

No. 737,359.

PATENTED AUG. 25, 1903.

J. C. CURRAH & R. A. WILLSON.
ELECTRIC ADVERTISING DEVICE.

APPLICATION FILED JUNE 23, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

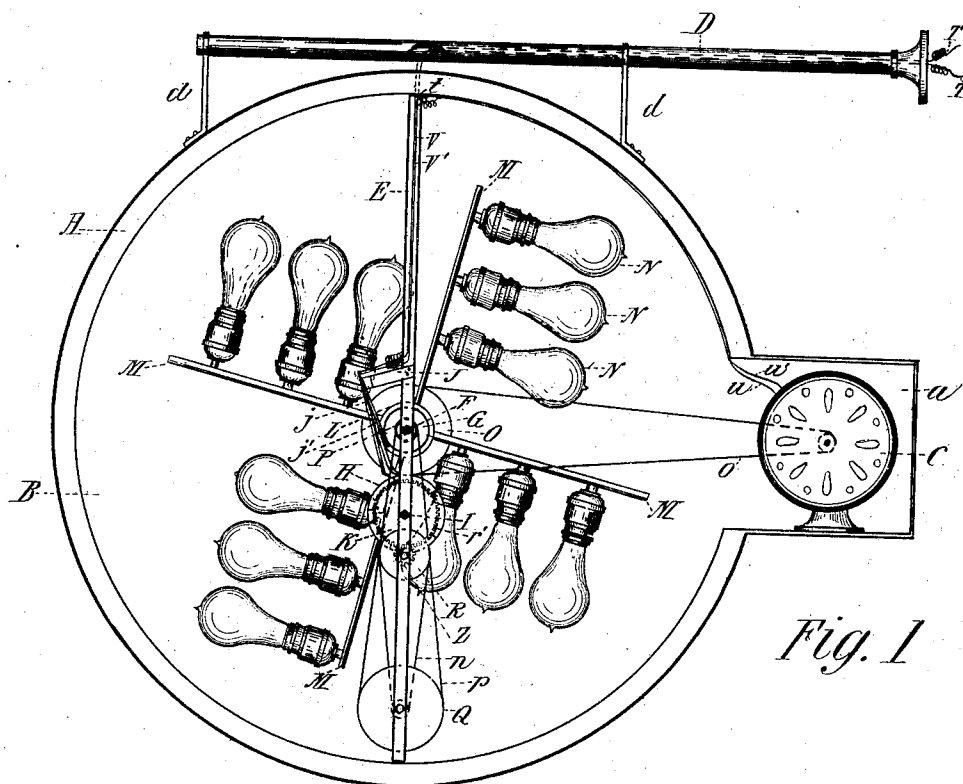


Fig. 1

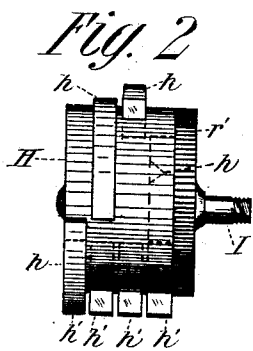


Fig. 2

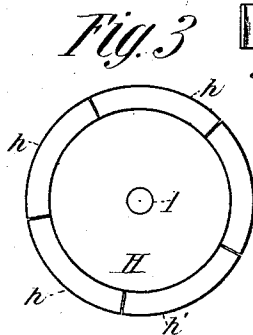


Fig. 3

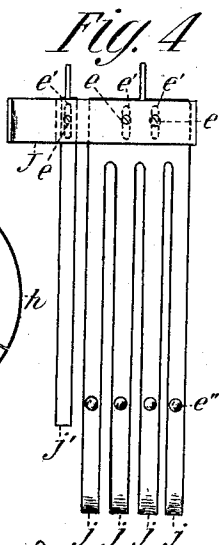


Fig. 4

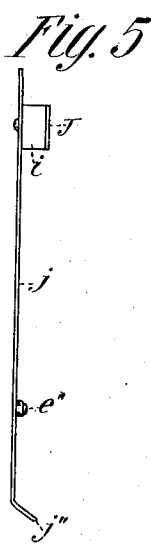


Fig. 5

Witnesses

G. B. Patton
G. J. R. Bullard

J. C. Currah, R. A. Willson
Inventors,
per Edward J. Russell
Attorney.

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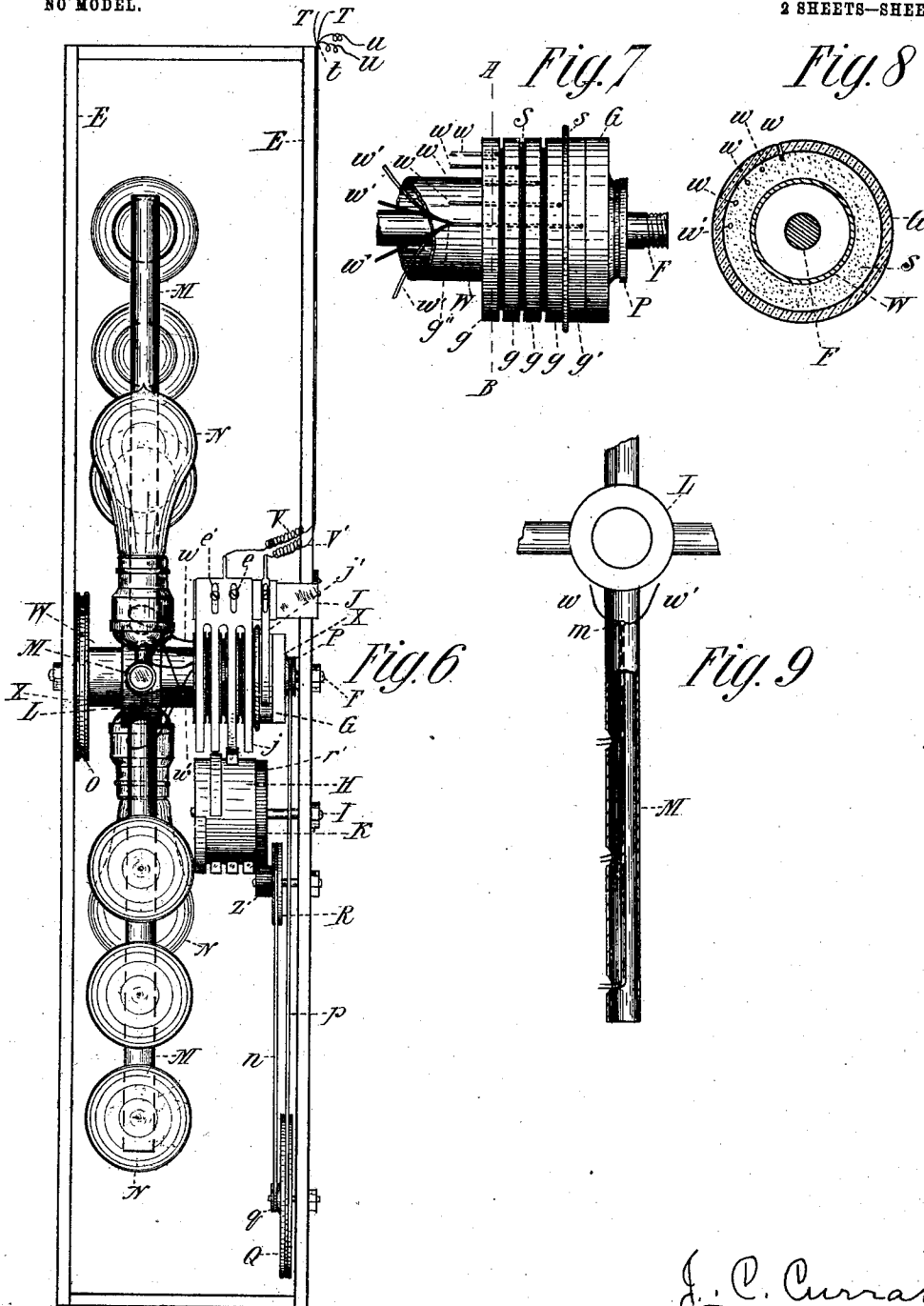
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Witnesses

J. P. Patten
Edman Bullard

per

J. C. Currah
R. A. Willson
Inventors,
Edward J. Fessenden
Attorney.

UNITED STATES PATENT OFFICE.

JONATHAN C. CURRAH AND RUSSELL A. WILLSON, OF HELENA, MONTANA.

ELECTRIC ADVERTISING DEVICE.

SPECIFICATION forming part of Letters Patent No. 737,359, dated August 25, 1903.

Application filed June 23, 1902. Serial No. 112,920½. (No model.)

To all whom it may concern:

Be it known that we, JONATHAN C. CURRAH and RUSSELL A. WILLSON, citizens of the United States, residing at the city of Helena, in the county of Lewis and Clarke and State of Montana, have invented certain new and useful Improvements in Electric Advertising Devices, of which the following is a specification, reference being had therein to the accompanying drawings.

The electric light has been used in various ways to attract attention for advertising purposes. Naturally the more startling and pleasing the effect the greater the value of the mechanism for this purpose. Another feature to be desired in such or any mechanism is compactness and simplicity.

Our invention has all these desirable and useful qualities. It is a high-speed wheel, producing rapid and pleasing changes of colors, and combines in one compact case the motor, wheel, and interrupter.

It consists of a sheet-iron case with glass front and back, with an offset in the side for the motor, an electric motor, a wheel supported within the case having four or more arms carrying electric lamps with colored globes, the lights on each arm being set at different distances from the axis of the wheel, an interrupter run automatically by the wheel consisting of a cylinder with cams on its surface in different planes, together forming a complete circle, a distributing-wheel, brushes, and the necessary driving mechanism and wiring.

Figure I shows a front elevation of the mechanism and case. Fig. II shows the interrupter. Fig. III shows an end elevation of the interrupter. Fig. IV shows the brushes from the reverse side. Fig. V shows a side elevation of a brush. Fig. VI shows a side elevation of the mechanism within the case. Fig. VII shows the distributing-wheel. Fig. VIII shows a section of the distributing-wheel on the line A B. Fig. IX shows an arm with parts broken away.

Similar letters refer to similar parts in all the drawings.

The case or drum A is made of a metal, with glass faces B in front and rear and with the offset or recess a for the motor C. It is supported

by the hollow arm D and straps d d. Within the case A is fitted the frame E, carrying the shaft F. Upon the shaft F the cylinder W turns upon ball-bearings at X X. Upon this cylinder W is firmly fitted the distributing-wheel G, composed of four brass rings g g and a fifth, g', all fixed upon a non-conducting core S, which has one projecting rib or flange s between the fourth ring g and the fifth ring g'. Immediately below the distributing-wheel G the interrupter H is placed, turning upon the shaft I. The interrupter H is made of non-conducting fiber and has upon its circumference four cams h h, each a one-fifth consecutive segment of the circumference, set in parallel planes, and a set of four cams h' h', segments of the same length, extending across the cylinder H and completing the circle.

Fixed to the frame E, above the distributing-wheel G, is the strap-arm J, carrying four brushes j j of equal length, integral at their base and with bent tips j'', and a fifth straight brush j' of shorter length. Between these brushes and the arm J is a pad of non-conducting fiber i. The brushes are adjustable vertically by means of the set-screws e e and the slots e' e'. Upon the under side of each brush j is placed a carbon point e''. The brushes j j are so adjusted as to be pressed into contact with the rings of the distributing-wheel by the cams of the interrupter as it revolves. The brush j' is in constant contact with the ring g' of the distributing-wheel, forming the return.

Fitted about the cylinder W is the hub L, carrying the four hollow arms M M, each of which carry three lamps N N. The sets of lamps on each arm are placed at different distances from the axis, so that no two lamps revolve upon the same radius. Each lamp is different in color from the others. On the cylinder W is the pulley O, connected by the belting o with the motor C and the pulley P. From the latter the belt p runs to the double pulley Q, and from the latter's small pulley q a belt n runs to the pulley R, which carries the pinion Z, which engages the cog-wheel r' on the interrupter H. Power is brought in by the wire circuit T T', which branches at t, one circuit, u u', going to the motor C and the

other circuit, $V V'$, going to the brushes $j j$ and j' . Each set of lamps on each arm has its separate circuit $w w'$ entering the arm at the orifice m , one wire connecting with one of the rings $g g$ and the return-wire uniting with the other returns at g'' and connecting with the ring g' .

Having thus described our invention in detail, its mode of operation is readily seen.

- 10 The electric current being admitted to the motor C, the main wheel carrying the lamps is revolved at a speed of about five hundred revolutions per minute. This speed is reduced by the pulleys P, Q, and R to six revolutions of the interrupter H. As each cam h of the interrupter H comes around in its turn it engages its corresponding brush j , the brush is sprung back so that the carbon point e'' comes into contact with the corresponding
- 20 ring g of the distributing-wheel G, the electric circuit through one arm M and set of lamps N N is established, and three concentric circles of diverse colored lights appear during the contact of about two seconds. When the first cam h passes the point of contact with the brush j and the circuit is broken, the next cam comes in contact with the next brush, that circuit is established, and a new set of three concentric circles of still different lights
- 30 appear for the same period. The same operation obtains with the third and fourth cams. As the circuit is broken with the fourth, the set of cams $h' h'$ brings all four circuits into action at once and twelve concentric circles of light flash out for the same period. The whole operation is then repeated.

The number of arms and the number of lamps can be varied indefinitely, as also the speed of the main wheel and of the interrupter, thus making possible a great variety in design and effect. The brilliant flashing of the varicolored lights, with their rapid changes of color and arrangement, produces a striking effect that attracts and commands instant attention. Any name or legend can be placed upon the glass faces that may be desired and is thereby most effectively advertised.

Having thus described our invention, what we claim is—

- 50 1. In an electrical advertising device, a high-speed rotating wheel having radial arms, a plurality of electric bulbs on each arm, independent circuit connections for each arm, a motor operatively connected with said wheel,
- 55 a speed-reducing device intermediate the motor and wheel, a contact-ring and brushes for each of said circuits, and a cylinder carrying cam-surfaces for positively engaging and

moving said brushes to complete the circuits successively.

2. In an electric advertising device, a high-speed rotating wheel having radial arms, a plurality of electric bulbs on each arm, independent circuits for each arm, a distributing-wheel having rings, a cylinder below said distributing-wheel having a series of cams and a strap-arm carrying brushes, all as and for the purpose specified.

3. In an electric advertising device, a high-speed rotating wheel having radial arms, a plurality of electric bulbs on each arm, a motor operatively connected with said wheel, a speed-reducer intermediate the motor and wheel, a distributing-wheel having rings, a cylinder below said distributing-wheel and having a series of cam-surfaces, a strap-arm carrying brushes, and an additional brush at all times in contact with a ring of said distributing-wheel, as and for the purpose specified.

4. In an electric advertising device, a high-speed rotating wheel having radial arms, a plurality of electric bulbs for each arm, a distributing-wheel having rings, a cylinder below said distributing-wheel and having a series of cam-surfaces, a strap-arm secured to the frame above the distributing-wheel and carrying a series of brushes for cooperation with said rings, an additional brush at all times in contact with one of the rings of said wheel, and means for adjusting said brushes, as set forth.

5. In an electric advertising device, a high-speed rotating wheel having a plurality of radial arms, electric bulbs carried by said arms, a motor operatively connected with said wheel, a speed-reducer intermediate the motor and wheel, a cylinder having a series of cam-surfaces, a distributing-wheel above said cylinder and having a series of rings, a strap-arm secured to the frame above said distributing-wheel, a series of brushes carried by said arm and having their ends bent, an additional brush at all times in contact with one of said rings, means for adjusting the first-mentioned brushes, and a non-conducting pad between said brushes and arm, all substantially as shown and described.

In testimony whereof we affix our signatures in presence of two witnesses.

JONATHAN C. CURRAH.
RUSSELL A. WILLSON.

Witnesses:

EDWARD C. RUSSEL,
L. W. HEATH.