B. ARNOLD.

Lamp Shade.

No. 32,740. Patented July 9, 1861.

Fig. 1.

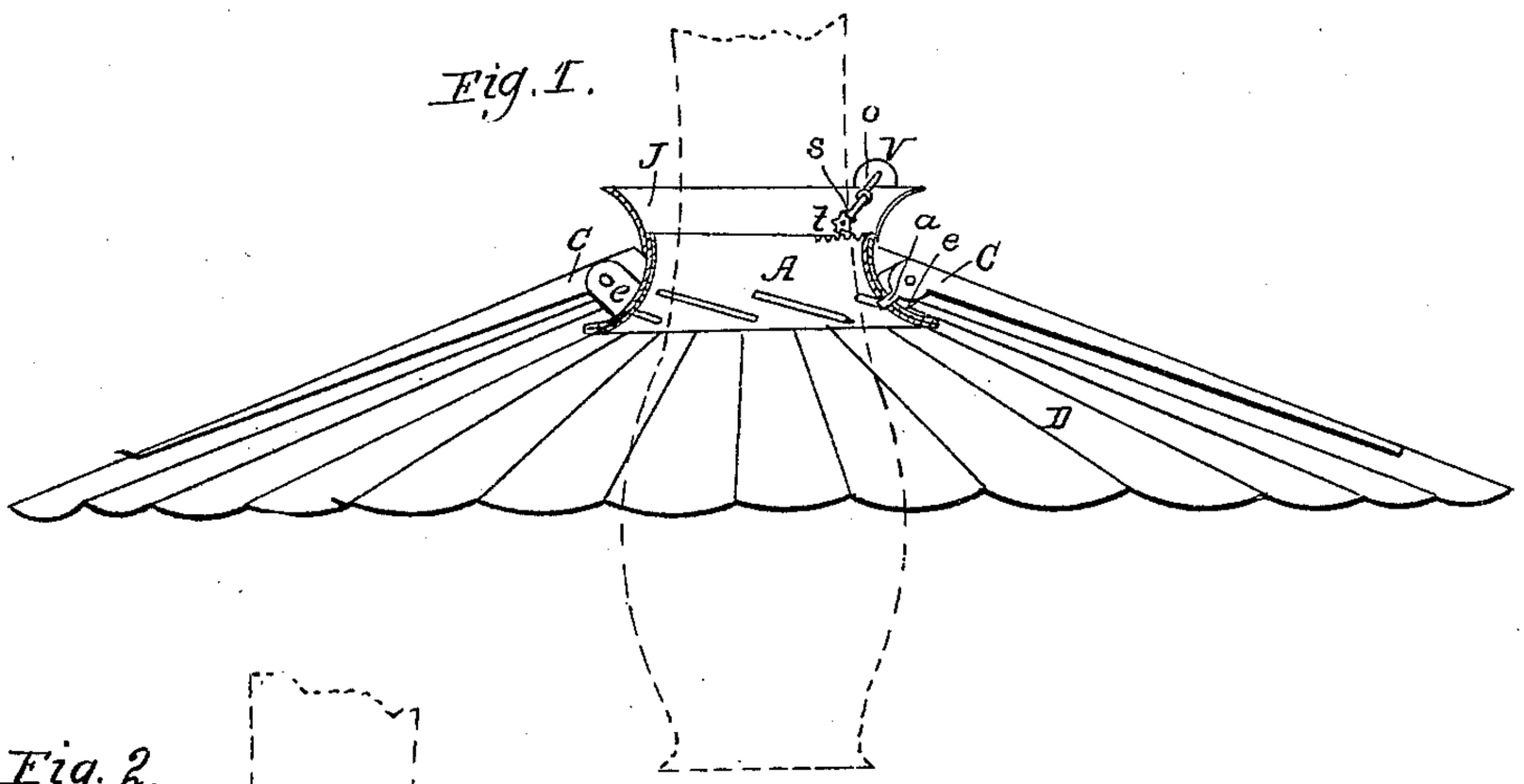



Fig. 2.

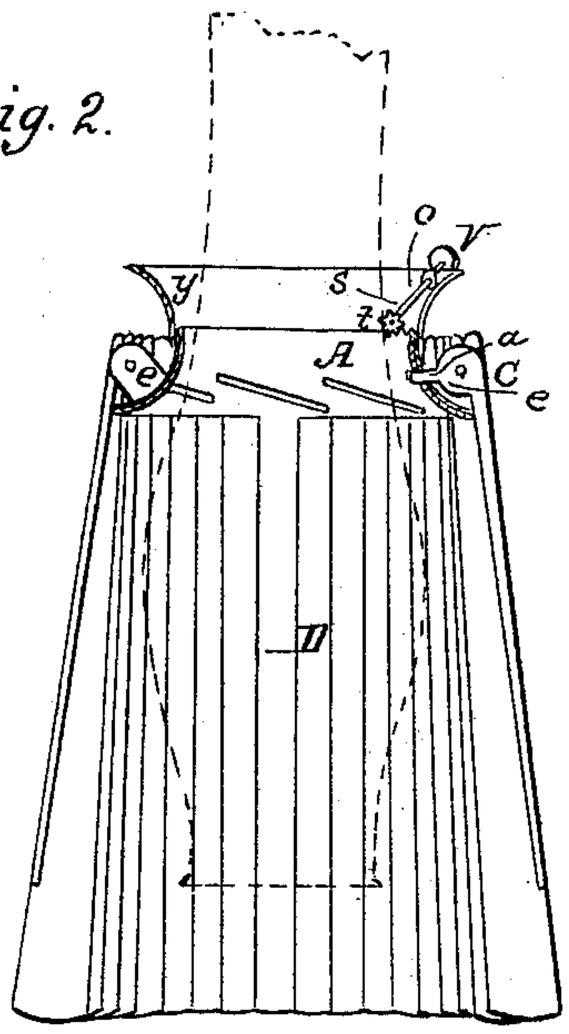



Fig. 5.

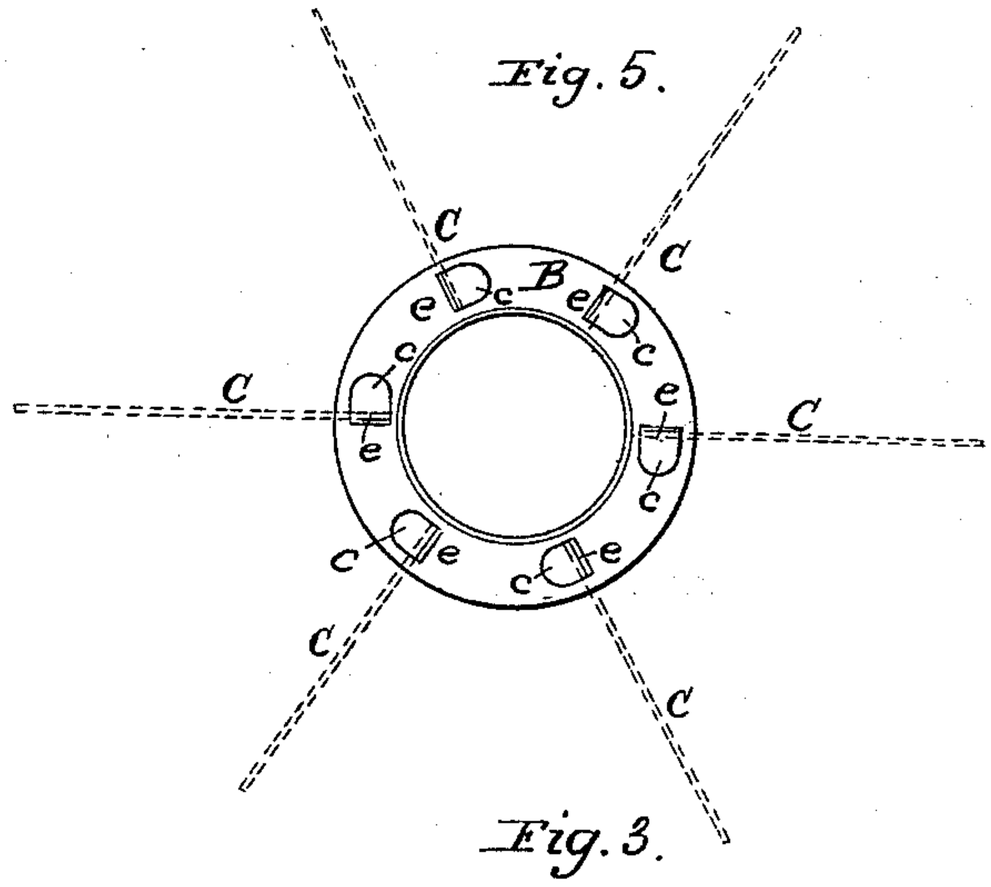



Fig. 3.

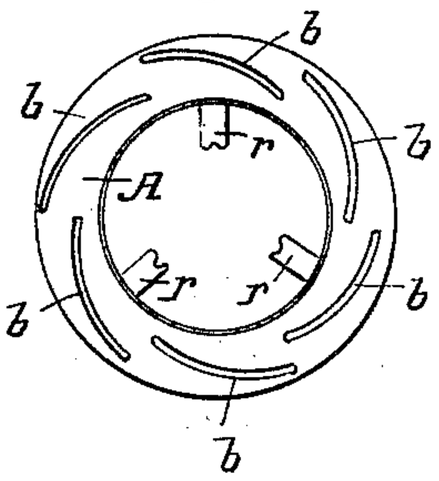
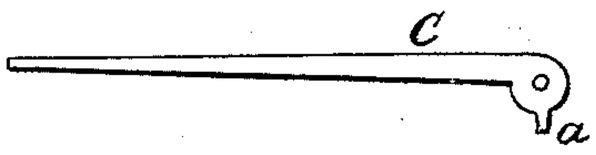



Fig. 4.




Witnesses:
Edward Stanhope
John C. Ellis

Inventor:
Benjamin Arnold

# UNITED STATES PATENT OFFICE.

BENJAMIN ARNOLD, OF EAST GREENWICH, RHODE ISLAND.

## LAMP-SHADE.

Specification of Letters Patent No. 32,740, dated July 9, 1861.

*To all whom it may concern:*

Be it known that I, BENJAMIN ARNOLD, of East Greenwich, in the county of Kent, in the State of Rhode Island, have invented an Improved Shade for Lamps or Gas-Lights; and I do hereby declare that the following is a full and correct description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, in which drawings—

Figure 1 represents a vertical section through the middle of the shade which is expanded. Fig. 2 is a section taken in the same direction with the shade closed. Fig. 3 is a top view of ring A. Fig. 4 is a side view of one of the levers. Fig. 5 is a top view of ring B.

Similar letters denote like parts in all the figures.

My improvement consists of an arrangement of rings or collars, and levers, covered with a folded or elastic material, which, by a certain movement of one of the rings causing the levers to rise, is made to expand upward, so as to allow the light of the lamp or gas to shine over a larger space, and it also at the same time changes the angle of the shade with regard to the lamp so that the light that is reflected by its under surface will be thrown to a greater distance and in a more horizontal direction than as if the whole shade had been raised, instead of expanded.

To construct my expanding shade, make a ring or collar A (Fig. 3) of thin metal, which may be curved to stiffen it and to accommodate the motion of the inner ends of the levers C. A series of diagonal slots *b b* are made in this ring A of sufficient width to receive the end *a* of the lever C (Fig. 4). Another ring B is made of metal in the same way as ring A and is large enough to fit and turn upon it, but instead of the diagonal slots it is made with semi-circular openings *c c* which correspond in number and position with the slots *b b* in ring A and raised ears or standards *e e e* which may be made by turning up the pieces cut out of the openings *c c c*.

The levers C Fig. 4 are made of sheet metal and pivoted by their broad ends to the standard *e e* so that the end *a* may project down through the openings *c c* into the slots *b b* when the rings are put together. Upon these levers is secured the covering D which should be made either of elastic material or folded so as to admit of being expanded by the raising of the levers.

To facilitate the moving of the ring B upon the ring A a small shaft *o* is placed in bearings on the collar J (which is fast to ring B) having on its inner end a gear wheel *s* which meshes into the teeth *t* cut in the upper edge of ring A; the outer end of the shaft is provided with a milled head *v* to turn it by.

The ring A may be supported on the chimney of the lamp by the usual springs *r r* (see Fig. 3) or connected directly to the lamp or gas fixture, as may be found most convenient.

The operation is as follows: When it is desired to expand the shade; by turning the milled head *v* in the proper direction the ring B will be moved around on ring A and carrying with it the levers C C C causes their inner ends to move along in the slots *b* which being made diagonal to the circle of the ring causes the inner end of the levers to move down and this raises the outer ends and expands the covering D. By turning the milled head *v* in the contrary direction, all these motions will be reversed and the shade will be contracted.

Having thus described my improved shade what I claim as my invention and desire to secure by Letters Patent is—

The combination of the rings and levers, substantially as described, and for the purpose herein set forth.

BENJAMIN ARNOLD.

Witnesses:

EDWARD STANHOPE,

JOHN C. ELLIS.