(No Model.) 2 Sheets—Sheet 1.

C. A. HUSSEY.

ELECTRIC LAMP.

No. 269,937. Patented Jan. 2, 1883.

Fig. 2.

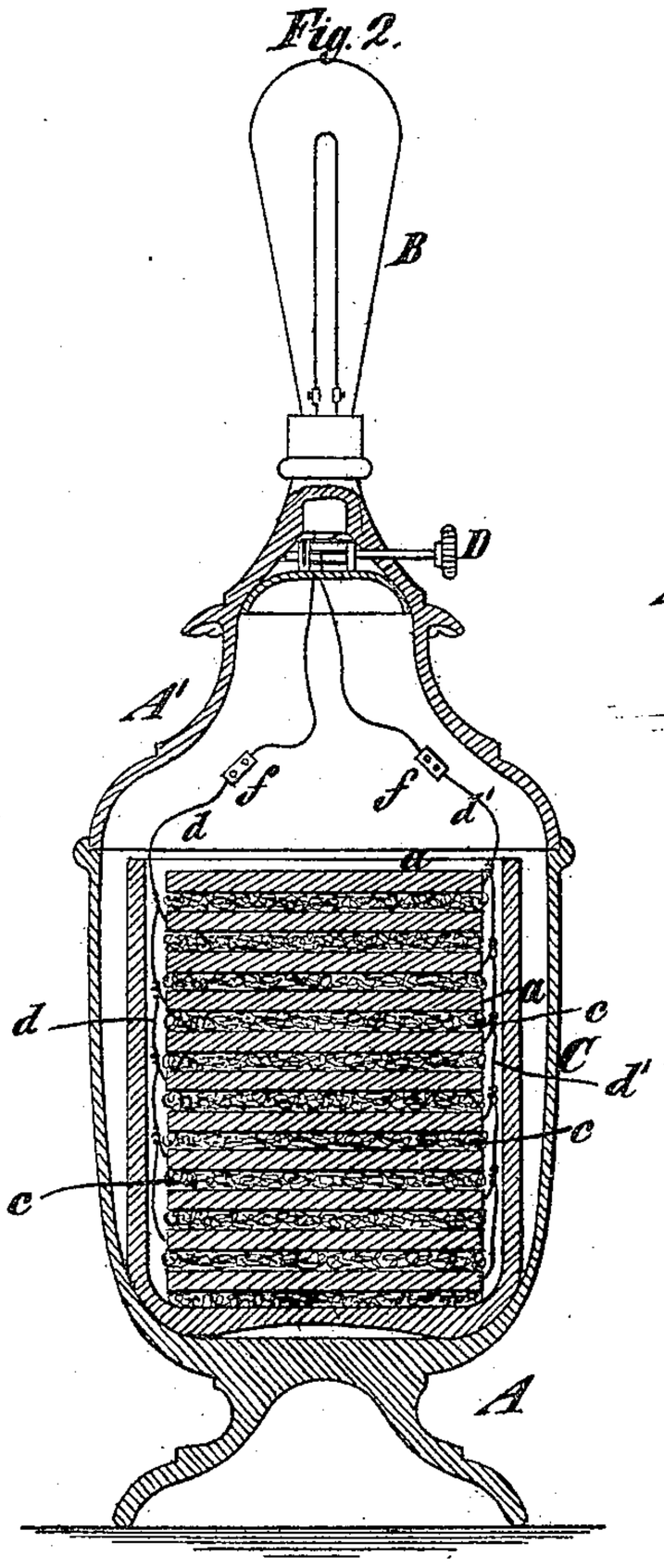
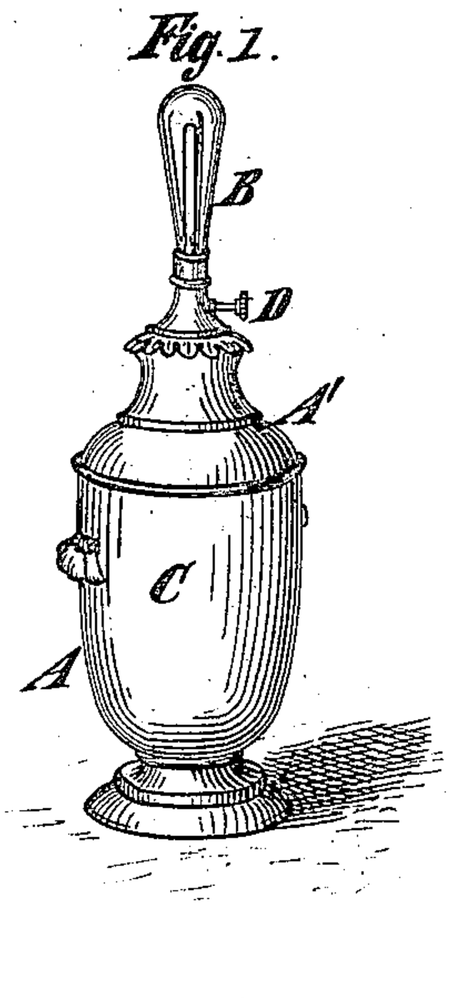


Fig. 1.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3

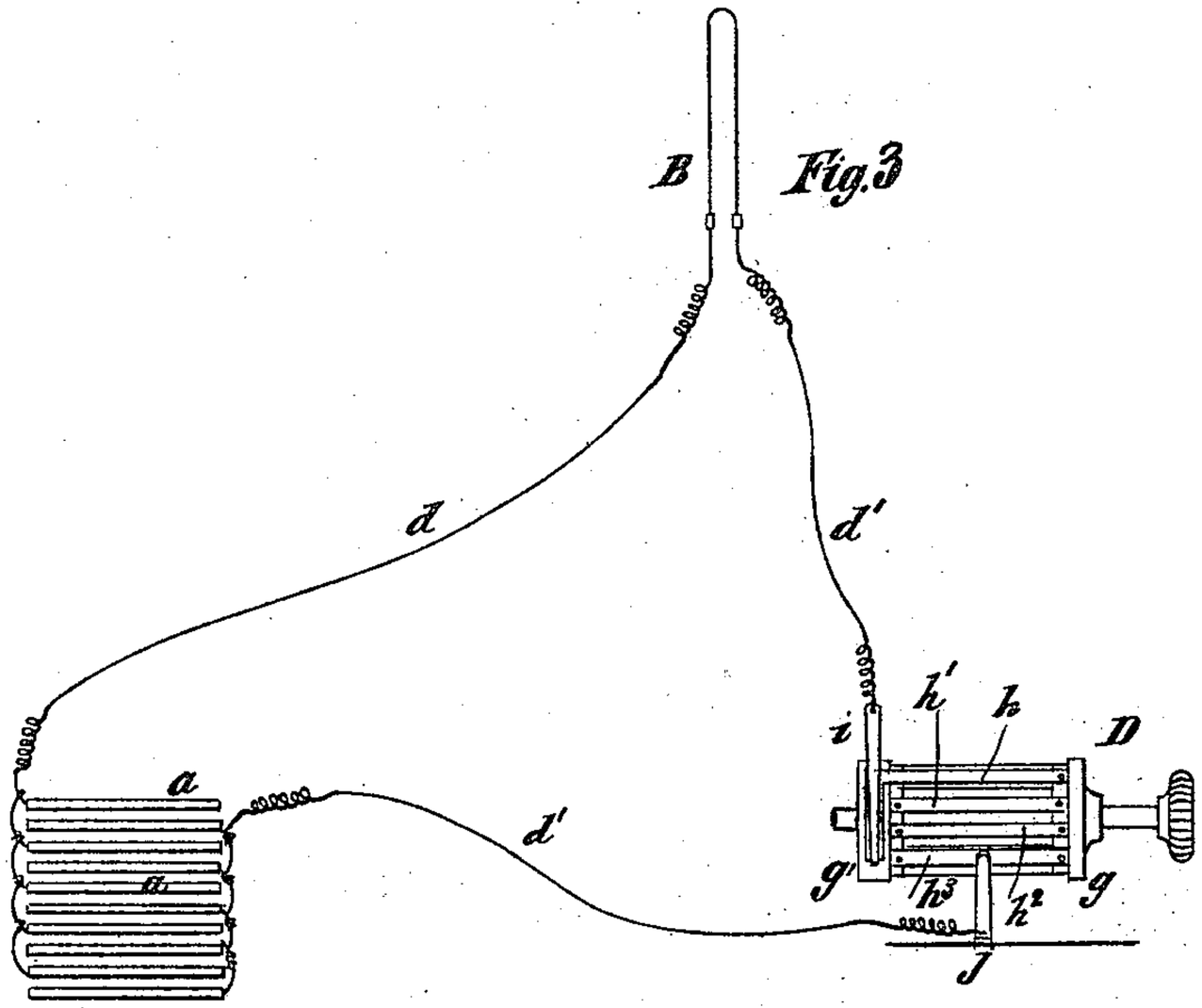
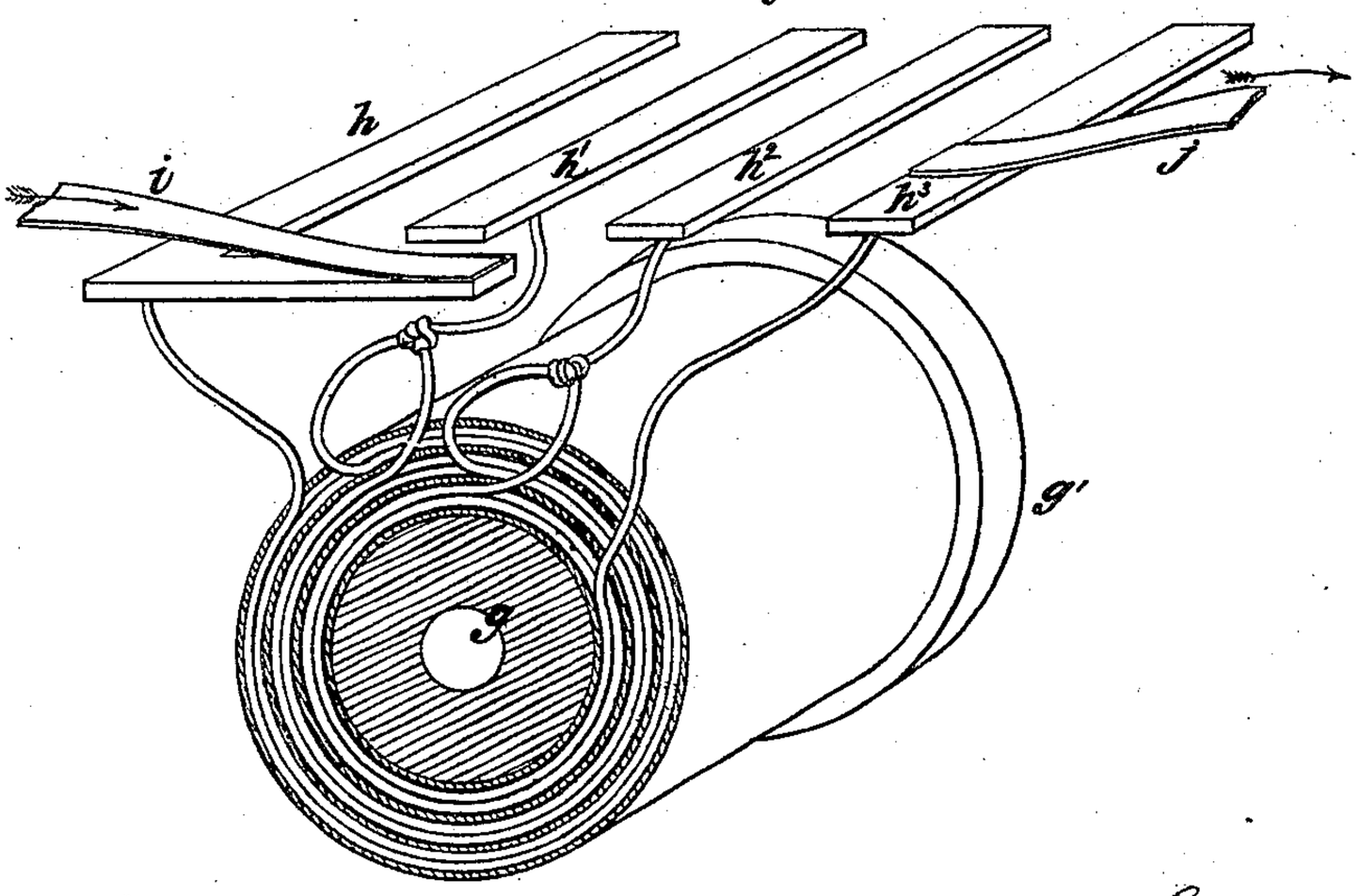


Fig. 4.



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UNITED STATES PATENT OFFICE.

CHARLES A. HUSSEY, OF NEW YORK, N. Y., ASSIGNOR TO THE HUSSEY ELECTRIC COMPANY, OF SAME PLACE.

ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 269,937, dated January 2, 1883.

Application filed January 21, 1882. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. HUSSEY, of New York, in the county and State of New York, have invented a certain new and useful Improvement in Electric Lamps, of which the following is a specification.

My improvement consists in the combination, with a lamp stand or vase and a secondary battery arranged therein, of a removable top or cover fitted to said stand or vase, an electric lamp, and preferably, also, a resistance device supported upon said removable top or cover, and means for detachably connecting the conductors of the lamp with the poles of the secondary battery, whereby I produce a very simple and complete electric lighting apparatus which may be conveniently carried from place to place.

In the accompanying drawings, Figure 1 is a perspective view of a portable stand-lamp embodying my improvement. Fig. 2 is a vertical section thereof on a larger scale. Fig. 3 is a diagram illustrating the circuit and the resistance device which I employ in connection with my lamp, and Fig. 4 is a diagram of the resistance device alone.

Similar letters of reference designate corresponding parts in all the figures.

Referring first to Figs. 1 and 2, A designates a stand or vase containing or forming the cell C for a secondary battery, which may be composed of lead plates *a*, connected alternately at opposite points to wires *d d'*, which form the circuit-wires. The said plates *a* are separated by sheets or pieces of cotton, blotting-paper, felt, or other suitable absorbent material, *c*, saturated with sulphuric acid and water.

B designates an incandescent electric lamp of any approved form. It is attached to a removable top or cover, A', comprised in the stand A. Its wires are connected with the circuit-wires of the battery by couplings *f*, of suitable form to permit of their ready detachment for the purpose of affording access to the battery, or the replacement of the lamp. The lamp is preferably so secured to the top A' that it may be easily and quickly detached when necessary. This lamp is portable, hence it may be placed or used wherever it may be found desirable. Obviously the style of this lamp-stand may be modified to suit the taste, or the use for which it may be designed. This lamp is provided with a resistance device, D, like that in the lamps before described.

I will now describe the resistance device D in connection with the diagrams, Figs. 3 and 4.

The wire *d* extends from the battery to the lamp B. The other wire, *d'*, leads to the resistance device D, and thence to the lamp B. This resistance device is adapted to have rotary movement, and is permanently connected with and supported by the lamp fixture or stand in convenient relation to the lamp. It consists of a spool or bobbin, *g*, provided with heads *g'*, and made of hard rubber or other suitable non-conducting material. On this bobbin are wound a number of coils of insulated wire, which severally extend the whole length of the body of the bobbin, and are situated one outside of another. Preferably cylinders of paper or other non-conducting material are interposed between the several coils. To the periphery of the bobbin-heads are attached metal bars *h h' h² h³*. These bars are of course insulated from one another by the bobbin-heads. The bar *h* has a transverse extension, which extends along one of the bobbin-heads, but out of contact with the other bars. A spring, *i*, which is connected to the upper portion of the wire *d'*, bears constantly on this extension of the bar *h*, even when the bobbin is rotated. Another spring, *j*, which is connected with the lower portion of the wire *d'* bears on one or other of the bars, according to the position to which the bobbin is rotated. One end of the innermost coil of wire is fastened to the bar *h*, and the other is connected to one end of the second coil. The loop thus formed is connected to the bar *h'*. The other end of the second coil is connected to one end of the third coil, and the loop thus formed is connected to the bar *h²*. The other end of the third coil is fastened to the bar *h³*. By turning the bobbin and bringing any particular bar in contact with the spring *j* one or more of the coils may be brought into the circuit to vary the intensity of the light. When the bar *h* is in contact with the spring *j* none of the coils are in cir-

cuit. Hence the full current passes to the lamp and the light has its maximum intensity. When the bar h' is in contact with the said spring one of the coils is in circuit, and the intensity of the light is reduced in proportion to the resistance of the coil. When the bar h^2 is in contact with the said spring two of the coils are in circuit, and the intensity of the light is further reduced by the extra resistance thrown in the circuit. When the bar h^3 is in contact with the said spring the three coils are in circuit, and the light is further diminished by the resistance offered by the third coil. The intensity of the light may thus be varied as may be desirable. By rotating the spool so far that the last bar, h^3, is carried beyond the spring j the circuit will be broken and the light extinguished. The spool is mounted in bearings in the removable top or cover of the lamp-stand, and provided with a hand-piece whereby it may be turned.

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

1. The combination, with a lamp stand or vase and a secondary battery arranged therein, of a removable top or cover fitted to said stand or vase, an electric lamp supported upon said removable top or cover, and means for detachably connecting the conductors of the lamp with the poles of said secondary battery, substantially as herein specified.

2. The combination, with a lamp stand or vase and a secondary battery arranged therein, of a removable top or cover fitted to said stand or vase, an electric lamp and a resistance device supported upon said removable top or cover, and means for detachably connecting the conductors of the lamp with the poles of the secondary battery, substantially as herein specified.

C. A. HUSSEY.

Witnesses:
EDWIN H. BROWN,
T. J. KEANE.