C. F. SPERY.

ADVERTISING DISPLAY SIGN.

APPLICATION FILED JAN. 22, 1912.

**1,026,531.**

Patented May 14, 1912.

3 SHEETS—SHEET 1.




FIG. 1.

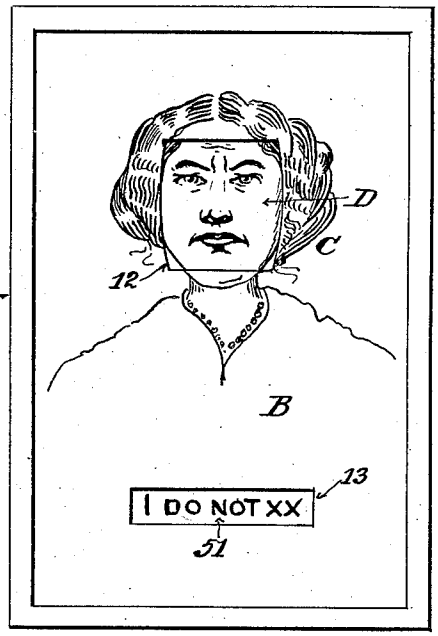
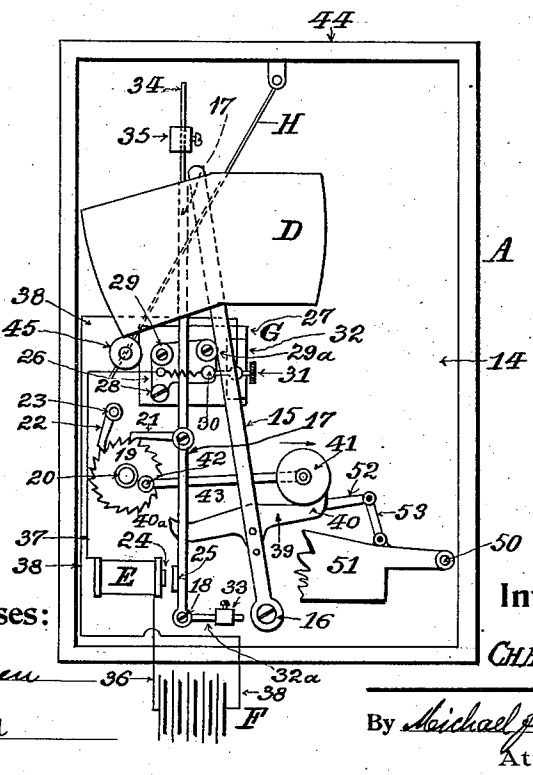



FIG. 2.

FIG. 3.




Witnesses:

L. B. Knudsen

A. G. Peterson

Inventor:

CHARLES F. SPERY,

By Michael J. Stark & Sons,

Attorneys

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

C. F. SPERY.

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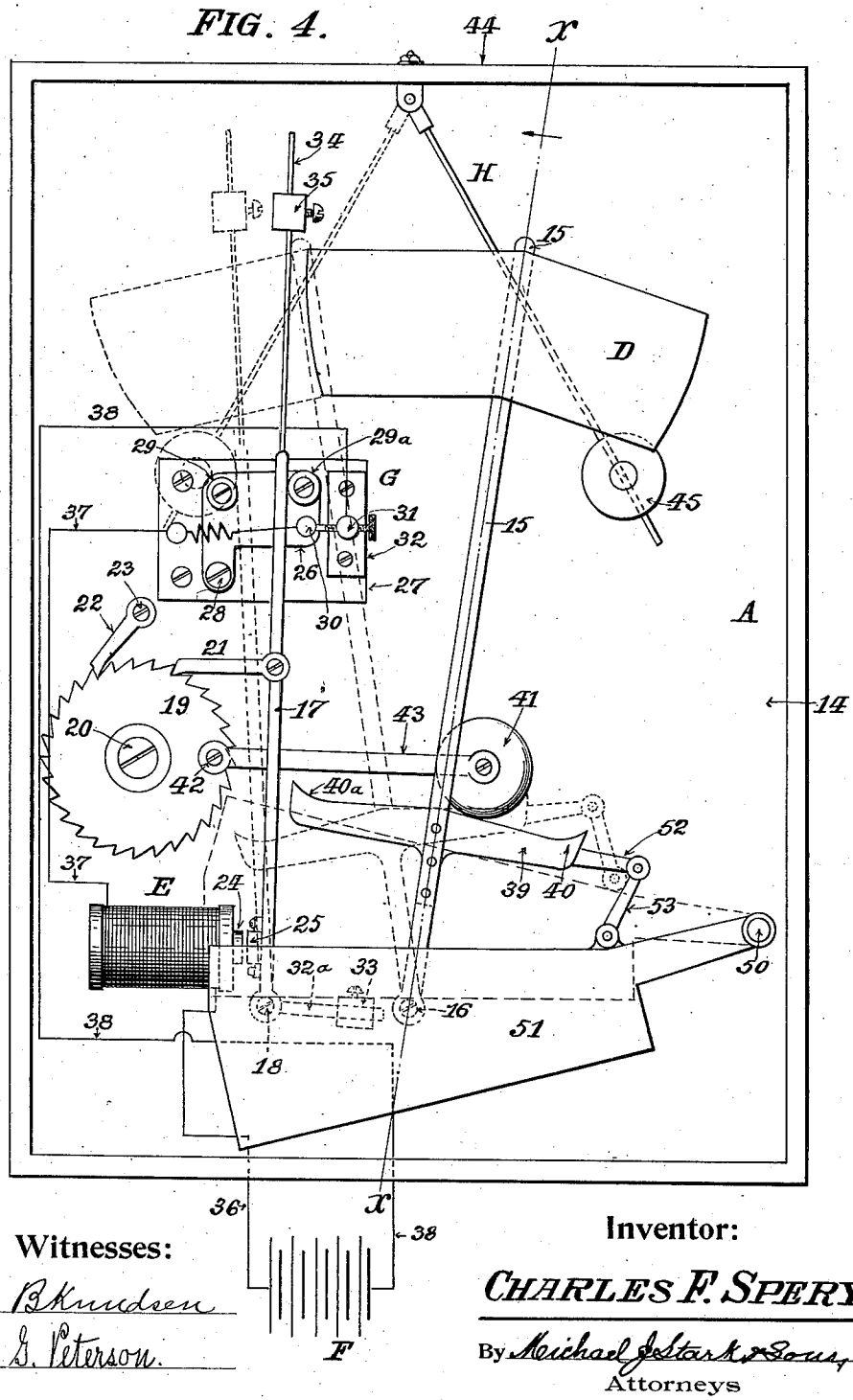
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3 SHEETS—SHEET 2.

*FIG. 4.*




Witnesses:

C. B. Knudsen

A. S. Peterson.

Inventor:

CHARLES F. SPERY,

By Michael J. Stark & Sons,

Attorneys

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

C. F. SPERY.

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3 SHEETS—SHEET 3.

*FIG. 5.*

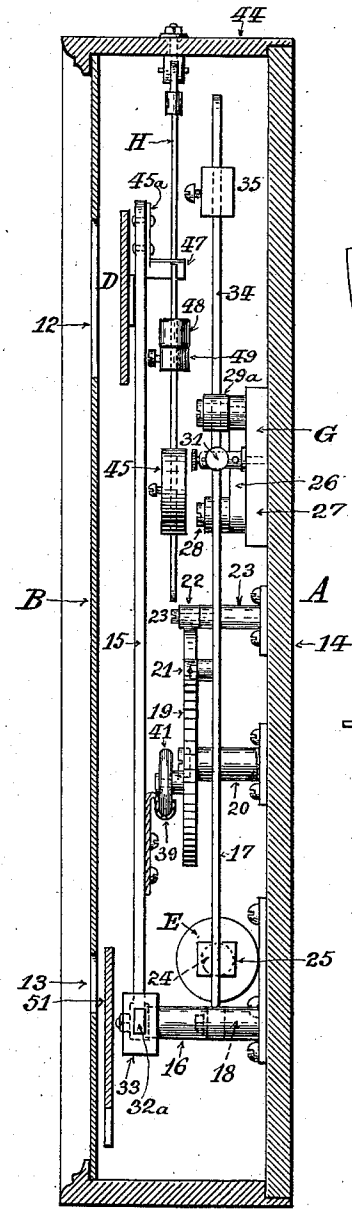
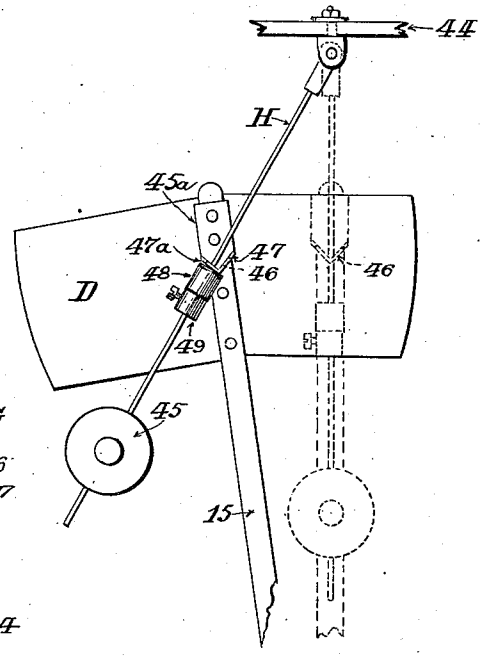



*FIG. 6.*



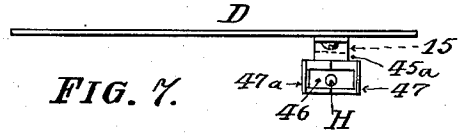




*FIG. 7.*

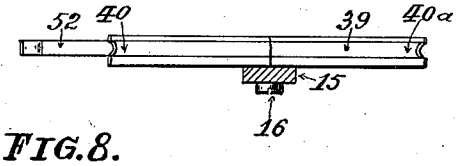



*FIG. 8.*

**Witnesses:**

C. B. Knudson

A. S. Peterson.

**Inventor:**

CHARLES F. SPERY,

By Michael J. Stark & Sons,

Attorneys

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

CHARLES F. SPERY, OF CHICAGO, ILLINOIS, ASSIGNOR TO AMERICAN ART WORKS, OF COSHOCTON, OHIO, A CORPORATION OF NEW JERSEY.

## ADVERTISING DISPLAY-SIGN.

1,026,531. Specification of Letters Patent. **Patented May 14, 1912.**

Application filed January 22, 1912. Serial No. 672,583.

*To all whom it may concern:*

Be it known that I, CHARLES F. SPERY, a citizen of the United States, and resident of Chicago, in Cook county, State of Illinois, have invented certain new and useful Improvements in Advertising Display-Signs; and I do hereby declare that the following description of my said invention, taken in connection with the accompanying sheets of drawings, forms a full, clear, and exact specification, which will enable others skilled in the arts to which said invention appertains to make and use the same.

This invention has general reference to advertising display signs; and it consists, essentially, in the novel and peculiar combination of parts and details of construction, as hereinafter first fully set forth and described, and then pointed out in the claims.

The object of this invention is the production of an efficient, serviceable, and attractive sign of the framed picture type, in which movable advertising signs, changing periodically, are installed which will attract and hold the attention of lookers-on, and thereby serve as an effective advertising medium.

In the drawings already mentioned, which serve to illustrate this invention more fully, and form a part of this specification, Figure 1 is a plan of a sign of the description mentioned, in which the bust picture of a woman is shown, the expression of the face of which is a happy and smiling one. Fig. 2 is a like view of the same picture in which the expression of the face of the woman is changed to a discontented one. Fig. 3 is a similar view of the apparatus, the picture carrying card or board being removed to disclose the underlying mechanism. Fig. 4 is a similar view on a larger scale, illustrating the mechanism in the position which the parts occupy a moment after the picture has been changed. Fig. 5 is a sectional view of the apparatus on line $x$—$x$ of Fig. 4. Fig. 6 is a detail rear view of the movable portion of the device that carries, pictorially, the faces of the woman shown on the picture carrying card, and parts connected therewith. Fig. 7 is a plan of the same. Fig. 8 is a plan of the track employed in this device.

Like parts are designated by the same characters and symbols of reference in all the figures.

This device comprises a box-like container A, having an open side or face which is closed by $a$, preferably removable, picture carrying board or card B, on which is printed, engraved, modeled, painted, or otherwise produced, the picture of an object, preferably the bust picture of a female C. At the place in this picture carrying card where the face of the woman would appear, there is an opening 12, and near the lower end of this picture carrying card there is a further opening 13, through which openings objects placed behind the card may be observed. In this box-like structure, which has a back board 14, there is placed the mechanical structure which includes a movable element which I shall hereinafter term a target, D, on which two faces of the woman shown on the picture carrying card are produced that differ in expression. This target D is secured to the upper end of a rod 15, the lower end of which is journaled upon a pivot 16, secured to the back board 14, so that this rod 15 with its target D, may swing back and forth, pendulum-fashion from one side to the other in said case A, and it is operated by the following mechanism: At one side of the rod 15, and toward the rear thereof, there is located a rod 17, similar to the rod 15, said rod 17 being journaled in a pivot 18, also secured to the back board 14. At the side of this latter rod 17 there is mounted a ratchet wheel 19, rotatably arranged upon a stud shaft 20, and to said rod 17 there is pivoted a click or dog 21 that engages the teeth in the ratchet wheel to rotate the same intermittently in one direction only, a detent 22, being provided to prevent reaction of said ratchet wheel 19. At the side of this rod 17 there is located an electromagnet E, that is excited or energized by a battery F, or other source of electrical energy; and on the rod 17, and in close proximity to the core 24 of the electromagnet there is placed a metallic contact plate or armature 25, which plate is attracted toward the magnet E whenever the latter is energized. At a distance above the magnet there is located a circuit breaker G, comprising a plate 26, of insulating material, which plate is pivoted to a supporting plate or board 27, near one corner thereof, by a pivot 28. Upon the former plate there are mounted two abutment members or bumpers 29, 29$^a$, between which the rod 17 swings so

that when coming in contact with the bumper 29, the plate 26 will be moved in one direction, and when coming in contact with the bumper 29ª, the plate 26 will be returned to its first position. Upon this plate 26 there is, furthermore, mounted a contact point 30, and at the side of this plate there is placed a further contact point 31, located upon an insulated plate 32.

At the lower end of the pendulum rod 17, and projecting at approximately right angles therefrom, there is an arm 32ª, on which is movably placed a counterweight 33; and from the upper end of said rod 17 projects an upwardly extending slender rod 34, on which is movably arranged a weight 35.

The mechanism thus far described constitutes a motor that vibrates, or rather intermittently swings the rod 15, and this motor operates in the following manner: From the positive pole of the battery F leads a wire 36, to the magnet E and from the coil thereof leads the wire 37 to the contact point 30 on the rocking plate 27, the return being by way of the contact point 31 to the negative pole of the battery by the wire 38. When the circuit is closed, the magnet E attracts the armature 25 of the rod 17 and pulls the same toward the bumper 29 and moves the rocking plate 27 with it, momentum being imparted to the pendulum rod 17 by the weight 35, on the extension 34 thereof. As soon as the pendulum rod 17 touches the bumper 29, the contact points 30 and 31 will separate and thus open the circuit, the magnet will demagnetize, and the weight 33 on the arm 32ª will pull the pendulum rod 17 back to its starting point to again close the electric circuit and thus keep up a constant vibration of the rod 17, which, in turn, will rotate the ratchet wheel 19 by a step-by-step movement.

The swinging rod 15 that carries the target D has attached to it a cross bar 39, said cross bar having upwardly curved ends 40, 40ª, said cross bar affording a track on which a roller 41, is caused to move. This roller serves as a movable weight on said track, and it is connected to a wrist pin 42 projecting from the face of the ratchet wheel 19, by a connecting rod 43, whereby said weight 41 is slowly reciprocated while rolling on the cross bar 39. The operation of this mechanism is as follows: Assume the target carrying rod 15 to be in the position shown in Fig. 3, and the ratchet wheel rotating as described: When the crank or wrist pin 42 approaches its dead center, the weight 41 acting upon the curved end 40 of the cross bar 39, causes the cross bar to be moved laterally in the direction of movement of said roller weight and thereby give an impulse to the swinging of the rod 13, assisted by the heft of the roller 41 acting by gravity upon said cross bar, thereby throwing the rod 15 over into the position shown in Fig. 4. In the meantime the wristpin 42 has reached and passed the dead center and continues its rotation with the ratchet wheel and thereby pulls the roller weight along to the other end of the cross bar until it reaches the curved end 40ª thereof to repeat the operation of throwing the target carrying rod in this direction. This intermittent swinging of the target carrying rod 15 continues as long as the motor described is kept in operation. The intervals between the beats of the target carrying rod depends upon the speed or rotating of the ratchet wheel, and it may be varied by a proper adjustment of the weight 35 on the extension of the rod 17. In order to further assist the target carrying rod in its starting movements to change the targets, there is suspended from the top member of the container A, an intermittently vibrating pendulum H, weighted at its lower end by a weight 45. This pendulum H is connected to the target carrying rod 15, by an element 45ª, shown in detail in Figs. 5, 6, and 7, said element having a slotted aperture 46 to engage said pendulum H. This element has two converging side members 47, 47ª, and on the pendulum H there is located a bumper 48, sustained on said pendulum by a collar 49. When the target carrying rod swings from one side to the other, it moves the pendulum with it until the bumper 48 thereon reaches the proper inclined part of the element 45ª, and thereby arrests the movement of the target. When, however, the target carrying rod receives an impulse from the roller weight 41 to reverse the movement of the rod 15, this same incline acting upon the bumper 48 will assist the target carrying rod in starting its reverse movement, it being understood that the weight on the pendulum H, and the roller weight 41 on the cross bar 39 are so adjusted that a slight preponderance of weight is in the moving roller 41.

To impart advertising value to the device described in addition to the face-changing means, I have pivoted, upon a pivot 50, secured to the back board 14, a card 51, which is directly behind the opening 13 in the face card B, and which may be observed through this opening. This pivoted card 51 carries on its face reading matter appropriate to, and corresponding with the expressions of the faces on the target D. This legend carrying card is connected to the cross bar 39, at an extension 52 thereof, by a connecting link 53, so that whenever the target D changes position, the legend carrying card will change accordingly.

I am aware that many of the details

shown and described and which are unimportant, may be changed or omitted from the device without departing from the scope of this invention, so that I do not wish to be understood as confining myself to these details of construction.

Having thus fully described this invention, I claim as new and desire to secure to me by Letters Patent of the United States—

1. An improved advertising device, including, in combination, a container, a picture board in said container, said picture board having on its face the pictorial representation of an object, there being in said picture board an opening which mutilates the object represented on said card, a swinging rod in said container carrying a target, said target bearing on its face that portion of the pictorial representation of an object that is obliterated by said opening therein, in a multiplicity of different expressions, and mechanism for moving the target intermittently at predetermined intervals of rest.

2. An improved advertising device, including, in combination, a container, a picture board in said container, said picture board having on its face the pictorial representation of an object, there being in said picture board an opening which mutilates the object represented on said card, a swinging rod in said container carrying a target, said target bearing on its face that portion of the pictorial representation of an object that is obliterated by said opening, in a multiplicity of different expressions, a further opening in said picture board, a card behind the latter opening, said card being pivotally connected to the swinging rod carrying said target, and mechanism for throwing said rod at predetermined intervals of rest in opposing directions.

3. An improved advertising device, including, in combination, a container, a face card in said container having an opening, a target carrying rod in said container, pivoted at its lower end, a target on said rod near its upper end, said target being directly behind said opening in the face card, and a motor in said container constructed to swing said target after predetermined periods of rest, in opposing directions.

4. An improved advertising device, including, in combination, a container, a face card in said container, there being an opening in said face card, a target carrying rod in said container, pivoted at its lower end, a target on said rod near its upper end, said target being directly behind the opening in said face card, and a motor in said container, said motor including electrically operating mechanism whereby said target is moved at predetermined periods of rest, in opposing directions.

5. An improved advertising device, including, in combination, a container, a face card in said container, there being an opening in said face card, a target carrying rod pivotally mounted in said container, a target on said rod, said target being located directly behind the opening in said face card, and a motor in said container for moving said target, said motor including an electromagnet, a battery, an electric wire circuit, means for opening and closing this circuit, and mechanism operated by said electromagnet whereby said target is thrown at predetermined intervals of rest in opposing directions.

6. An improved advertising device, including, in combination, a container, a face card in said container, there being an opening in said face card, a target carrying rod pivotally mounted in said container, a target on said rod, said target being located directly behind the opening in said face card, and a motor in said container for moving said target, said motor including an electromagnet, a battery, an electric wire circuit, means for opening and closing said circuit, and mechanism operated by said electric motor whereby said target is thrown at predeterminated intervals of rest, in opposing directions, said latter mechanism including an intermittently rotating crank disk, and a connecting rod connecting said crank disk to said target carrying rod.

7. An improved advertising device, including, in combination, a container, a face card in said container, there being an opening in said face card, a target carrying rod pivotally mounted in said container, a target on said rod, said target being located directly behind the opening in said face card, a motor in said container for moving said target, said motor including an electromagnet, a battery, an electric wire circuit, means for opening and closing said circuit, mechanism operated by said electromagnet whereby said target is thrown at predetermined intervals of rest in opposing directions, said latter mechanism including an intermittently operating crank disk, a cross bar on said target carrying rod, a roller weight mounted on said cross bar, and a connecting rod connecting said crank disk to said roller weight.

8. In an advertising device, the combination, of a container, a face plate in said container having an opening, a target carrying rod pivotally mounted in said container, a target on said rod registering in position with the opening in said face plate, and mechanism for intermittently swinging said target in opposite directions, said mechanism including an electric motor constructed to swing said target in one direction, and means for swinging said rod in the opposite direction, there being means connected to said target carrying rod constructed to

assist said target carrying rod in starting on its beats, independently of the target swinging mechanism.

9. In an advertising device, the combination, of a container, a face plate in said container having an opening, a target carrying rod pivotally mounted in said container, a target on said rod registering in position with the opening in said face plate, mechanism constructed to intermittently swing said target in opposing directions, and means constructed to assist the target swinging mechanism in starting its beats after each interval of rest, said means including a pendulum connected to said target carrying rod, there being on said target carrying rod a member having converging sides, a bumper on said pendulum constructed to alternately engage one and the other of said converging sides, and a movable weight on said pendulum.

In testimony that I claim the foregoing as my invention, I have hereunto set my hand in the presence of two subscribing witnesses.

CHARLES F. SPERY.

Witnesses:
MICHAEL J. STARK,
FRIEDA T. LEBERSTEIN.

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