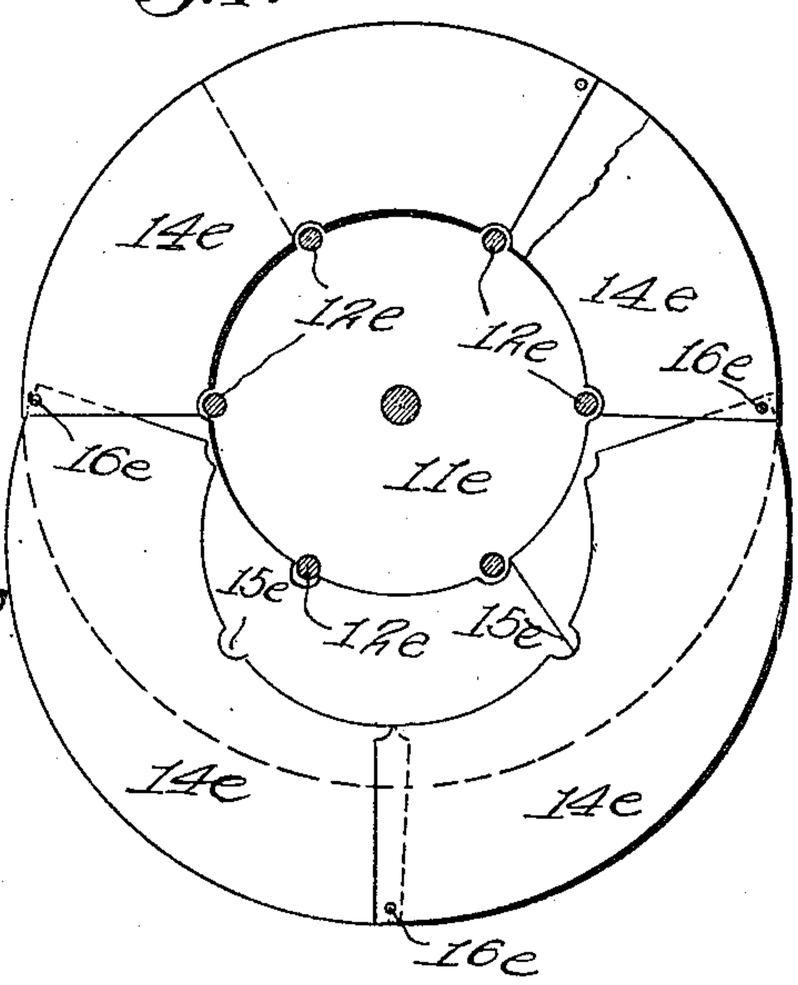


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

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EXHIBIT DEVICE.

999,314. Specification of Letters Patent. **Patented Aug. 1, 1911.**

Application filed February 1, 1911. Serial No. 605,883.

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 a novel form of exhibit device particularly adapted for street and station indicators.

The prime object of the invention is to provide a device which is simple in construction and which is very easily operated.

In the drawings I have only shown the exhibit device, omitting entirely the actuating mechanism for the same. This actuating mechanism may be of any desired character, the only requisite being that it shall rotate the main shaft of the exhibit device through a portion of a revolution at desired intervals. This portion of a revolution may be varied in extent, according to the construction of the display mechanism.

In the drawings I have shown in its preferred form a mechanism in which the main shaft is rotated a quarter revolution during each operation, but in a modified form there is shown a mechanism in which the rotation is made through a third of a revolution; and this modified form may be taken as typical of many other forms.

Considered broadly the invention consists of a drum of suitable proportions around which is wound an exhibit tape or chain composed of separate exhibit members pivotally secured to each other. This chain of exhibit members is wound spirally around the drum, the exhibit members being stood on edge on the drum. The members are so arranged on the drum that in some one revolution therearound there is a certain amount of slack, allowing one or more of the members to drop down below the normal periphery of the chain where it is tightly wound around the drum. The amount of this drop and the number of members concerned therein will vary according to the structure. I have shown a construction in which the amount of slack corresponds to one half the length of one exhibit member, this allowing two members to hang down partially below the normal periphery of the chain wound around the drum.

These points of structure and of operation will be better understood from the following specification, in which I have described a specific form of my invention, being the form which I have found best for certain purposes; but for other certain purposes it may be found that other forms will be better than the form described as my preferred form, and I do not wish to limit myself from the use of certain other forms.

In the accompanying drawings: Figure 1 is a vertical cross section taken on line 1—1 of Fig. 2. Fig. 2 is a view showing the case in longitudinal section and showing the exhibit chain and members in elevation. Fig. 3 is an outside elevation of the device. Fig. 4 is a diagrammatic view showing a modified form in section.

In the drawings 5 designates a case having circular side walls and a semi-cylindrical top wall, the bottom being open. Side walls 6 carry a centrally arranged shaft 7. Top wall 8 extends over the top and sides and is terminated by two outwardly curving sides at its lower edges. Within the case 5 shaft 7 carries a drum 10 preferably composed of two flange members 11 held in spaced relation by studs 12. In the preferred construction studs 12 are eight in number, being evenly spaced around central shaft 7 on a diameter depending on other considerations which will appear later. Studs 12 form the base of the drum upon which the exhibit chain is wound. The exhibit chain is composed of a plurality of exhibit members 14 each of such size and configuration as to fit around one third the drum periphery, having notches 15 on their inner edges which fit over studs 12. One notch 15 is cut in the center of members 14, while a corresponding half notch is supplied at the ends of the members, the members being secured successively by rivets 16 at their outer corners, this structure being illustrated in Fig. 1. The exhibit chain thus made up is wound spirally around the drum, with the exhibit members 14 standing on edge as illustrated. In their normal position the exhibit members are wound tightly around the drum, notches 15 engaging with studs 12 and holding the members from displacement. The ends of exhibit members 14 are overlapped where they are attached together, so that alternate studs 12 are engaged by the half notches on the ends of two members 14.

At any point in the spirally wound chain a certain amount of slack is introduced by displacing all of the chain on one side of the slack point toward the slack point by a certain predetermined amount. In the present instance this amount corresponds to one-eighth of a revolution, or to the distance between successive studs 12. In other words, in the space measured by three successive studs 12 there are placed two members 14. Ordinarily, a space measured by four successive studs would be occupied by two members; consequently the two members 14 drop to the position shown in Fig. 1. The radial width of members 14 is so determined that their inner edges never pass beyond the outer peripheries of members 14 where they are tightly wound on the drum. This arrangement provides that the members 14 may always be easily moved back to place against the drum between the adjacent convolutions of the exhibit chain without their inner edges catching on the outer edges of the adjacent member.

Starting with the device in the position shown in Fig. 1, the operation is as follows. The drum may be rotated in either direction, it being intended that the direction of rotation be reversed at will so as to exhibit the matter on members 14 in one sequence or the opposite. Taking that the device is moving in the direction indicated by the arrow in Fig. 1, if the drum is rotated through a quarter revolution in that direction, it will be seen that member 14^a will be thrown to ber 14^c taking the position of member 14^b. In the meantime member 14^b will be placed in the present position of member 14^a, member 14^c taking the position of member 14^b. The curved ended portion 9 of the case prevents member 14^a from projecting from the drum as it passes to the position of member 14^b, keeping the slack in the exhibit chain always below and between the two curved portions 9. Thus it will be seen that the successive members 14 are exhibited at the lowermost point of the mechanism, one half at a time. The information desired to be shown is placed half on the end of one member 14 and half on the end of the adjacent member, this being shown in Fig. 1. In the showing of stations or streets the name is placed directly across the line of division between adjacent members 14; in this manner each member 14 carries one half of two separate stations or designations.

In Fig. 4 I have shown a modified form of my invention, in which each member 14^e is designed to extend around a third of the drum circumference. In this arrangement it will be seen that the members 14^e hang from the device somewhat differently than is the case in the preferred form; but the general arrangement and operation is the same. It will be seen from this showing that the number and arrangement of the plates is of particularly little consequence so far as the real invention is concerned; the only difference being in the amount of exhibited surface in proportion to the total size of the device.

Having described my invention, I claim:

1. A device of the character described, comprising a rotatable drum, the drum composed of two flat flanges and a series of studs between the flanges arranged at a common radius from the flange centers and spaced equidistantly from each other to form the winding portion of the drum, an exhibit chain composed of a plurality of exhibit members relatively thin and flat and secured to each other at their ends, each exhibit member being in the shape of a segment of a circle with notches on its inner periphery adapted to engage with the drum studs, each exhibit member being of a length corresponding to the difference between alternate studs, the chain so formed of the exhibit members being spirally wound on the drum with the notches of the members in engagement with the studs, one end of said chain being displaced toward the other end so as to allow a slack portion in the chain, and a case surrounding the drum and chain excepting at one of its peripheral sides.

2. An exhibit device, comprising a rotatable drum, a chain composed of a plurality of exhibit members each relatively flat and thin and secured to each other at their ends to have a relative pivotal movement in their own planes, the exhibit chain so formed being spirally wound tightly in all except one convolution around the drum with the individual exhibit members edgewise to the drum, and means to keep the exhibit chain in engagement with the drum except at the point of the loose convolution.

In witness that I claim the foregoing I hereunto subscribed my name this 27th day of January, 1911.

ORLANDO E. KELLUM.

Witnesses:

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