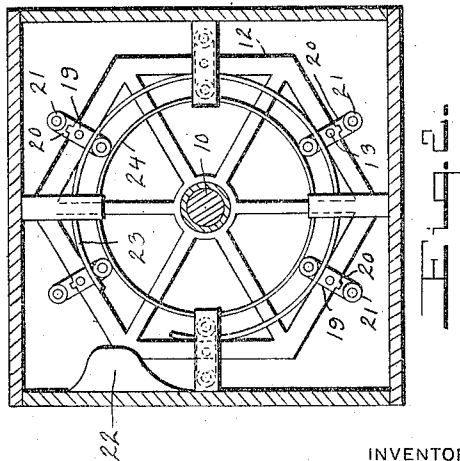
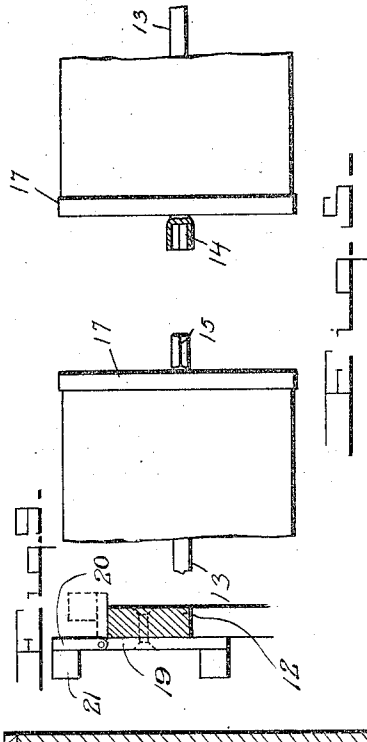
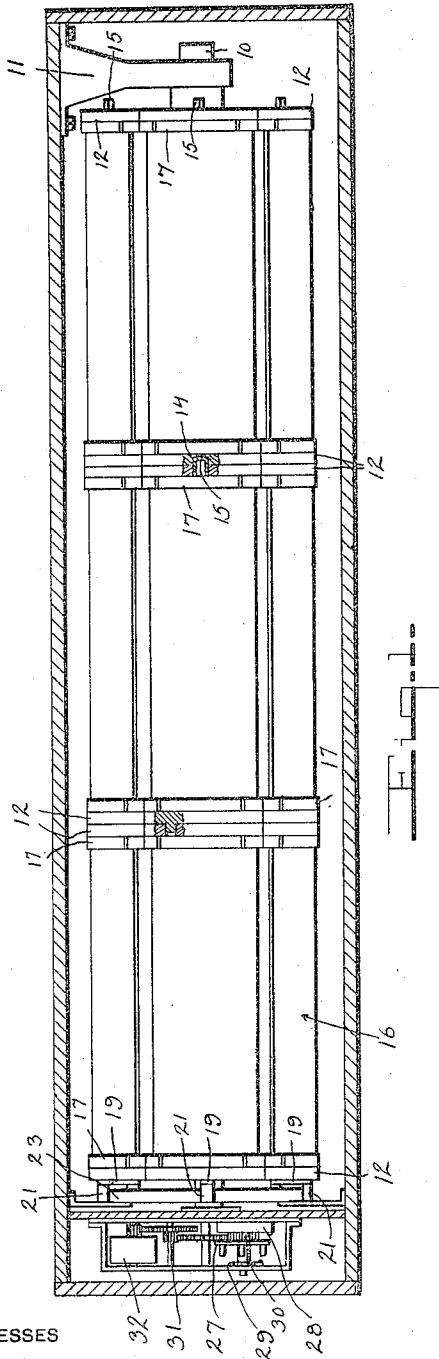


M. G. MATHER.
 DISPLAYING DEVICE.
 APPLICATION FILED MAR. 21, 1917.

Patented May 27, 1919.
 3 SHEETS—SHEET 1.

1,304,899.



WITNESSES

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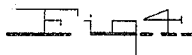
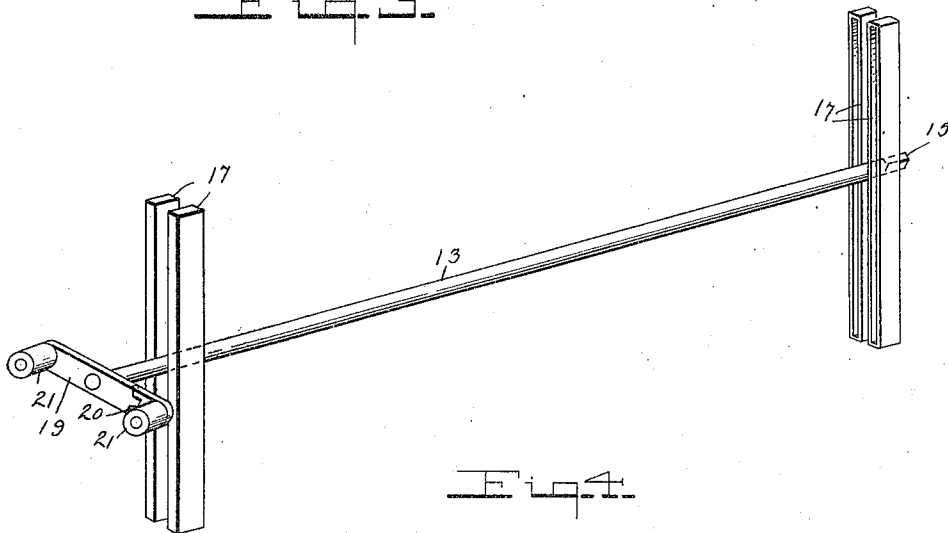
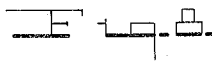
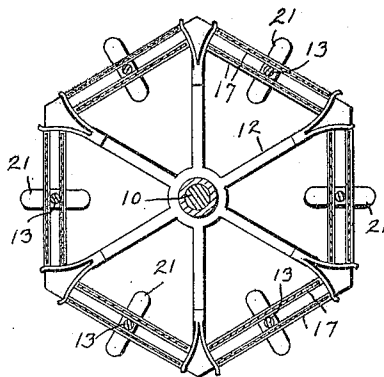
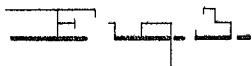
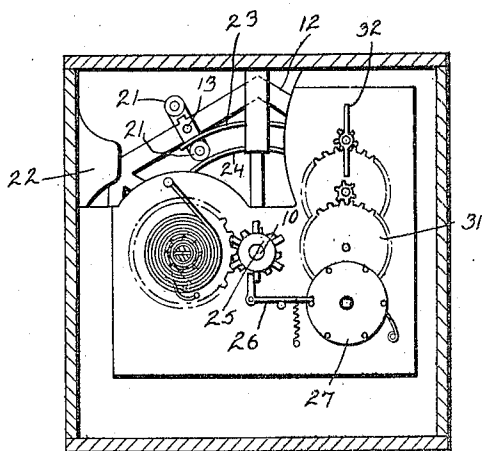
Marion G. Mather

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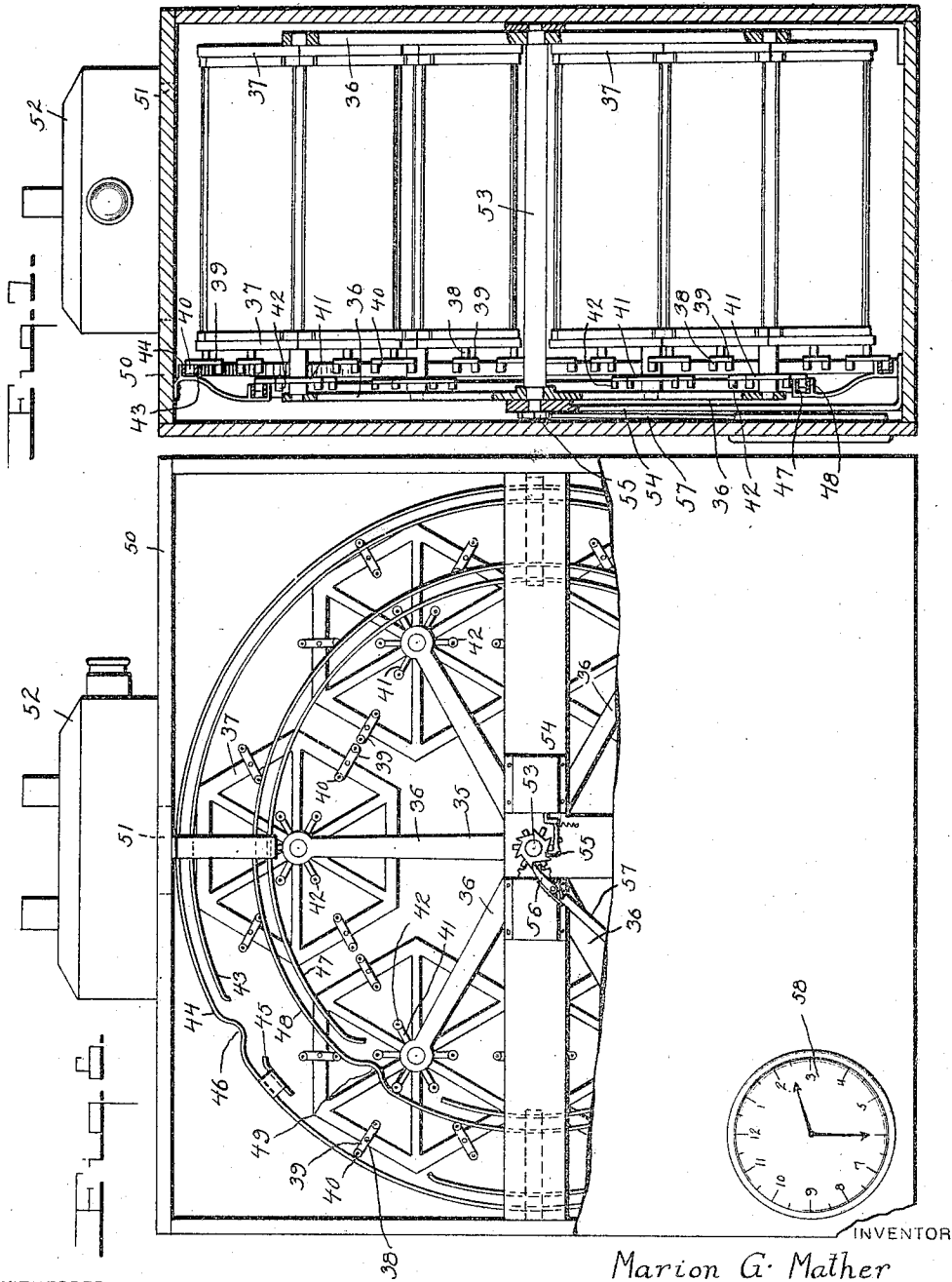
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UNITED STATES PATENT OFFICE.

MARION G. MATHER, OF FRANKLINVILLE, NEW YORK.

DISPLAYING DEVICE.

1,304,899.

Specification of Letters Patent.

Patented May 27, 1919.

Application filed March 21, 1917. Serial No. 156,474.

To all whom it may concern:

Be it known that I, MARION G. MATHER, a citizen of the United States, residing at Franklinville, in the county of Cattaraugus and State of New York, have invented certain new and useful Improvements in Displaying Devices, of which the following is a specification.

This invention has relation to placard displaying devices, and has for an object to provide a device of this character adapted to support a plurality of placards bearing descriptive matter on both sides whereby both sides of all of the cards may be displayed, thereby permitting the inclusion of a great amount of descriptive matter within a confined space.

Another object of the invention is to provide a placard displaying device including a rotatable element, or a plurality thereof adapted to be placed in a street railway car or other public conveyance, each element carrying a plurality of double faced placards, with means for rotating the element or elements whereby the placards around the periphery thereof may be successively brought to view, and means for reversing the placards during rotation of the element or elements whereby both sides of all the placards may be ultimately displayed.

A still further object of the invention is to provide a form of placard displaying device embodying the principles mentioned above with a view to containing a still greater number of double faced placards and to that end embodies a rotatably mounted frame which is adapted to support for rotation a plurality of the rotatable elements mentioned above, each element in turn being adapted to support a plurality of reversibly mounted placards. Means is provided for rotating the frame whereby to successively display each element and to display and reverse one of the placards of each element as said elements are brought to view, thereby ultimately displaying both sides of all the placards.

A still further object of the invention is to provide in a placard displaying device of the character mentioned above, and including a rotatable element carrying a plurality of circumferentially spaced placards, means of a novel character for insuring and permitting intermittent rotation of the element whereby the placards may be successively displayed and held stationary in a displaying position

for a period sufficient to permit the subject matter of the placard to be read.

In addition to the foregoing my invention comprehends improvements in the details of construction and arrangement of parts to be hereinafter more fully described and particularly set forth in the appended claims.

In the accompanying drawings in which similar and corresponding parts are designated by the same characters of reference throughout the several views in which they appear:

Figure 1, is a view in side elevation of one form of my device.

Fig. 2, is a view thereof in end elevation.

Fig. 3, is a detail view illustrating the mechanism for rotating the device.

Fig. 4, is a detail view in perspective of one of the placard supporting frames.

Fig. 5, is a detail view illustrating the method of connecting several placard supporting frames together for rotation in unison.

Fig. 6, is a view in side elevation of a modified form of my invention with the casing thereof partly broken away, and

Fig. 7, is a vertical sectional view taken through the preceding figure.

Fig. 8 is a view in transverse section of one of the rotatable elements.

Fig. 9 is a detail view of a portion of the invention showing the manner of operation thereof.

With reference to the drawings, particularly the first two figures 10 indicates a shaft, which may be solid or tubular as desired and which is adapted to be supported at either end by means of a pair of brackets 11.

This form of my invention is intended primarily for use in street railway cars in which event a pair of devices are provided in each car, one being disposed at each side thereof adjacent the roof of the car and extended longitudinally thereof. The brackets 11 would be secured to the under side of the roof, so as to dispose the devices substantially in the position now occupied by the usual placards in street cars used for advertising purposes.

The shaft 10 should be of a length to extend from end to end of the car and a plurality of sections are mounted on each shaft. In the present instance three sections are illustrated upon each shaft, although it may be obvious that a greater or lesser number

may be employed as desired. Each section consists of a pair of spaced end frames 12 which may be of any desired geometrical configuration, although with regard to the limitations of this device, I have found that a hexagonal end plate is productive of the best results for general purposes. The sections are loosely mounted on the shaft and disposed between the end members 12 of each section are a plurality of rods 13 which form portions of placard supporting frames in a manner which will be presently obvious. As the end members 12 are six sided, six rods will be mounted in each section with their ends journaled at points midway of the corners of the end members. One of the ends of each rod of a section with the exception of the first section is formed with sockets 14, the opposite ends being squared as at 15 to enter the sockets of the rods of an adjacent section. The first section which is indicated generally at 16 has associated therewith the mechanism for rotating itself as well as the connected sections as will be presently obvious.

The rods 13 of each section are provided at opposite ends with members 17 formed of sheet metal doubled to provide grooves in which to receive the ends of placards 18. A pair of placards are placed back to back in the frames thus formed by the rods 13 and their end members 17 whereby to expose their subject matter on the remote sides thereof. It will presently be obvious that the placard supporting frames are reversible to display both cards.

Each rod 13 of the first section 16 of the device carries upon its projecting terminal a pair of oppositely directed arms 19, the terminal of one arm of each rod being formed with a hinged section 20 capable of movement relative to the arm which supports said section. Each section 20 as well as the terminals of the other arms not thus provided with sections are provided with laterally extending rubber covered rollers 21 mounted for rotation. The arms 19 are located on the left hand end of section 16 with reference to Fig. 1, or on said section remote from the end to which the remaining sections are connected.

It will thus be seen that with the placards in place so as to dispose their ends in contiguous relation to the sides of the end members 12, a plurality of hexagonal drums will be formed, and the subject matter of the placards may be read, and each card observed from the interior of the street car as the sections are rotated. However, since there are two placards supported upon each placard supporting frame, the frames must be reversed preferably in regular order so that both sides of the frame may be observed. To this end an abutment 22 is supported upon a bracket in the path of move-

ment of the rollers 21, and in this connection it might be mentioned that the arms 19 are oppositely extended and normally radial relative to the shaft 10. During revolution of the sections the rollers 21 which happen to be outermost will be successively brought into engagement with the abutment 22 thereby rotating the placard supporting frames to expose the previously inwardly directed placards. In order that the placards may be retained in a proper displaying position, I provide a guide member which comprises inner and outer annular guide strips 23 and 24 respectively in circumferentially spaced relation. The inner member 23 is continuous, while the outer member 24 is interrupted at a point opposite the abutment 22. As each arm engages the abutment said arm is swung around until it is directed inwardly and during continued rotation of the sections the roller 21 of said arm enters the separated portion of the guide member 24 to be ultimately engaged between said inner and outer guide members and retained therein during the balance of rotation of the elements.

The first section 16 carries upon its end which bears the arms 19, a stop wheel 25 having a series of peripheral pins or stops corresponding in number to the number of placard frames supported by each section. A coil spring is provided, preferably embraced about the shaft 10 with one end secured to the section 16 and the other connected to a stationary part. A pawl 26 is pivotally mounted adjacent the stop wheel with one end thereof engaging the periphery of said wheel and the opposite end engaging the periphery of a releasing wheel 27. Said wheel 27 is likewise formed with a series of peripheral projections corresponding in number to the number of projections on the wheel 25. A coil spring 28 is provided for the wheel 27 with one end connected to said wheel, and the opposite end to a ratchet wheel 28 which may be provided with a winding key, a pawl 29 having engagement with said ratchet wheel 28. The wheel 27 is formed with a pinion 30 which provides for connection to a chain of reduction gears indicated generally at 31, the last gear having fan blades 32 to afford resistance whereby to compel the wheel 27 to rotate at a low rate of speed.

It will be obvious that during rotation of said wheel 27 the pawl 26 will be intermittently disengaged from the stop wheel 25 to permit intermittent rotation of the connected sections of the device thereby successively displaying the outwardly directed placards, the placards being reversed as explained above whereby to ultimately display all the placards of each section. The wheel 27 should run at a speed low enough to permit the sections to remain stationary long

enough after each partial revolution to permit reading of the placards. To display the same sides only of the placard during rotation of the frame, that is without reversal of the placard, it is merely necessary to move the pivoted sections 20 so that engagement of the rollers 21 on said pivoted section with the abutment 22 will be precluded. In this manner no reversal of the placards will take place during rotation of the frame.

When it is desired to disassemble the apparatus, the rollers 21 may be disengaged from the guides, the pivoted sections 20 permitting inward movement of the rollers. If desired a casing may be provided to inclose the sections of the device with a longitudinally extending opening formed in one side through which the placards may be viewed.

In Figs. 6 and 7 of the drawings I have disclosed a device for exhibiting placards embodying principles and mechanism similar to the form just described. In my second form I provide a rotatably mounted frame comprising end members 35, each member comprising a plurality of radial arms 36, the arms of each member being in opposed relation whereby to pivotally support between the terminals thereof sections 37 similar to the section 16 described above. Each section 37 carries a plurality of rods 38 which support the placards in a manner identical with the rods 13, each rod 38 being similarly provided at adjacent ends with oppositely directed arms 39 carrying anti-friction rollers 40 upon their terminals. Each section 37 also carries a plurality of radial arms 41 each of which is provided upon its terminal with an anti-friction roller 42. A guide member is provided which comprises inner and outer annular bands 43 and 44 respectively between which the outermost rollers 40 of the arms 39 are engaged to retain the placards of this form of my invention in a proper position for display. The inner band 43 is interrupted as at 45, and the outer band 44 is struck inwardly as at 46 to form an abutment which is located in the interrupted portion 45 of the inner band. A second guide member is provided comprising inner and outer annular bands 47 and 48 respectively between which one roller 42 of an arm 41 of each section 37 is engaged to retain the sections against rotation during rotation of the frame 35 which carries said sections.

The frame 35 is rotated intermittently in a manner which will be presently noted, and during such rotation each roller 40 within the first mentioned guide member is successively engaged upon the abutment 46 whereby the placard frame rotatable by movement of the arm bearing said roller 40 is reversed so as to expose its previously inwardly directed side. Also, during revolution of the frame 35 the rollers 42 which

are held within the second mentioned guide member are successively engaged upon an abutment 49 formed by striking in the band 48 at a point in advance of the abutment 46, the inner band 47 being interrupted at a point adjacent said abutment 49 to permit the roller 42 thus engaged to be moved out of the guide member thereby permitting the section 37 to be rotated partially and preferably through one-sixth of a revolution.

This form of my invention may be inclosed within a casing 50 having an opening 51 in its top portion beneath which the placards are successively displayed. A projecting lantern 52 of conventional type may be placed over the opening 51 whereby the subject matter of the placards may be reflected by means of said lantern upon a screen.

The shaft upon which the frame 35 is indicated at 53, and 54 indicates generally the mechanism for permitting intermittent rotation of the frame. This mechanism may be a duplicate of the gearing set forth in Fig. 3 of the drawings for operating the first form of my invention. The shaft 53 also carries a ratchet wheel 55 which is engaged by a pawl 56. A rod 57 connected to said pawl leads to an alarm clock 58 which is provided with a mechanism for drawing upon the rod 57 at predetermined times and for releasing the same whereby the operation of the device, or in other words the rotation of the frame 35 may be initiated automatically at any predetermined time which may be varied by properly setting the alarm mechanism, and for releasing the rod to arrest motion of the frame 35.

It will be apparent that although I have specifically set forth a spring operated mechanism for rotating the sections and other parts of my first and second described forms, nevertheless effective results could be obtained by the use of an electric motor, weights, or any other suitable source of power.

While I have illustrated and described my invention with some degree of particularity, I realize that in practice various alterations thereover may be made, and I therefore desire to reserve the right and privilege of changing the form of the details of construction, or otherwise altering the arrangement of the correlated parts without departing from the spirit of the invention, or the scope of the appended claims.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:

1. In a placard displaying device, a shaft, a plurality of frames placed end to end and rotatably mounted on the shaft, means locking the frames together for rotation in unison, means engaging one of the frames to

intermittently rotate the same and consequently all of the frames, a plurality of circumferentially spaced placard supporting frames carried by each main frame, the placard supporting frames of each main frame in longitudinal alinement being connected for rotation in unison, placards carried by each supporting frame therefor, a pair of oppositely directed arms carried by each placard supporting frame of one of the main frames, said arms being normally disposed radially relative to said main frame, an abutment adapted to be successively engaged by the outer arms during revolution of the main frames whereby to successively rotate the placard supporting frames to display the placards at each side thereof, and an annular guide member for engaging the inner arms to retain the placard supporting frames in proper displaying position subsequent to reversal.

2. A placard displaying device including a revolvably mounted frame, a plurality of revolvably mounted placards in the frame in circumferentially spaced order, a pair of oppositely extending members, mounted on one end of each placard, a stationarily mounted abutment to engage the oppositely extending members to rotate the placards during rotation of the frame to alternately display the reverse and obverse surfaces, one of the members of each pair being mounted

for movement relative to each other so as to permit the said movable members to be moved to a position whereby engagement with the abutment is precluded to permit rotation of the frame without reversal of the placard.

3. A placard displaying device including a frame, a plurality of parallel shafts arranged in circumferential order, in said frame, a pair of oppositely extending arms carried by one end of each shaft, one arm of each pair being hingedly mounted for movement relative to the other arm, a stationarily mounted abutment to engage the arms to rotate the placards during rotation of the frame to alternately display their reverse and obverse surfaces, an annular guide member to receive the ends of the arms to retain the placards in relative stationary position during rotation of the frame, the hingedly mounted arms when moved to position out of engagement with the abutment insuring the display of only one side of the placards during rotation of the frame, and means for rotating the frame.

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

MARION G. MATHER.

Witnesses:

WM. ZEAMAN,
M. E. JONES.

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