(No Model.)

4 Sheets—Sheet 1.

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ADVERTISING OR OTHER ILLUMINATING EFFECT.

No. 499,150. Patented June 6, 1893.

Fig. 2.

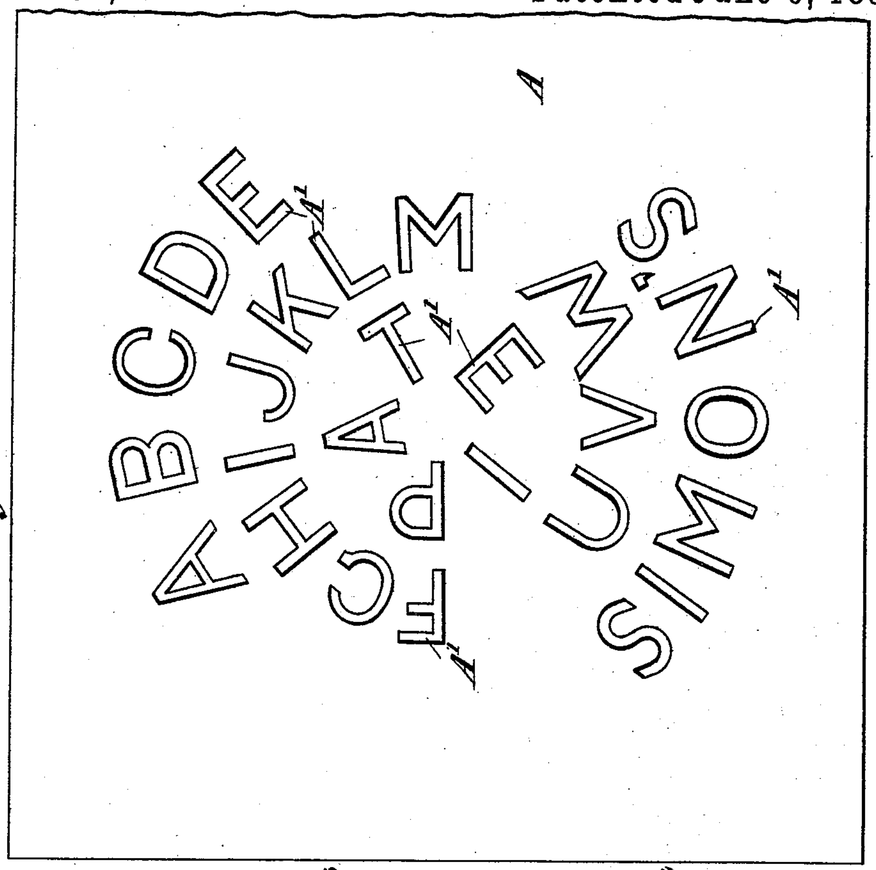
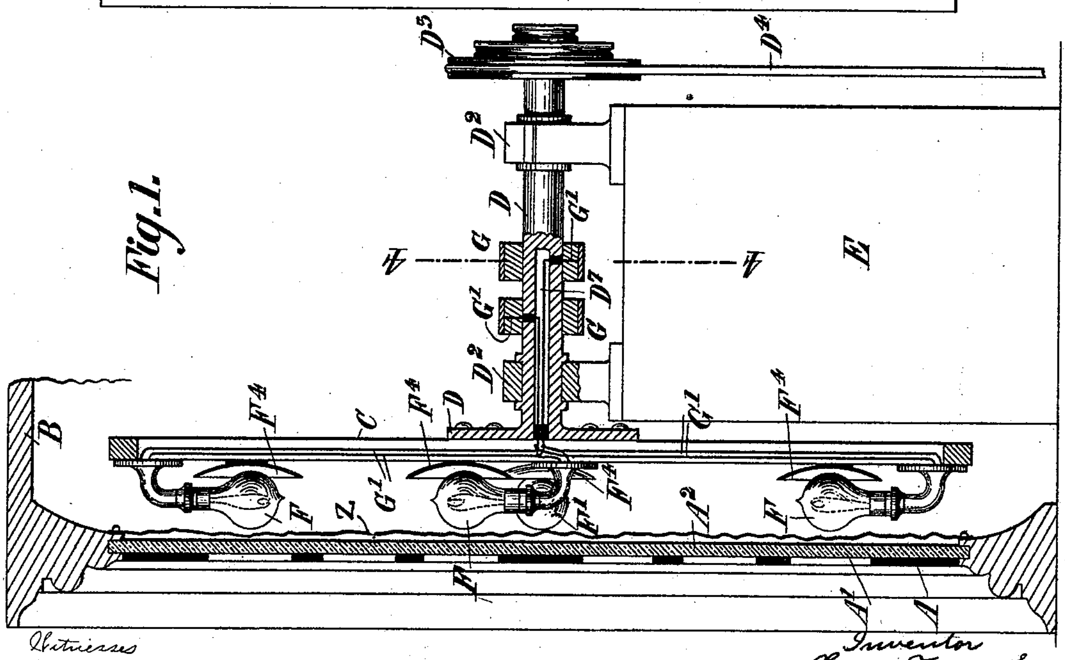


Fig. 1.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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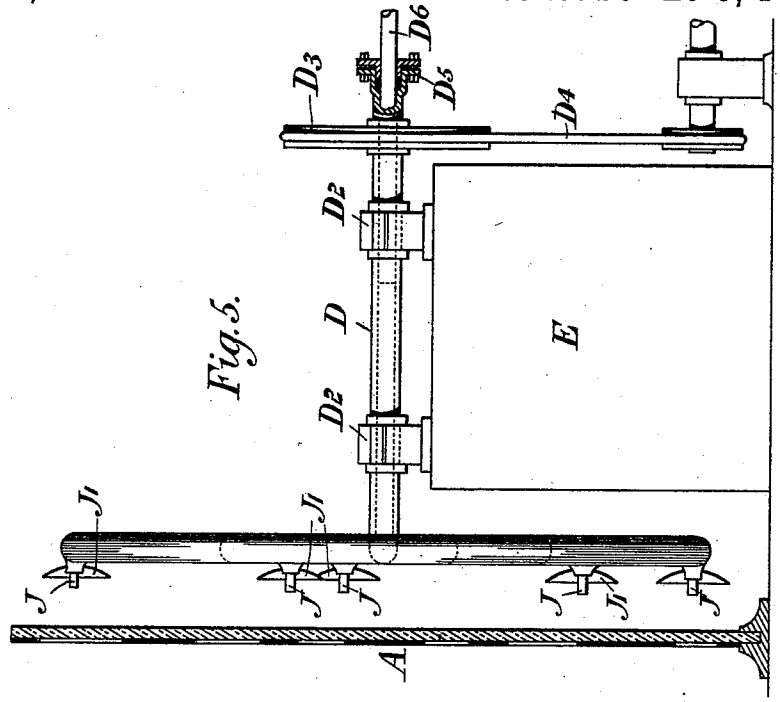

Fig. 5.

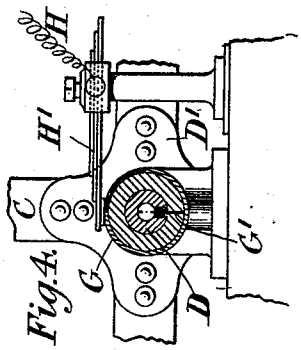

Fig. 4.

Fig. 3.

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Fig. 10.

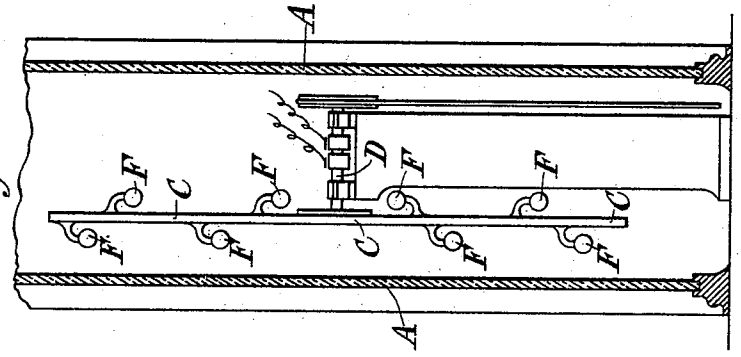

Fig. 7.

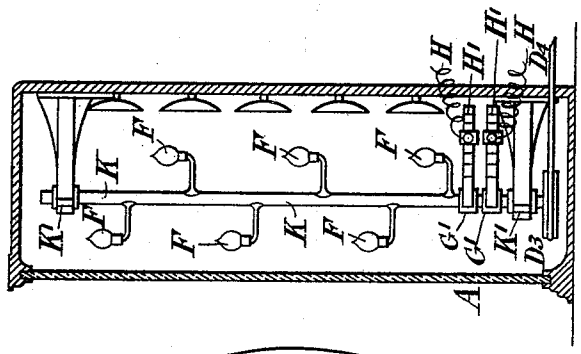

Fig. 6.

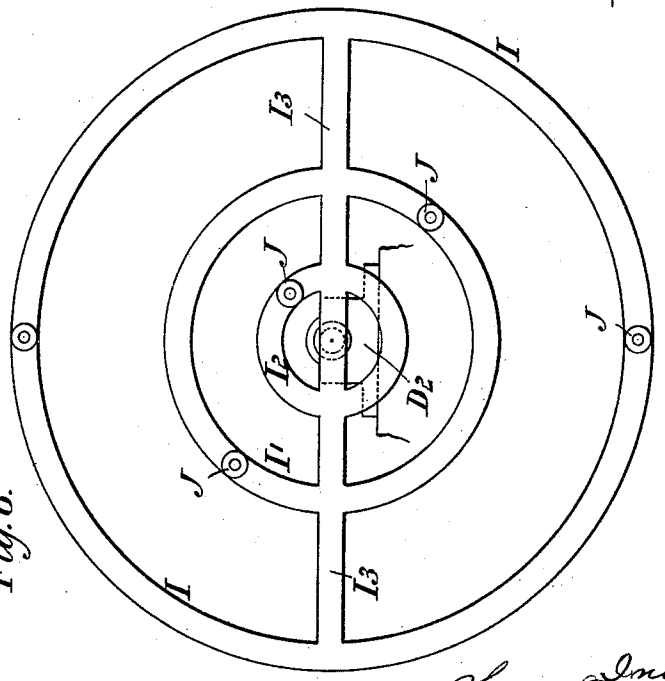

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Fig. 9.

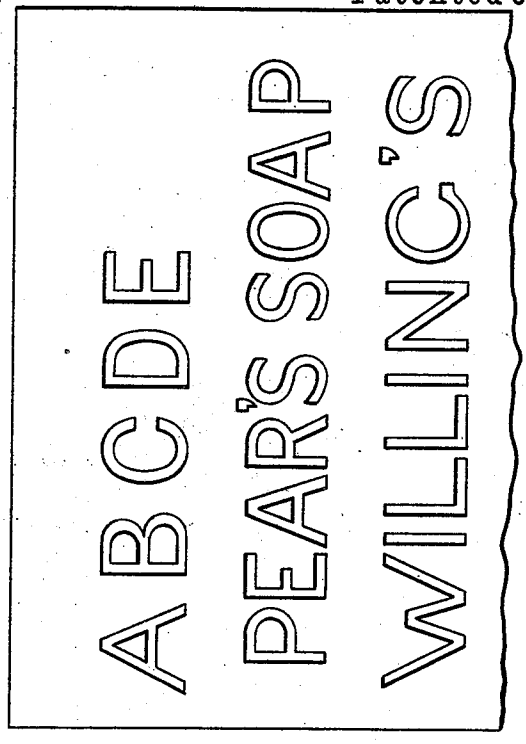
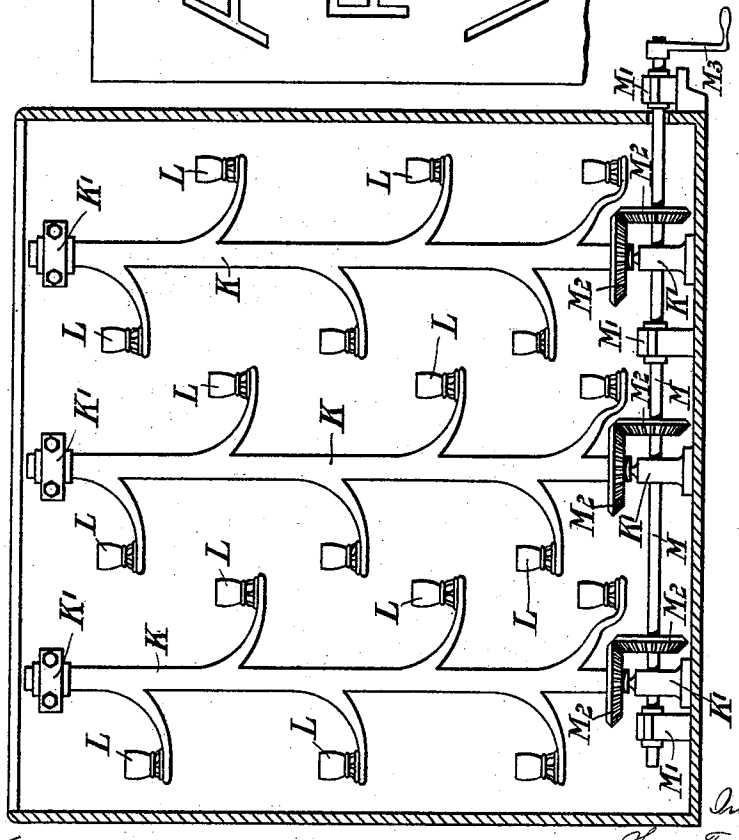


Fig. 8.



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UNITED STATES PATENT OFFICE.

HORACE FRANCIS SIMON, OF LONDON, ENGLAND.

ADVERTISING OR OTHER ILLUMINATING EFFECT.

SPECIFICATION forming part of Letters Patent No. 499,150, dated June 6, 1893.

Application filed November 1, 1892. Serial No. 450,689. (No model.)

To all whom it may concern:

Be it known that I, HORACE FRANCIS SIMON, a subject of the Queen of England, residing at London, England, have invented certain new and useful Improvements in or Relating to Advertising or other Illuminating Effects, of which the following is a specification.

This invention relates to the production of spectacular effects by certain arrangements of moving lights and is suitable for advertising purposes and the like where such effects are required.

I will describe the invention as applied to an illuminating and advertising device it being understood that other applications of the invention may be made.

Supposing that I desire to illuminate an advertising sign arranged in the form of a circle, the letters or devices would be arranged around or upon any suitable framework and either the whole of the letters or parts thereof would be open or transparent. For example, the letters might be made entirely of glass either plain or semi-opaque, and transparent or colored, or they might be made of an opaque outline with transparent or colored centers of glass, paper, or the like. Behind this frame would be arranged a disk or frame carrying one or more lights and preferably of the same diameter or length as the circular frame to be illuminated, and adapted to be revolved by an electric motor or any other suitable means. The lamp or lamps may be electric lights or any other suitable light such as gas or the like preferably inclosed in or located behind different colored globes, envelopes or screens. The effect of revolving the lights behind the letters is to present the appearance of a much larger number of lights than are actually employed, and if run at a high speed an apparently continuous illumination may be produced so that by this arrangement with a comparatively very few lights I am able to produce the appearance of a large number of lights or a large illumination.

Another way of carrying out this invention would be to place behind letters, constructed as above described, but arranged say in a straight line, a series of disks presenting their peripheries behind the letters and each disk carrying at its periphery, one or more lights so as to produce the effect of more lamps than are actually employed, as in the previous instance. Other means may be employed for traversing the lights, as for example, they may be secured to or connected with a traveling chain, band, or equivalent.

Any suitable means may be employed for producing a brilliant or variegated effect upon the letters as various colored glasses, papers, or the like, and if desired these may be left loose, as in the case of paper, so as to vibrate with the draft produced by the revolving frame or lamps behind, or they may be positively vibrated in any convenient manner.

Instead of employing separate disks behind the letters I may employ a single drum or equivalent or may hang the lamps upon arms extending from a shaft, or other means of a like nature may be adopted.

In the accompanying drawings,—Figure 1 is a transverse section through an electrically illuminated apparatus constructed according to this invention. Fig. 2 is a front view of the facia thereof; Fig. 3 a front view of the frame carrying the electric lamps which are also shown in this figure. Fig. 4 is a transverse section on the line 4—4 of Fig. 1. Fig. 5 is a view partly in side elevation and partly in transverse section of a gas illuminated apparatus constructed according to this invention, Fig. 6 being a front view of the burner-carrying frame thereof. Fig. 7 is a transverse vertical section showing a modification of the electrically illuminated apparatus. Fig. 8 is an elevation with the facia removed of apparatus illuminated by fairy lights. Fig. 9 is a front view of part of the facia of the apparatus shown in Fig. 8, and Fig. 10 is a transverse section of electrically illuminated apparatus for illuminating two facias.

Like letters indicate like parts throughout the drawings.

In the apparatus represented in Figs. 1, 2, 3, and 4, I provide a facia A which may be of opaque material such as wood and have the letters A′ or other devices cut out therefrom and which, as shown in Fig. 1, may be backed with a sheet of colored glass A^2 or other equivalent material; or, the facia may be constructed in any other desired manner, for example, the letters themselves being opaque and the body of the facia transparent, or instead of a sheet of glass of one color through-

out the facia A may be backed with one or more sheets or pieces of glass or other material, such as paper, and the like, of various colors. This facia may be mounted in a suitable frame or box B and at the back of it is arranged the device by means of which it is illuminated. As shown in Figs. 2, 3 and 4, this device may consist of a frame C formed with one or more arms (four arms being shown in Fig. 3) or a disk secured to the preferably flanged end D′ of a horizontal shaft D mounted in bearings D^2 supported on a suitable base E.

To the front of the frame or disk C are secured electric incandescent lamps F F′ F^2 at various distances from the center or axis of rotation of the frame or disk C so as to correspond with the various distances at which the circles of letters A′ are arranged from the center of the facia A, and the globes of which are of various colors, or inclosed in envelopes of various colors. On the shaft D are secured a driving pulley D^3 and two contact makers G each electrically connected by a wire G′ with all of the lamps F F′ F^2 so that the current passing by a suitable conductor H may be passed through a brush H′, through the appropriate contact maker G, thence along wires G′ through the lamps F F′ F^2 and return wires G′ to the other contact maker G from which it is conducted by the appropriate brush H′ and conductor H back to the source of electricity. The contact makers may themselves be insulated in any convenient manner from the shaft D as may also the wires G′ which preferably pass through a passage or deep recess D^7 formed at the center of the shaft D. If desired one or more metallic portions of the contact making surfaces of either of the contact makers G may be removed the continuance of the periphery being maintained by segments of wood or other equivalent material so that at each revolution of the frame or disk C the circuit through the lamps may be broken one or more times. The shaft D is rotated by means of the pulley D^3 and band D^4 by any suitable means such as by hand, an electric motor, clockwork or other power. At the back of each of the lamps F F′ F^2 may be arranged a reflector F^4.

In the arrangement shown in Fig. 5 the shaft D is tubular throughout its length and is provided at its back end with a gland and stuffing box D^5 by means of which a tight joint is formed around the non-rotating gas supply tube D^6 as will be well understood. The frame for carrying the lamps or burners in this example consists of a series of tubular rings I I′ I^2 (Fig. 6) connected together and with the tubular shaft D by one or more radial pipes or branches I^3 and the burners J with or without reflectors J′ are screwed or otherwise secured into the front face of the rings their position in relation to the axis of rotation of the ring being such that they will revolve immediately at the back of the various rings of letters in the facia A. The tubular frame I I′ I^2, Fig. 6, preferably carries arms each adjacent to one of the burners J for the purpose of carrying a sheet of colored glass or other transparent or translucent material in front of the flame of such burner.

In the arrangement shown in Fig. 7 the electric incandescent lamps F are mounted on arms projecting from a vertical shaft K supported in suitable bearings K′ and adapted to be rotated by the pulley D^3 and band D^4 by any suitable motor. The lamps F are connected with the contact makers G in substantially the same manner as before described in reference to those shown in Figs. 1 and 3 the brushes H′ and conductors H serving to complete the circuit through the lamps and electric battery or other source of electricity. In this arrangement it will be seen that the lamps F rotate in horizontal planes the letters in the facia A being also arranged horizontally. One or more of the shafts K each with its complement of lamps F may be arranged in the same facia.

In Fig. 8 the vertical shafts K supported in and on bearings K′ are provided with arms on each of which is mounted a fairy lamp L and and each of these shafts K, of which it will be understood there may be one, two or more, is connected with the horizontal shaft M, supported in suitable bearings M′, by bevel gearing M^2. The horizontal shaft M is fitted with a crank handle M^3 by means of which it may be rotated by hand or with a pulley or equivalent device by which power may be transmitted to it from any suitable motor. The lamps L in Fig. 8 rotate in horizontal planes and the lines of letters in the facia are also arranged horizontally as shown in Fig. 9 to conform with this arrangement.

In Fig. 10 I have diagrammatically represented the manner in which two facias may be illuminated by one illuminating device. In this arrangement the disk or frame C carries a set of lamps F at each side, the lamps on one side serving to illuminate one facia and those on the other side serving to illuminate the other facia. If desired the two sets of lamps employed in this form of the apparatus may be mounted on two distinct frames or disks C mounted on the opposite ends of the shaft D and each set of lamps so arranged as to partly illuminate both of the facias.

It is preferred to rotate the before mentioned lamps at a moderate speed behind the facias so as to present an appearance of being highly illuminated by a considerably larger number of stationary lamps than is employed, the eye not being able to follow the lamps and consequently the smallness of the number of the lamps will not be detected. By revolving the light behind a facia constructed of somewhat thick opaque material with the letters cut out, the device will appear to move owing to the shadows which pass over the letters. By inclosing the lamps in or providing them with globes of various colors the letters will

appear to change colors; this result may be enhanced by placing materials of various colors in front of the device such materials for example as silk, glass, gelatine or the like.

By hanging the colored, transparent or translucent material Z loosely in front of the back of the facia and revolving the lights behind the facia at a somewhat quick pace an effective trembling or vibrating result may be obtained.

The electrically illuminated apparatus may be so connected with the electric motor for operating it that by one switch the circuit may be completed through the motor for rotating the lamps and also through the lamps.

Instead of mounting the lamps on a frame or disk rotating in a vertical plane or arms rotating in a horizontal plane they may be arranged to swing as a pendulum or mounted on oscillating or reciprocating disks or equivalent or they may be mounted on a suitable frame reciprocated in a straight line either horizontally, vertically or obliquely; or the lamps may be rotated in any convenient manner in horizontal, vertical or oblique planes. In other ways however the apparatus may be modified without departing from the essential features of the invention.

I claim—

1. In an illuminating apparatus, the combination with a stationary translucent device; of a series of traveling lamps arranged at the rear of the device to transmit the light through the translucent device; substantially as described.

2. In an illuminating apparatus, the combination with the partly translucent device, of the series of moving lamps arranged to illuminate the device and pieces of material attached to the device so that they may be vibrated by the currents of air generated by the movements of the lamps, substantially as described.

3. In an illuminating apparatus, the combination with a partly translucent and partly opaque device, of a series of lamps arranged at the rear of said device, supporting devices for said lamps and means for moving the supports and connections for supplying the illuminating medium to said lamps, substantially as described.

4. In an illuminating apparatus the combination with the partly translucent and partly opaque device, of a series of lamps of different colors, supports for the lamps, means for rotating the supports and connections between the lamps and the source of supply for the illuminating medium, substantially as described.

5. In an illuminating apparatus, the combination with the partly translucent and partly opaque device, of a series of lamps of different colors, arranged at the rear of said device a support for said lamps in the plane parallel to the device and means for rotating said supports, substantially as described.

6. In an illuminating apparatus the combination with a partly translucent and partly opaque device, of a series of electric lamps, arranged at the rear of said device a support for said lamps, a horizontal shaft to which the support is attached, and electric contacts connected with said shaft and arranged to illuminate the lamps substantially as and in the manner before set forth.

7. In an illuminating apparatus the combination with the partly translucent and partly opaque device, of a series of lamps arranged at the rear of the device, supports for the lamps, means for rotating the supports, and the reflectors arranged in relation to the lamps, substantially as described.

In testimony whereof I have hereto set my hand in the presence of the two subscribing witnesses.

HORACE FRANCIS SIMON.

Witnesses:
ALFRED J. BOULT,
HARRY B. BRIDGE.