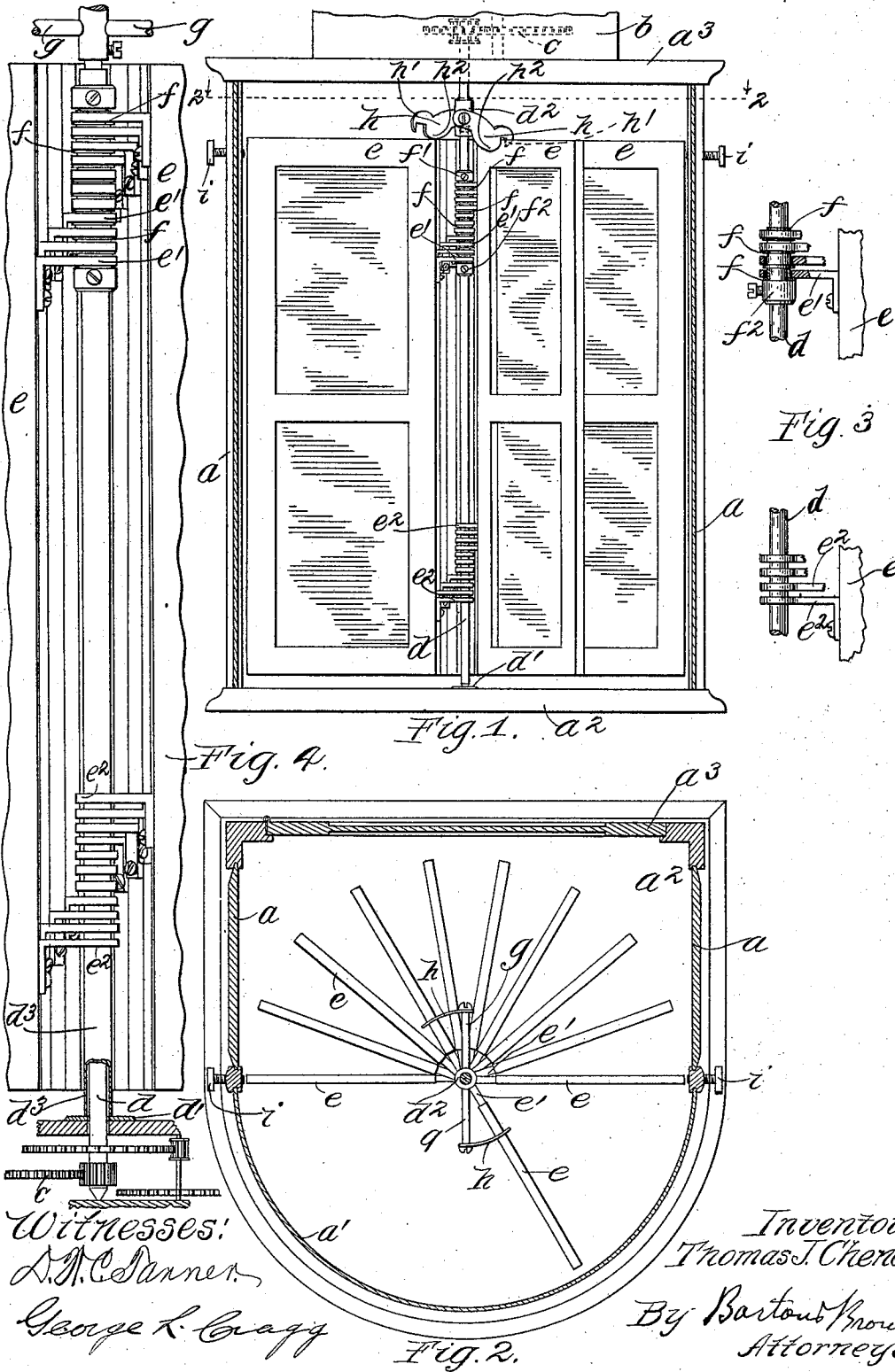


(No Model.)

T. J. CHENEY.
DISPLAY DEVICE.

No. 578,285.

Patented Mar. 2, 1897.



Witnesses:

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UNITED STATES PATENT OFFICE.

THOMAS J. CHENEY, OF CHICAGO, ILLINOIS.

DISPLAY DEVICE.

SPECIFICATION forming part of Letters Patent No. 578,285, dated March 2, 1897.

Application filed November 6, 1896. Serial No. 611,211. (No model.)

To all whom it may concern:

Be it known that I, THOMAS J. CHENEY, 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 Display Devices, (Case No. 1,) of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to display devices in which frames or leaves containing advertisements, pictures, or other display matter are journaled radially about a central shaft, mechanism being provided to turn the leaves slowly upon their axes, whereby the leaves are successively presented to view and concealed. Such a device is illustrated in Patent No. 522,979, issued to Wilbert C. Fawkes July 17, 1894.

My invention has for its object the simplification and improvement of the leaf-actuating mechanism.

I will describe my invention in connection with the accompanying drawings, in which—

Figure 1 is an elevation of my improved display device, a portion of the casing being shown in section. Fig. 2 is a sectional plan on line 2 2 of Fig. 1. Fig. 3 is a detail view of the central shaft, showing the manner of mounting the leaves. Fig. 4 shows a modification of the mechanism illustrated in Fig. 3.

Like letters refer to like parts in all of the views.

A casing *a*, provided with a transparent front of glass *a'*, is supported upon a base *a*². A top *a*³ is provided upon casing *a*, which supports a casing *b*, in which the leaf-actuating mechanism *c*, preferably a spring-motor, is contained. Referring to Figs. 1, 2, and 3, a shaft *d* is journaled at its lower end upon a plate *d'*, secured upon the base *a*², and at its upper end in a sleeve or hollow shaft *d*². A door *a*³ is provided in the case by which access may be had to the interior thereof. Leaves *e* are journaled upon the shaft *d*. The preferred means for supporting the leaves consists of angle-plates *e'* *e'*, secured to the inner side margins of the leaves near the upper edges thereof, these angle-plates being provided with bores at their horizontal ends, flanged collars *f* *f* surrounding the shaft and

passing through the bores, said collars being confined upon the upper end of the shaft by set-collars *f'* *f'*² and angle-plates *e*³ *e*², secured to the inner side margins of the leaves near the bottom edges thereof, the horizontal ends of said plates being provided with bores which directly engage the shaft. The flanged collars *f* *f* are supported by the set-collar *f'*². The adjacent flanges of collars *f* *f* form annular grooves, which receive the horizontal ends of the plates *e'* *e'*. In assembling the leaves plates *e'* *e'* and *e*² *e*² are successively placed about the shaft, as shown, each collar *f* being placed upon the shaft before the leaf supporting the corresponding engaging angle-plate is placed in position.

A trip-carrier *g*, preferably in the form of a rod, is secured to the shaft *d*², which is adapted to be rotated by the motor mechanism *c*, movable trips *h* *h* being attached at the ends of the carrier, these trips being adapted to engage the top margins of the leaves as said trips are rotated, as will be set forth. The trips are each provided with a catch *h'*, adapted to engage the leaves, and a runner *h*², adapted to ride upon the top edges of the leaves and thereby remove said catches from engagement with the leaves. The leaves are restricted in number, so that substantially all of them may be disposed upon one side of a plane coincident with the axis of the shaft. The leaves are preferably placed upon the rear of a plane extending through the axis of the shaft *d* and facing the observer by slightly tilting the case backward. When the leaves are thus assembled, as shown most clearly in Fig. 2, the spaces intervening are too small to fully receive the runner *h*² of the trips, which rotate in a clockwise direction, whereby the engagement of the catch *h'* with the leaves is prevented until the open space in front of the leaves is reached, when the runner, having nothing to support it, will permit of the descent of the catch *h'* into engagement with a leaf, which is then transferred by the trip from one side of the shaft to the other. By the time one leaf has been thus transferred the other trip is brought into engagement with the succeeding leaf, which is likewise transferred. The motor rotates the shaft *d* at a slow rate to allow ample time for the inspection of the dis-

play matter upon the leaves. After each leaf has been thus transferred from one side to the other all of the leaves are slightly rotated about their axis thereby in a body, the weight of the leaves being thus evenly distributed with relation to the plane behind which they are disposed. When the leaves are being thus bodily shifted, the combined weight thereof on the shaft *d* causes it to rotate, but upon the rotation of each individual leaf by the trips the angle-plates freely rotate upon their journals without turning the shaft *d* or collars *f*.

I provide two stop-screws *i i*, which pass through the casing and which may be brought into engagement with opposite leaves to prevent further rotation of the leaves and operation of the motor when the display device is in transit or at night.

In some cases, especially where large and heavy leaves are employed, it is preferable to employ the construction shown in Fig. 4, wherein the shaft *d* is solid and is connected with spring-motor mechanism at the bottom of the casing. A sleeve *d*³ surrounds shaft *d*, upon which sleeve the leaves are mounted in a manner similar to the mounting of the leaves upon shaft *d*, as shown in Figs. 1, 2, and 3. The sleeve *d*³ is adapted to be rotated by the combined weight of the leaves as they are transferred from one side of the shaft to the other. By supporting the leaves upon a sleeve *d*³ instead of the shaft *d*² the spring-motor at the lower end of the shaft is relieved of the weight of the leaves, which would stop the movement thereof or cause its operation to be irregular, especially if the leaves were large and heavy. Heretofore trips were employed which required special cam mechanism for their operation, which I am enabled to dispense with by means of my invention.

I do not wish to be limited to the precise construction shown; but,

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

1. In a display device, the combination of a series of leaves rotatably mounted in the same axial line, with a trip-carrier arranged to move about said axial line, and a movable trip attached to said carrier, said trip being provided with a catch for engaging said leaves, and a runner formed to ride upon the margins of the leaves and thereby maintain the catch out of engagement therewith, said leaves being arranged to leave a space be-

tween the successive first and last leaves of the series adapted to receive said runner and thereby permit of the engagement of the catch with the last leaf of the series, substantially as described.

2. In a display device, the combination of a series of leaves rotatably mounted in the same axial line, with a carrier arranged to move about said axial line, said carrier supporting a catch for engaging said leaves, and a runner formed to ride upon the margins of the leaves and thereby maintain the catch normally out of engagement therewith, and means for engaging said catch with one of said leaves, substantially as described.

3. In a display device, the combination of a motor *c* with a vertical shaft adapted to be rotated thereby, a trip-carrier *g* secured to said shaft, a movable trip *h* supported upon said carrier, said trip being provided with a catch *h'* and a runner *h*², a series of leaves rotatably mounted in the same vertical axial line and restricted in number so that the majority thereof may be disposed upon one side of a plane extending through said axial line, said runner being adapted to ride upon the top margins of the leaves to prevent the engagement of said catch therewith, said trip being adapted to bring its catch into engagement with the last leaf of the series upon the disengagement of the runner with said leaves, substantially as described.

4. In a display device, the combination of a motor *c* with a vertical shaft *d*² adapted to be rotated thereby, a trip-carrier *g* secured to said shaft, a movable trip *h* supported upon said carrier, said trip being provided with a catch *h'* and a runner *h*², a sleeve *d*³ loosely surrounding said shaft, a series of leaves rotatably mounted upon said sleeve and restricted in number so that the majority thereof may be disposed upon one side of a plane extending through the axis of said shaft, said runner being adapted to ride upon the top margins of the leaves to prevent the engagement of said catch therewith, said trip being adapted to bring its catch into engagement with the last leaf of the series upon the disengagement of the runner with said leaves, substantially as described.

In witness whereof I hereunto subscribe my name this 4th day of November, A. D. 1896.

THOMAS J. CHENEY.

Witnesses:

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