

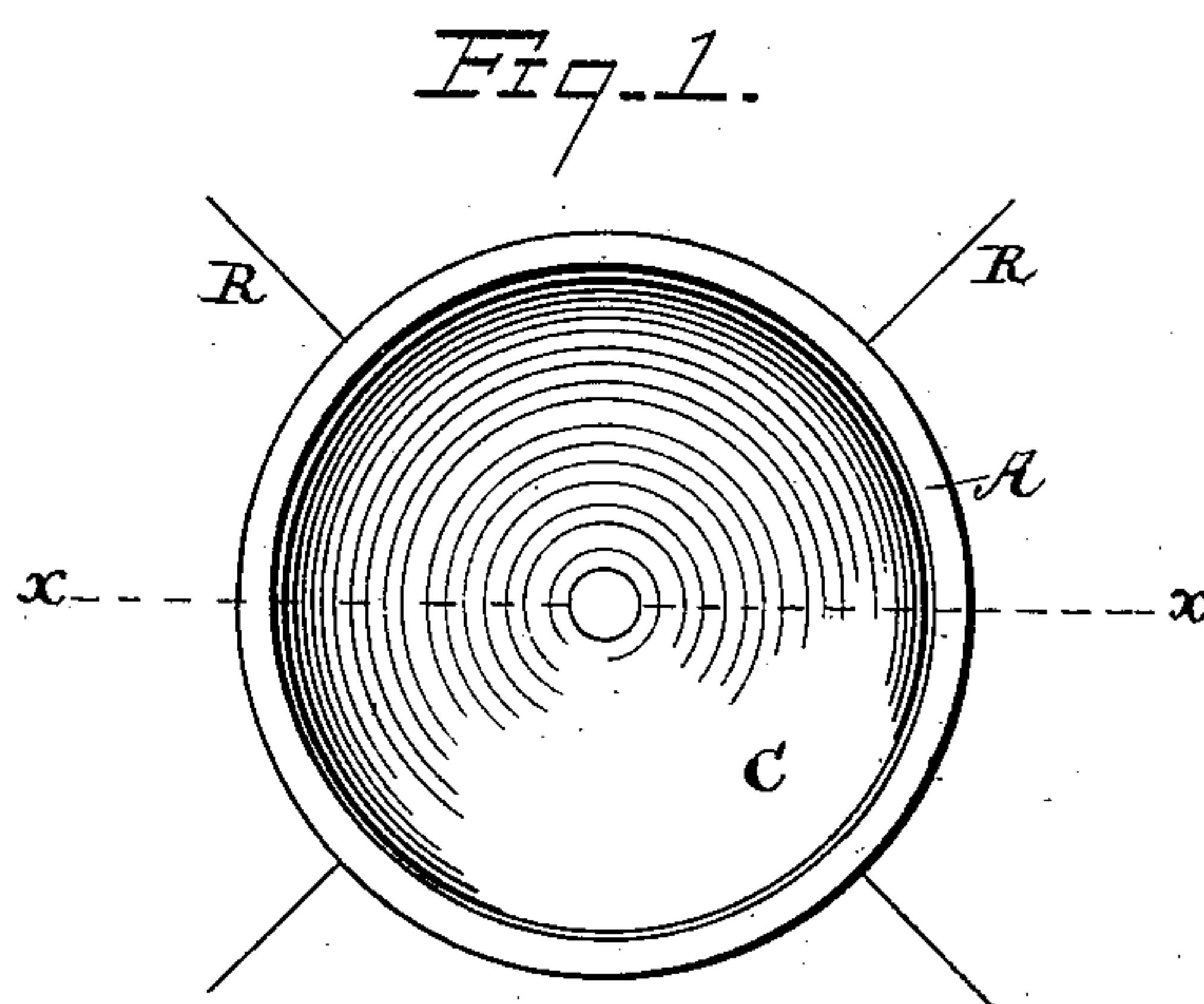
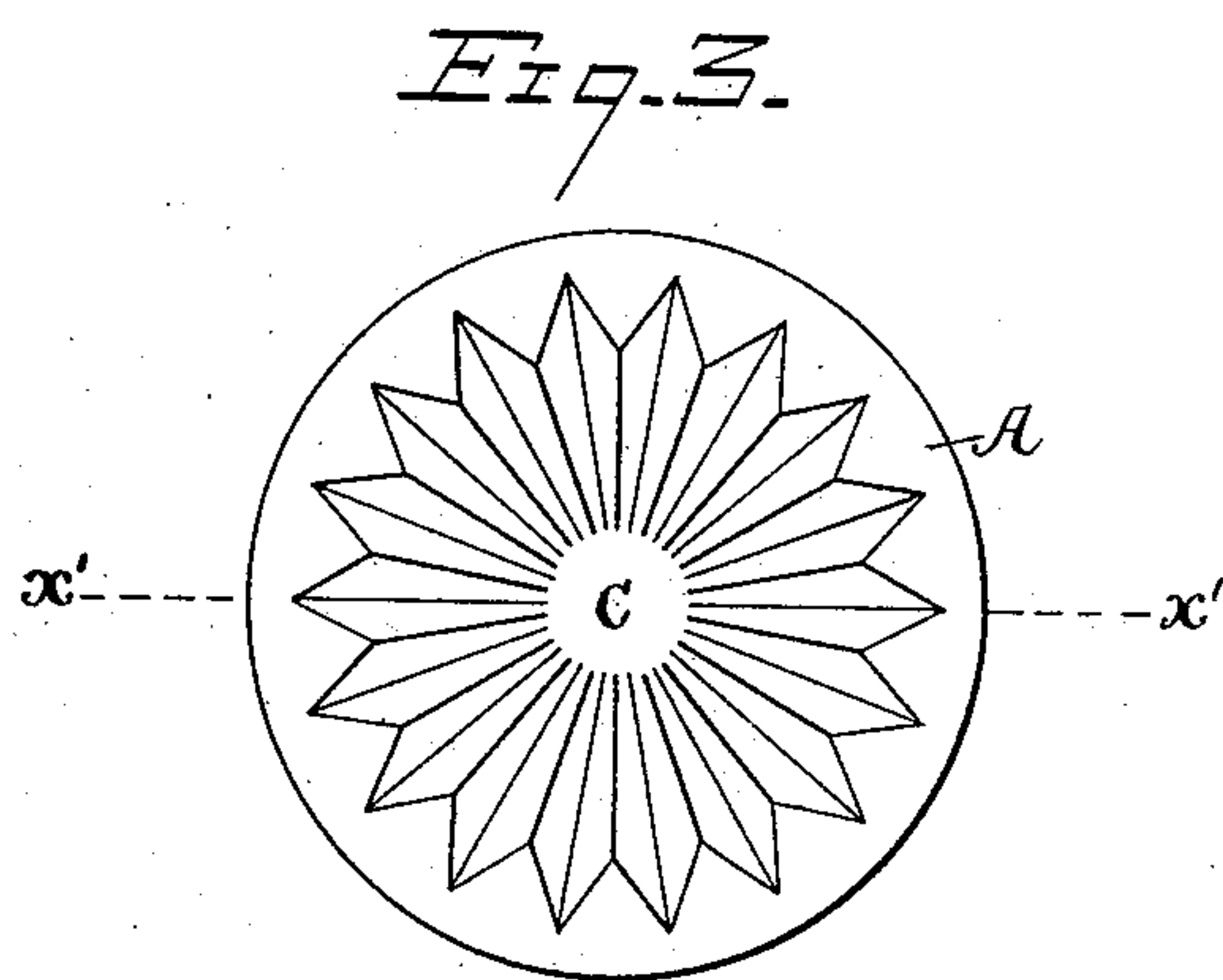
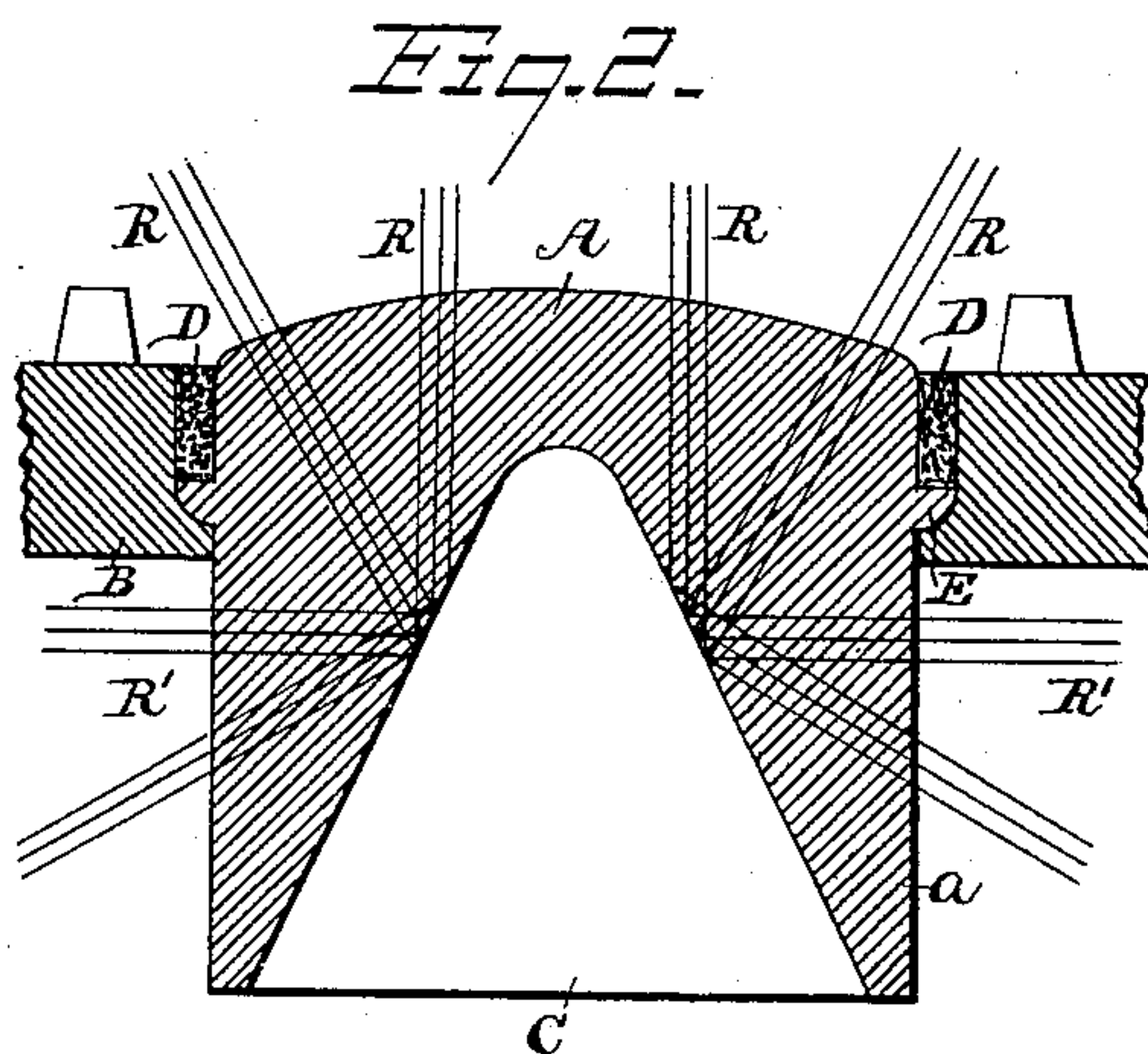
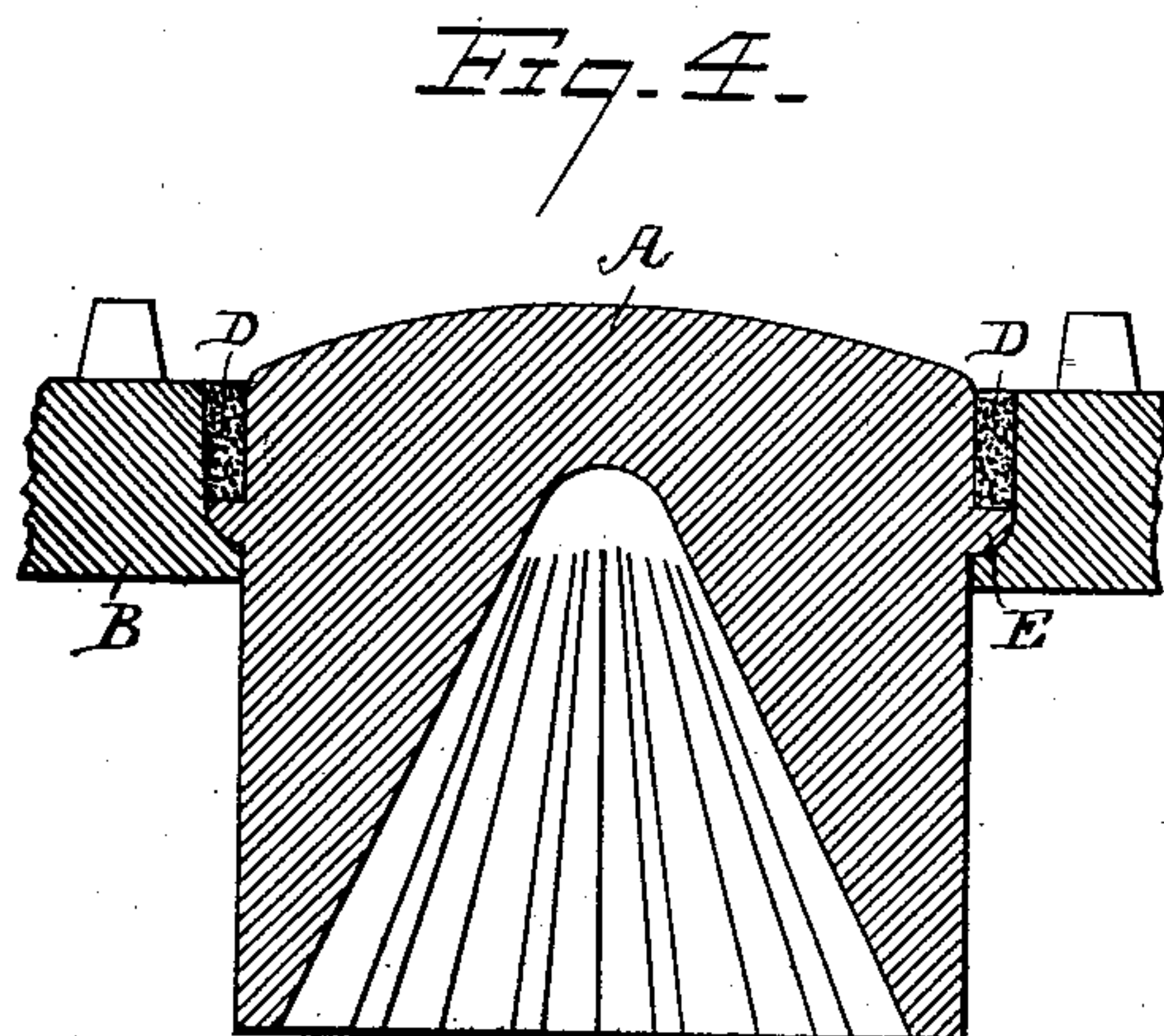
(No Model.)

J. C. HALDEMAN.

VAULT LIGHT.

No. 376,649.

Patented Jan. 17, 1888.



Witnesses  
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# UNITED STATES PATENT OFFICE.

JOHN CLAYTON HALDEMAN, OF PHILADELPHIA, PENNSYLVANIA.

## VAULT-LIGHT.

SPECIFICATION forming part of Letters Patent No. 376,649, dated January 17, 1888.

Application filed April 14, 1887. Serial No. 234,856. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN CLAYTON HALDEMAN, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Vault-Lights, which improvement is fully set forth in the following specification and accompanying drawings.

My invention relates to improvements in vault-lights; and to this end it consists in a novel form or forms of vault-lights, whereby the light is more extensively dispersed within the vault than has heretofore, so far as I am aware, been possible.

Figure 1 is a plan view of my improved vault-light. Fig. 2 is a cross-section of Fig. 1, taken on line  $xx$ , showing, also, a part of the vault-door B in section and the retaining-packing D. Fig. 3 is a plan view of a modified form of my invention. Fig. 4 is a cross-section of Fig. 3, taken on line  $x'x'$ , similar in general respects to Fig. 2.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A is the vault-light, made of glass or other light-conducting medium, and having the usual rib, E, for retaining it in place in the vault-door.

C is a cone-shaped surface in the lower end of the light, the function of which will be explained hereinafter.

D is the usual packing material for retaining the light in place in the door.

R R R are rays of light entering the vault-light from above in all directions, as shown.

R' R' R' are reflected rays of light radiated through the vault below.

The vault-light A is constructed so that it projects into the vault, and has the conoidal reflecting-surface C almost entirely below the vault-door B, the peripheral face  $a$  of said light being plain and uncovered.

Prior to my invention it was old in the art to arrange reflectors below the vault-light, and

thus deflect the entering rays in all directions. 45  
It was also old to use a solid-glass light having its lower end cut off diagonally, so as to deflect the light in one direction only. I do not, therefore, lay any claim to such features.

My invention differs from these in that it 50  
deflects or diffuses the light in all directions and without the aid of extraneous devices.

I will now describe the mode of operation of my improved vault-light.

It will be seen, on examination of Fig. 2, that 55  
the entering rays R R R pass into the light and encounter the prismatic surface C, whence they are reflected in all directions in reflected rays R' R', as shown, the uncovered plain face  $a$  permitting their direct entrance into the 60  
vault. This inner surface, C, may be covered with mercury or other reflecting material, if desired. Such a light I deem within the scope of my invention.

In Figs. 3 and 4 I have shown a modified 65  
form of my improved vault-light, in which the hollow surface is corrugated or grooved, as clearly shown. With this arrangement I get a more uniform diffusion of light in all directions, as will be readily understood by those 70  
skilled in the art, the corrugations diffusing the light laterally as well as radially.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is— 75

The vault-light A, having ribs E and a conoidal reflecting-surface, C, on its under face, in combination with the vault-door B, the said light A projecting below said door B, so that nearly the entire conoidal reflecting-surface is below the same and the peripheral face  $a$  is uncovered, substantially as and for the purpose set forth. 80

JOHN CLAYTON HALDEMAN.

Witnesses:

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