

(No Model.)

2 Sheets—Sheet 1.

W. H. THRIFT.

LIGHT CONCENTRATOR FOR DENTISTS, SURGEONS, OR OTHERS.

No. 519,799.

Patented May 15, 1894.

Fig. 1.

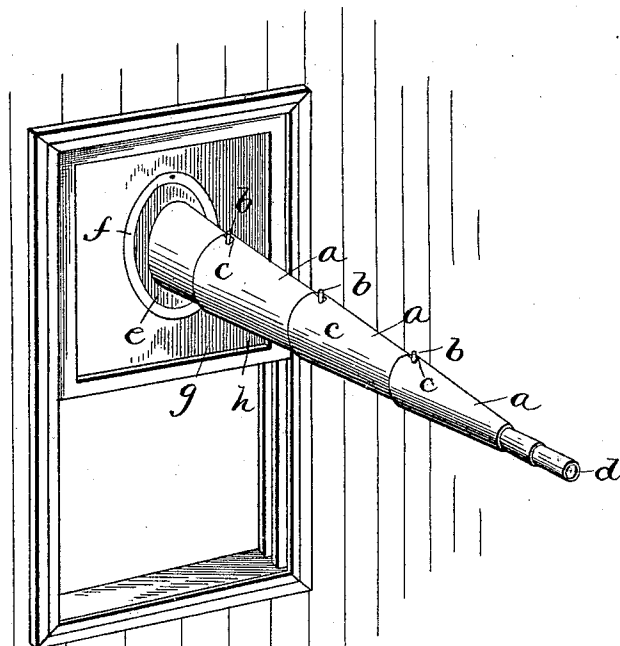
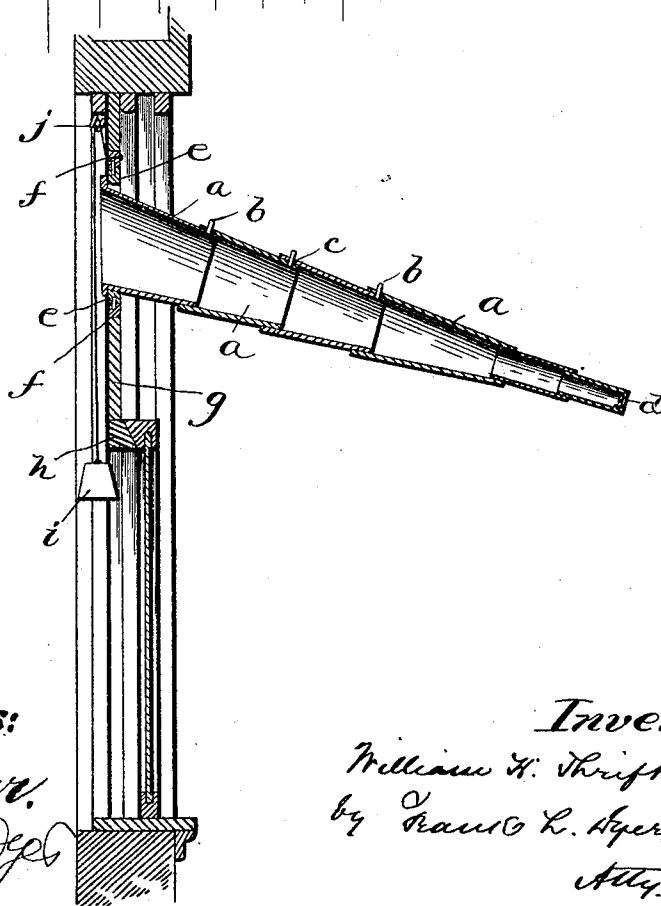


Fig. 2.



Witnesses:

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Inventor.

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Fig. 3.

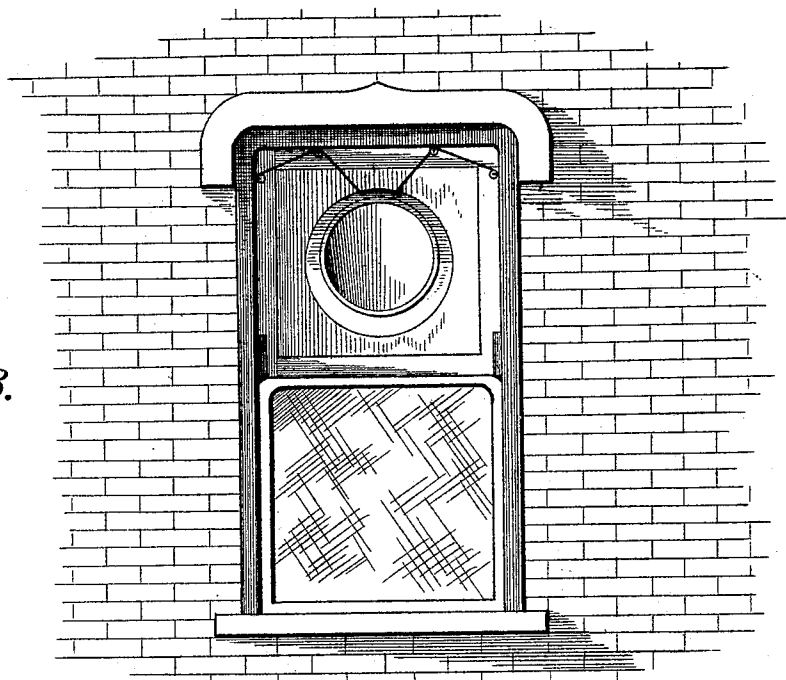
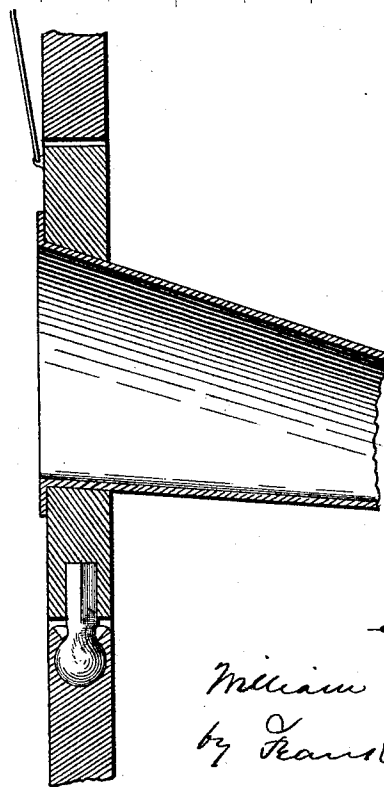


Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM H. THRIFT, OF DUBUQUE, IOWA.

LIGHT-CONCENTRATOR FOR DENTISTS, SURGEONS, OR OTHERS.

SPECIFICATION forming part of Letters Patent No. 519,799, dated May 15, 1894.

Application filed September 5, 1893. Serial No. 484,839. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. THRIFT, a citizen of the United States, residing at Dubuque, in the county of Dubuque and State of Iowa, have invented certain new and useful Improvements in Light-Concentrators for Dentists, Surgeons, or Others; and I do hereby declare the following to be a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improved device for collecting and concentrating diffused light to illuminate the interior of the mouth of subjects to be operated upon by dentists. My invention will also be of great value to specialists and others, for illuminating the diseased portions to be operated upon. Heretofore dentists have been unable to secure sufficient light to perform their operations without making use of artificial light, which is far too expensive compared to the results obtained.

My invention consists of various improvements in an apparatus for collecting, concentrating diffused sun light, and for readily and easily accomplishing the purposes before set out.

My invention consists of a tapering cylinder, the interior of which is preferably of brightly polished metal provided with a lens at its smaller extremity, and pivoted at its other extremity to a window frame or other suitable point, where the diffused sun light can be readily directed into the open aperture.

My invention also consists of means whereby the aforesaid tube can be either lengthened or shortened in order to allow the invention to be adjusted to different situations.

My invention also consists of means whereby the device can be readily adjusted in any position and will be rigidly kept in such position.

In order to better comprehend my invention, attention is directed to the accompanying drawings, in which—

Figure 1, represents a perspective view of my invention, and Fig. 2, represents a side sectional view of the same. Fig. 3, represents a front elevation of my device in use and Fig. 4, represents a modification.

The major part of my invention consists of a tapering tube made preferably of metal, and with a polished, light deflecting interior surface. This cylinder can be made out of a single piece of material, but I prefer in practice to construct it of a number of interlocking sections "a, a, a," overlapping one another and held in place by means of pins "b" "b" entering, L-shaped slots "c" "c" on the edges of the sections. This method of making the tube in sections will readily admit of its being lengthened or shortened either by adding to or subtracting from the number of sections desired, and so the smaller end can be brought into any position desired. This smaller end carries a lens "d" preferably of double convex form, which acts as a concentrator of all light entering the larger end of the cylinder. This larger end of the cylinder is secured within the casing "e" which is pivoted vertically within the ring "f" preferably made of wood or metal, which in turn is pivoted horizontally to the casing "g" preferably situated within the upper portion of the window frame "h." These two rings operate exactly on the same principle as the well known gimbal shown in suspending ships' compasses, and allows the tube "a" to be directed in any desired position.

Instead of the construction described above, I sometimes prefer to make use of the modification shown in Fig. 4. In this view, only one of the concentric rings *e* is made use of. This ring is mounted by means of a ball and socket joint *e'*, to the lower portion of the opening within the casing *g*. It will be seen by this that this modification will operate substantially the same as the other construction.

"i," "i'" are two counter-weights secured to a cord or wire over pulleys "j" "j" at the top of the window frame, and attached to the outer ring "f," as in the case of the modification directly to the ring *e*, and serve to counter-balance the weight of the tube "a," and thereby will permit the same to be moved in any position desired. It will be seen that by making use of these said weights "i" "i'," which should exactly counter-balance the instrument, the latter will remain in any position in which it is placed, so that the light may be kept constantly directed on one particular point.

In cases where the light is obstructed, as when two buildings are so close together making it so dark that my invention could not be successfully used in one of them it will be understood that a mirror or reflector may be placed in front of the instrument on the outside of the window so as to direct the diffused light from above therein.

Having now described my invention, what I claim as new therein, and desire to secure by Letters Patent, is as follows:

1. A device for concentrating and reflecting diffused light, consisting of a cylinder composed of interlocking sections having a polished light reflecting interior and a lens at one extremity.
2. An improved device for concentrating and reflecting diffused light, consisting of a cylinder having a polished light reflecting in-

terior, provided with a lens at one extremity and pivoted to a suitable support at the other extremity so as to have universal movement substantially as set forth.

3. An improved device for concentrating and reflecting diffused light, consisting of a cylinder having a polished light reflecting interior, provided with a lens at one extremity, mounted universally at the other extremity, and a counter-balancing weight, or weights, substantially as set forth, for retaining said cylinder in any desired position.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM H. THRIFT.

Witnesses:

C. W. DICKINSON,
MONROE M. CADY.