

No. 704,122.

Patented July 8, 1902.

C. C. SCOTT.
ILLUMINATED DISPLAY SIGN.

(Application filed Jan. 2, 1902.)

(No Model.)

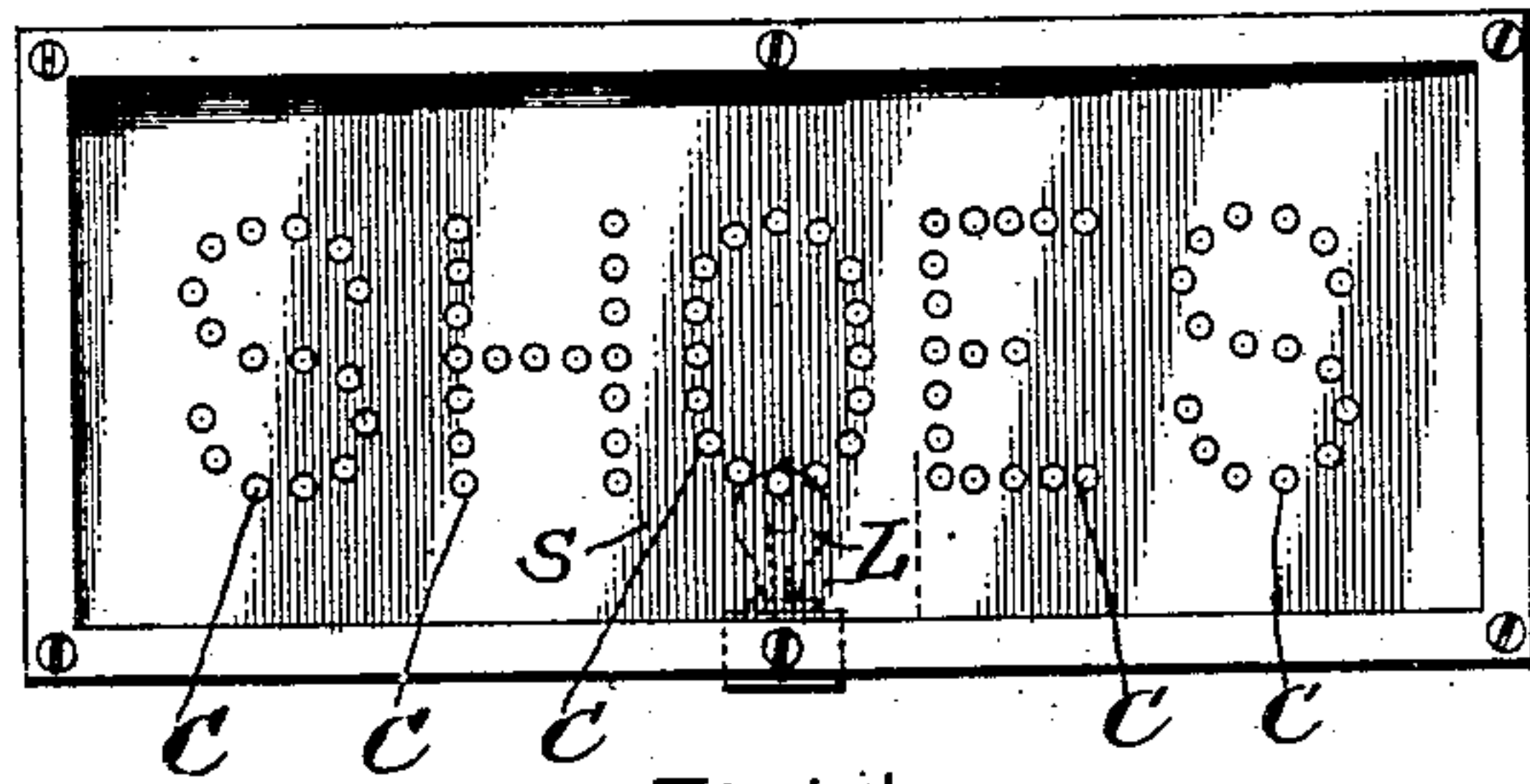


FIG. 1.

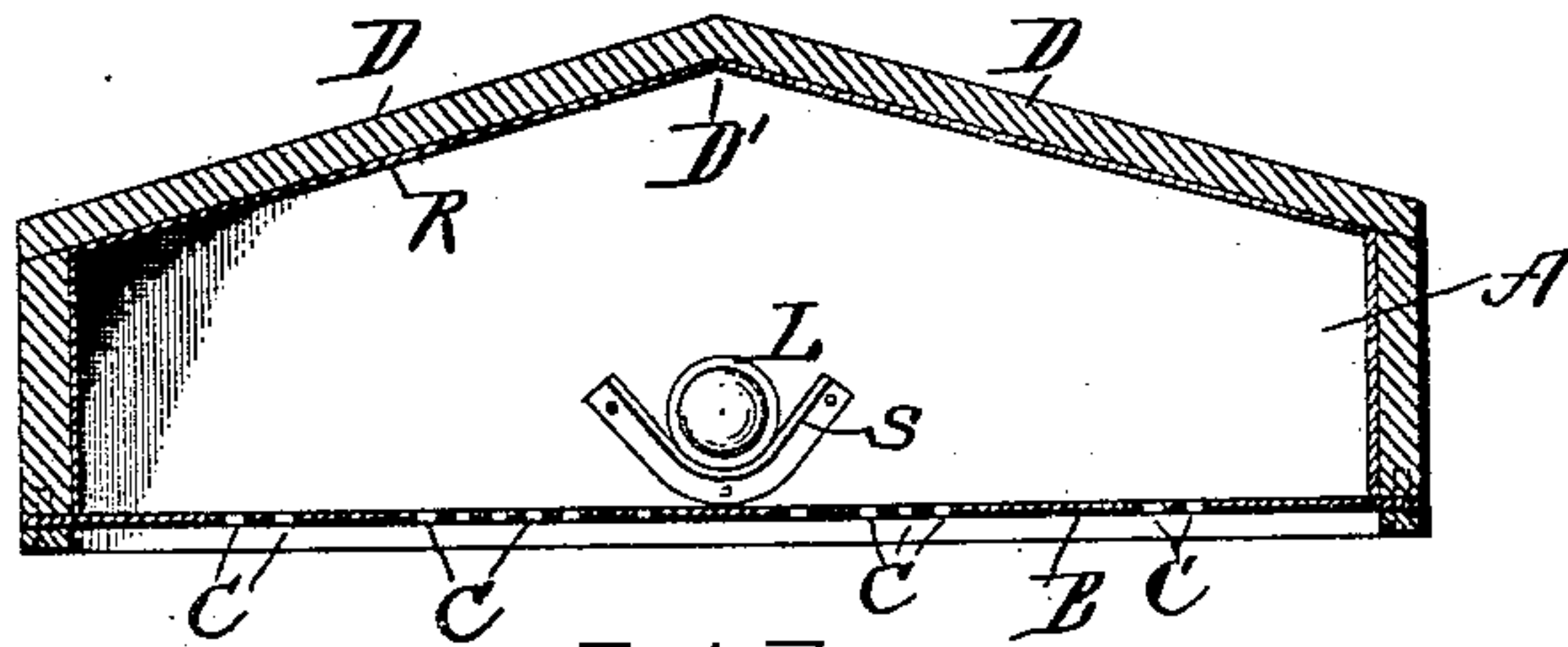


FIG. 2.

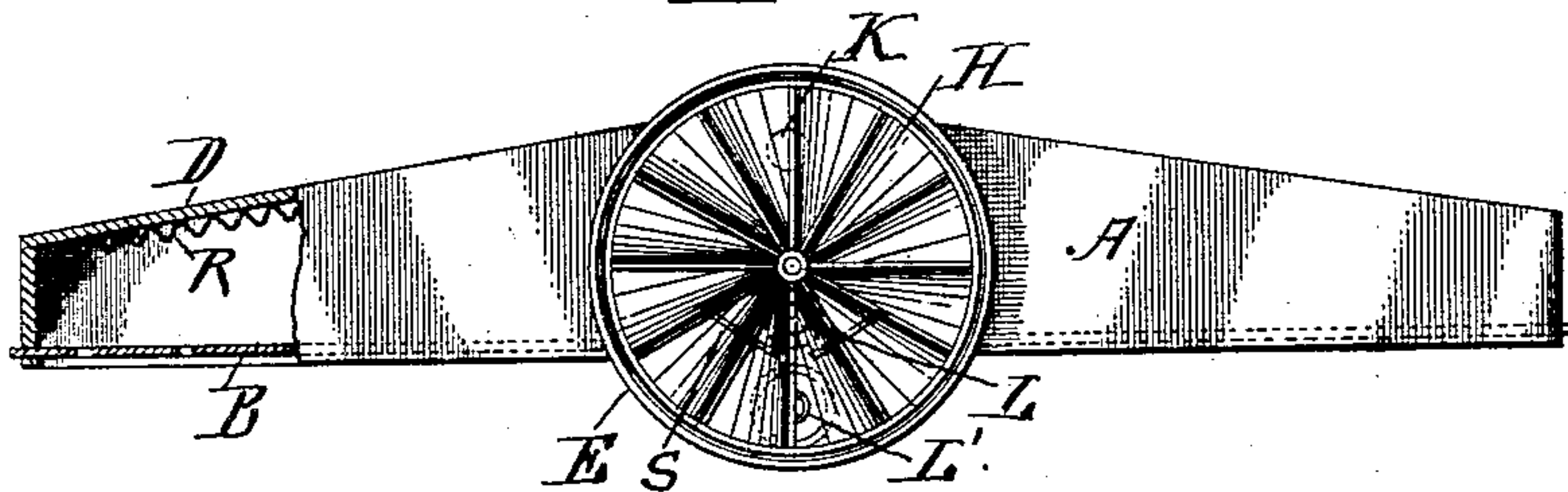


FIG. 3.

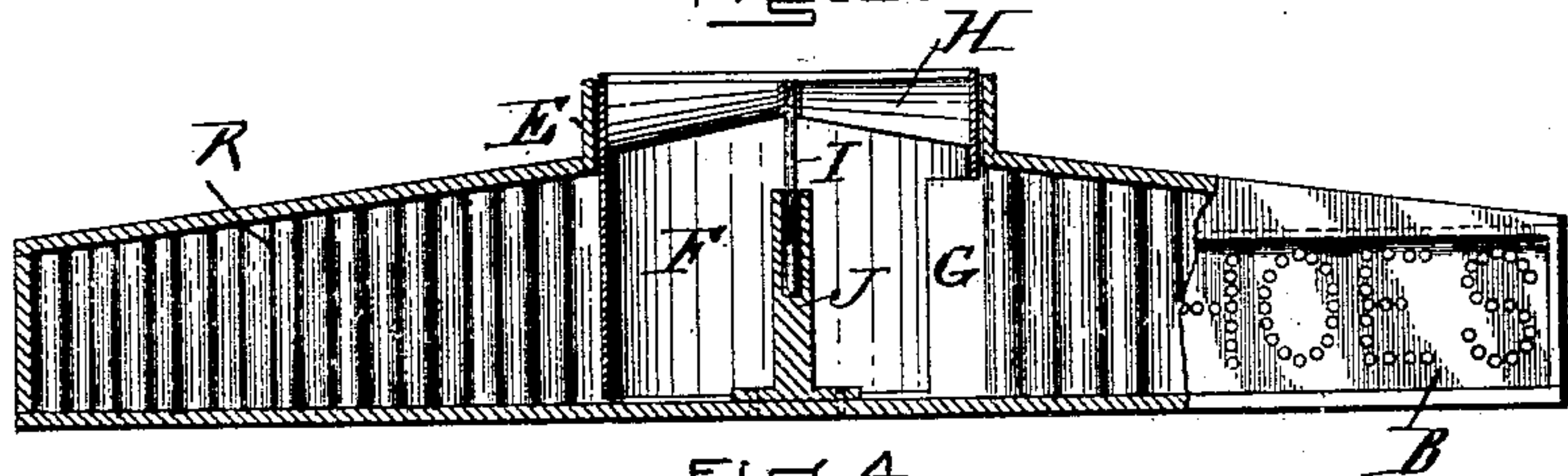


FIG. 4.

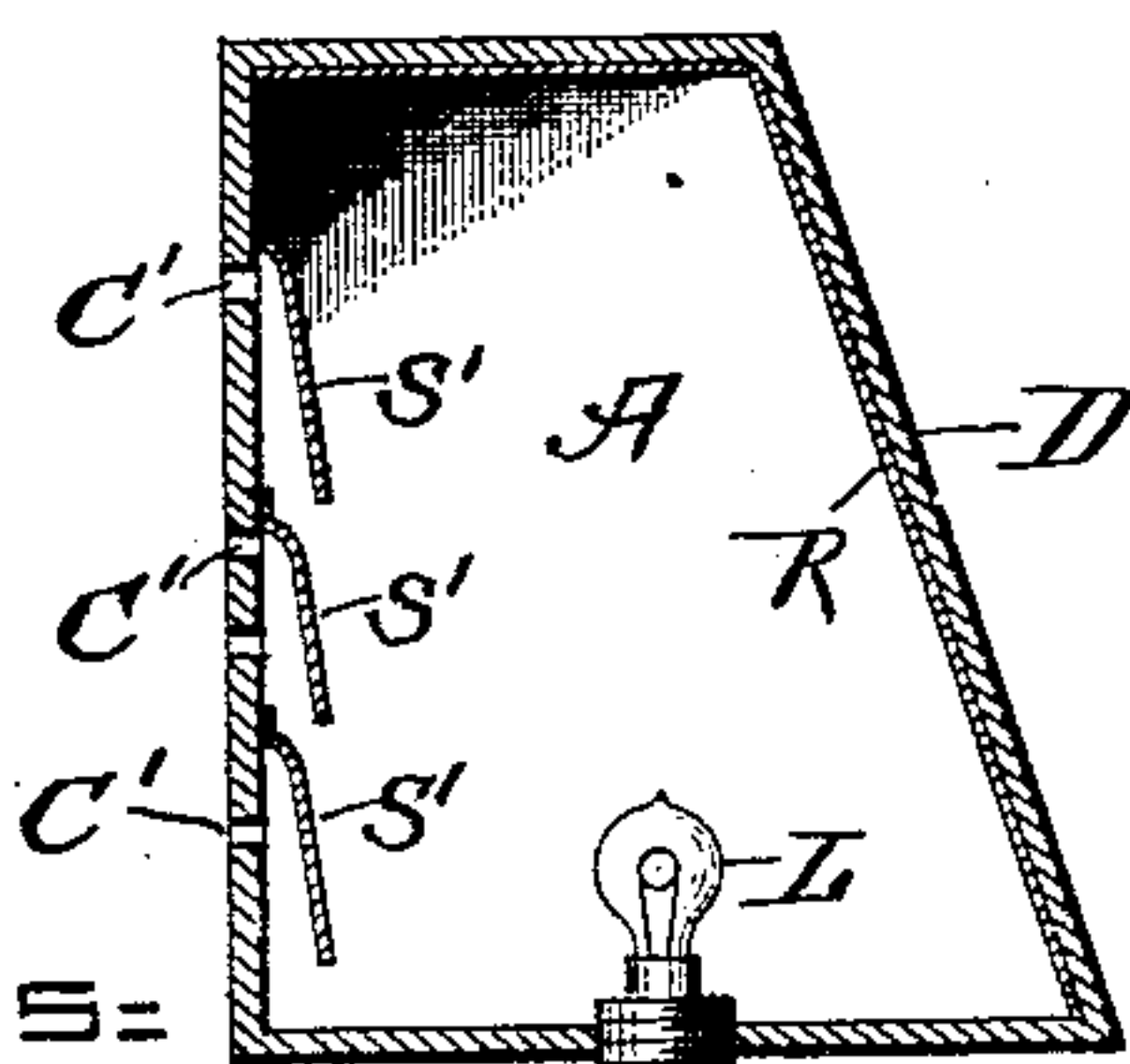


FIG. 5.

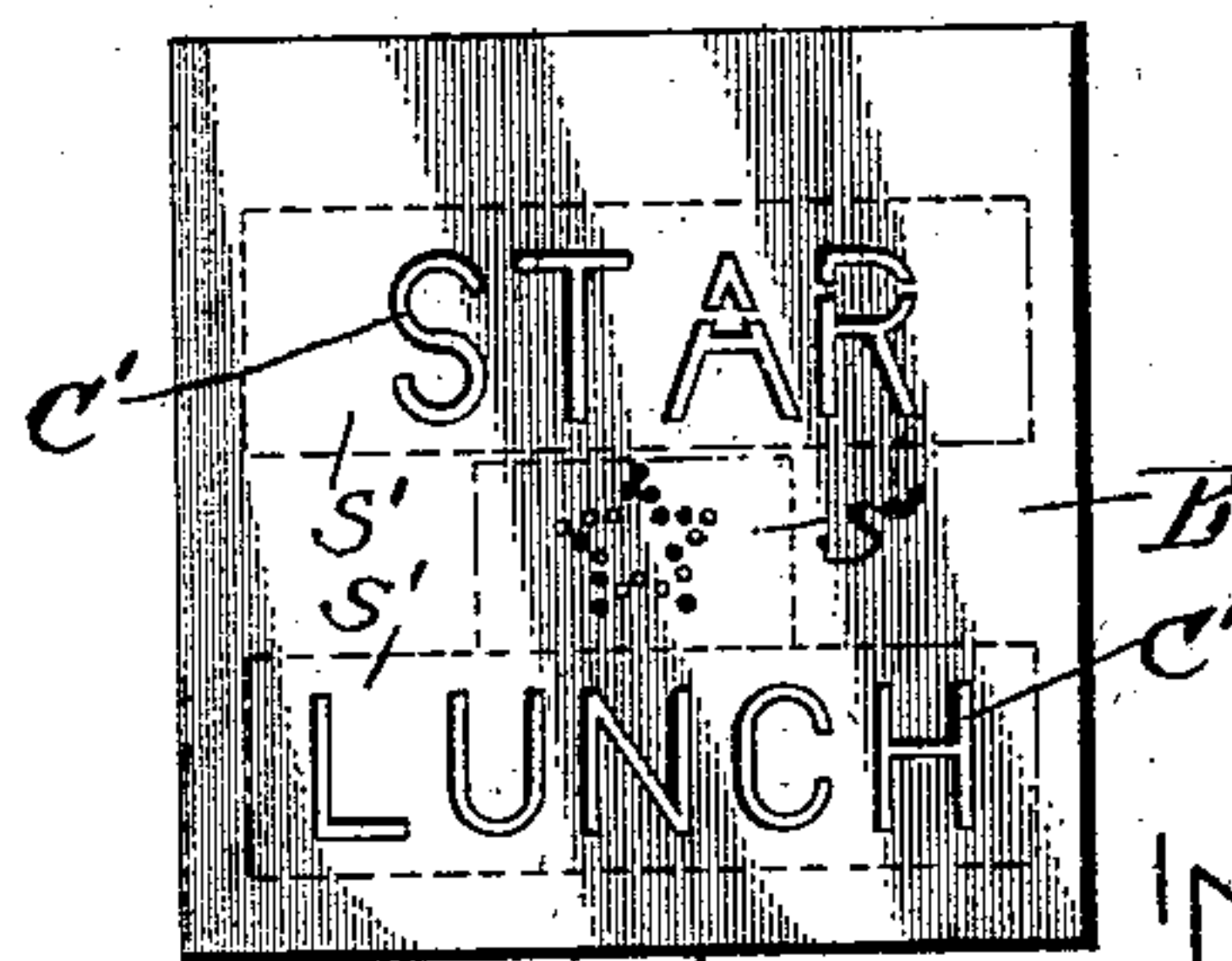


FIG. 6.

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UNITED STATES PATENT OFFICE.

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FIRM-NAME OF A. C. AND M. L. FELKIN, OF BOSTON, MASSACHUSETTS.

ILLUMINATED DISPLAY-SIGN.

SPECIFICATION forming part of Letters Patent No. 704,122, dated July 8, 1902.

Application filed January 2, 1902. Serial No. 88,044. (No model.)

To all whom it may concern:

Be it known that I, CHARLES CALVERT SCOTT, a citizen of the United States, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Illuminated Display-Signs, of which the following is a specification.

My invention relates to illuminated display-signs for artistic and commercial purposes, and has for its object the production of a sign of the said class in which the number of lights required to produce the desired degree of brilliancy may be reduced to a minimum, thereby reducing the cost of maintaining the sign. To this end I employ reflectors arranged as will presently be described.

A further object of my invention is to prevent the strong direct rays of the light from reaching the eye of the observer through any of the open or perforated characters, and thereby render one letter or character exceptionally brilliant, the remaining parts of the sign being apparently darkened by contrast. All the characters and designs of my sign are illuminated solely by reflected rays.

A further object of my invention is to arrange reflectors so that a substantially equal quantity of light will be distributed throughout all parts of the sign, thereby rendering all the characters and designs of the sign of substantially equal brilliancy.

A further object of my device is to provide a means for flashing the light to the face of the sign between intervals of darkness or for flashing colors of light, one after another, to the face of the sign.

A box or casing forms the body of the sign, within which are arranged the lights, screens, and reflectors. The casing should be of sufficient depth to accommodate electric bulbs, gas-jets, lamps, candles, or other lights of whatever character desired. The face of the sign may be of wood or sheet metal having characters formed by a series of open or translucent perforations or by being cut out in whole or in part, or the face may be of glass or other translucent background with characters painted or otherwise inscribed thereon,

or it may be constructed in any of the modes well known to the users of illuminated signs.

Certain embodiments of my invention are shown in the accompanying drawings.

Figure 1 represents the front elevation of an embodiment of my invention. Fig. 2 is a horizontal cross-section through the center of Fig. 1. Fig. 3 shows a modified form of my invention in plan view, a part of the top of the casing being broken away, showing in horizontal cross-section a part of the interior. Fig. 4 is a view from the front of the sign, shown in Fig. 3, the greater part of the front face of the sign being broken away, disclosing a vertical longitudinal section through the middle of Fig. 3. Figs. 5 and 6 are respectively a vertical cross-section and a front elevation of modified forms of my invention.

Like parts are indicated by like reference-letters in all the figures.

A represents the casing of the sign, having the face B, upon which are described the characters or designs to be displayed, as by the perforations C, which I have shown in Fig. 1, spelling the word "Shoes," or by the sign-openings C', which I have shown in Fig. 6, spelling the words "Star lunch." The rear walls D of the casing are arranged angularly with relation to the face B and in the constructions of my invention shown in Figs. 1 to 4 form with each other an interior angle, as D'. Within the casing A is a light L, which may be an electric bulb, as shown in Figs. 1, 2, and 5, or a lamp, as shown in Fig. 3, or a gas-jet or other form of light.

The light L is screened from the characters C or C' in the face B either by a screen S immediately in front of the light and shielding all of the characters therefrom, Figs. 1, 2, and 3, or by screens S', Figs. 5 and 6, separately shielding each character or group of characters from the light. The rear walls D of the casing are lined with a reflecting material, preferably aluminium leaf, forming the reflector R. The entire interior of the sign and both sides of the screens S and S' may be similarly lined to constitute reflectors. By means of this arrangement of screens and reflectors it will be seen that no direct rays of light can

meet the eye of the observer through the face of the sign, no matter what his point of observation, but that by reason of the manifold reflections of light back and forth within the casing, due to the angularly-disposed reflectors, the reflected rays will pass through the sign-openings C or C' in all directions, and the light will be distributed substantially equally throughout the sign. It will furthermore be seen that from whatever point the observer may be in front of the sign there will be no letter or character excessively brilliant by reason of the direct rays of the light, with the corresponding apparent darkening of the remaining parts of the sign, but that all parts of the sign will appear to shine with equal brilliancy. To still further multiply the number and directions of the reflected rays, the reflector R may be corrugated, as shown in Figs. 2 and 3.

Referring now particularly to Figs. 2 and 3, E is an upright cylinder or circular chamber located at the middle of the sign and opening into either end of the casing. Within the cylinder E is a revolving drum or screen F, of pasteboard or other suitable opaque material and having one or more open segments G. This revolving drum is intended to alternately admit the light to and exclude it from the interior of the casing, whereby the sign will be illuminated by periodic flashes, or the drum may consist of translucent colored segments adapted to throw light of different colors successively upon the reflectors and thence to the face of the sign. At the top of the drum F is a power-fan H. The drum revolves upon the centrally-located spindle I, which turns within the socket-bearing J. The spindle I terminates in a sharp bearing-point, reducing the friction to a minimum. The light L should be a lamp, gas-jet, or the like, which will send upward a current of hot air. The impact of the hot air upon the fan H causes the fan and depending drum F to revolve as long as the light is kept burning, admitting flashes of light or colored lights, as the case may be, to the interior of the sign-casing. By placing the light far enough forward in the chamber E—that is, forward of the plane of the face of the sign, as at L—the screens S may be dispensed with, the light being screened from the face of the sign by its position. An opening K in the bottom of the sign may be provided to admit air and assist the upward current. The air-current, and consequently the speed of the fan, may be regulated, if desired, by a shutter for the opening K. Such shutter may be of any well-known simple construction and is not shown. If it is desired to insert electric bulbs instead of the burning light, or if the sign is of the size which renders the propelling of the fan by means of the ascending current of hot air impracticable, the screen F may be driven by external power.

What I claim, and desire to secure by Letters Patent, is—

1. An illuminated display-sign comprising a casing having a face provided with open or translucent characters or designs and a rear wall provided with a corrugated reflector, a light within said casing, and a screen having a reflecting-surface upon its outer or front side toward said characters or designs, so disposed as to intercept all the direct rays from the light to said characters or designs, whereby said characters or designs shine only by reflected light, and all the surfaces within the range of vision through said characters or designs are reflecting-surfaces.

2. An illuminated display-sign comprising a casing having a face provided with open or translucent characters or designs, the entire interior of said casing being covered with a reflecting-surface, a light within said casing, and a screen having a reflecting-surface upon its outer or front side toward said characters or designs, so disposed as to intercept all the direct rays from the light to said characters or designs, whereby said characters or designs shine only by reflected light, and all the surfaces within the range of vision through said characters or designs are reflecting-surfaces.

3. An illuminated display-sign comprising a casing having a face provided with open or translucent characters or designs, a reflecting-surface upon the interior walls of said casing, a light within said casing, and a screen having a reflecting-surface upon its outer or front side toward said characters or designs, so disposed as to intercept all the direct rays from the light to said characters or designs, whereby said characters or designs shine only by reflected light, and all the surfaces within the range of vision through said characters or designs are reflecting-surfaces, and a revolving drum surrounding said light, comprising a series of segments adapted to control the passage and character of the rays from the light to the reflectors.

4. An illuminated display-sign, comprising a casing having a face provided with open or translucent characters or designs, a rear wall angularly disposed with relation to said face and covered with the reflecting substance, a light within said casing, the direct rays of which are wholly screened from said characters or designs by means of a screen having a reflecting-surface upon its outer or front side toward said characters or designs, a revolving drum surrounding said light provided with a series of light-controlling segments, and a power-fan at the top of said drum adapted to be driven by the ascending current of hot air from said light and to rotate said drum.

Signed by me at Boston, Massachusetts, this 30th day of December, 1901.

CHARLES CALVERT SCOTT.

Witnesses:

ROBERT CUSHMAN,
FRANK S. HARTNETT.