

C. COTHREN.
Reflector.

No. 209,328.

Patented Oct. 29, 1878.

Fig. 1.

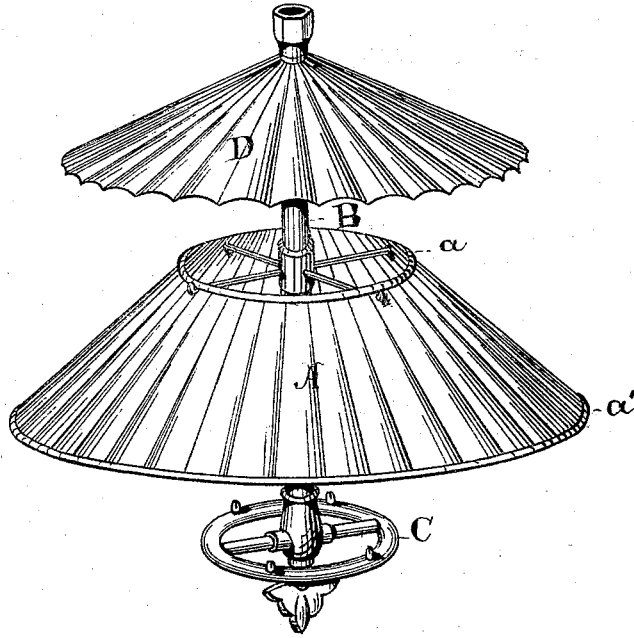
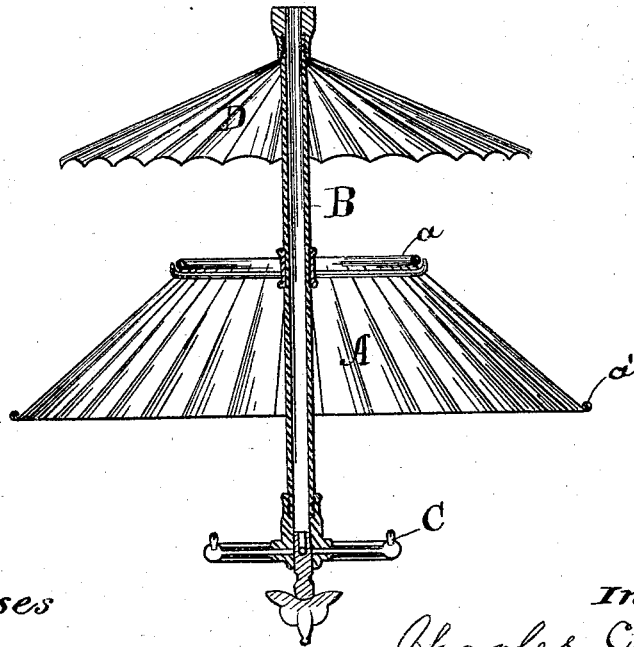


Fig. 2.



Witnesses
D. M. Hickey.
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UNITED STATES PATENT OFFICE.

CHARLES COTHREN, OF NEW YORK, N. Y.

IMPROVEMENT IN REFLECTORS.

Specification forming part of Letters Patent No. **209,328**, dated October 29, 1878; application filed February 9, 1878.

To all whom it may concern:

Be it known that I, CHARLES COTHREN, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Reflectors, of which the following is a specification:

In the accompanying drawings, forming part hereof, Figure 1 is a perspective view. Fig. 2 is a vertical central section.

The object of this invention is to produce a reflector that will utilize to the largest extent all the rays of light, and be durable and very cheap; and the novelty consists in constructing the reflector, or each portion thereof, of sections of metal of single thickness secured to rods or rings, and finished on both sides, so that they shall have like reflecting power.

In the drawings, A denotes the main or lower portion of my reflector, made, as is now common, in the form or shape of a truncated cone, and attached or secured in any proper way or manner to the gas-pipe B, so as to be in suitable relation to the burner or light C. This portion C is made of sections or pieces of a single thickness of metal, finished on both sides, and preferably corrugated from top to bottom, and fixed upon rods *a a'*, which serve to form the top and bottom lines of a truncated cone by bending the ends of said sheets over said rods.

The upper and under surfaces of said sheets are highly burnished or polished, and each will be well adapted to reflect all the rays of light that may be cast on them. The corrugated form adds materially to this power of reflection.

Above the lower part, A, and at a proper distance to secure the best advantages from the light, is placed the conical upper part, D, of my reflector. This may be fixed in place by securing it to the gas-pipe B, or in any suitable way adjusted or held in its said place. This is also made of metal of a single thickness and in one or more pieces, and preferably is corrugated from its center to the circumference, and has its upper and under surfaces highly polished.

In some instances it may be of advantage to use two or more parts or sections similar to A, and the reflector may be secured to its

own shaft and not be attached to the gas-pipe; and in many such ways the mere detail of construction and using said reflector may be changed.

When thus made and put in use the rays of light from the burner C will strike precisely on the under surface of A, or, passing through the central opening in A, will strike on the under surface of D. The device is so arranged that no inconsiderable portion of the rays thus come to the under surface of D; hence they are diverted downward at an angle upon the bright upper surface of A, and thence upon the wall, where a portion of the rays will come back upon the upper surface of D. In this way the largest utilization of the light is made, and not only will the room or apartment be fully lighted below the reflector, but there will be sufficient reflection of the light upon the ceiling to make the upper part of the room or apartment highly illuminated.

In some instances, as where there is not space for the several reflectors, a single reflector made in general like the lower part, A—that is, with double reflecting-surfaces—may be used with very good results, and afford, in a very large degree, all the advantages designed by this invention.

In the details of construction my reflector will be found very cheap as well as very strong and serviceable.

In order to preserve the polished surfaces from action of the atmosphere, or from heat, or any hurtful influence that might tend to dim it or lessen the reflecting power, I put upon them a coating of perfectly transparent lacquer. This will not in the least interfere with their reflecting power, and will be a sure protection against all harmful or deteriorating influences.

I am aware that reflectors having double reflecting-surfaces have been made where the double thickness of the reflecting material and glass have been used on both the upper and lower surfaces of the reflector, and sometimes a double thickness of metal has been used for like purpose; but in such instances the device produced was heavy and costly.

I am also aware that thin metal has been used for lamp-chimney shades or reflectors;

but such are not adapted for like use, as in present case, nor are they provided with a double reflecting-surface.

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

A reflector made of sections of sheet metal of single thickness and having an inner and outer finished and reflecting-surface, and se-

cured to rods *a a'*, substantially as and for the purposes set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

CHARLES COTHREN.

Witnesses:

FREEMAN SKINNER,
W. W. STEPHENS.