

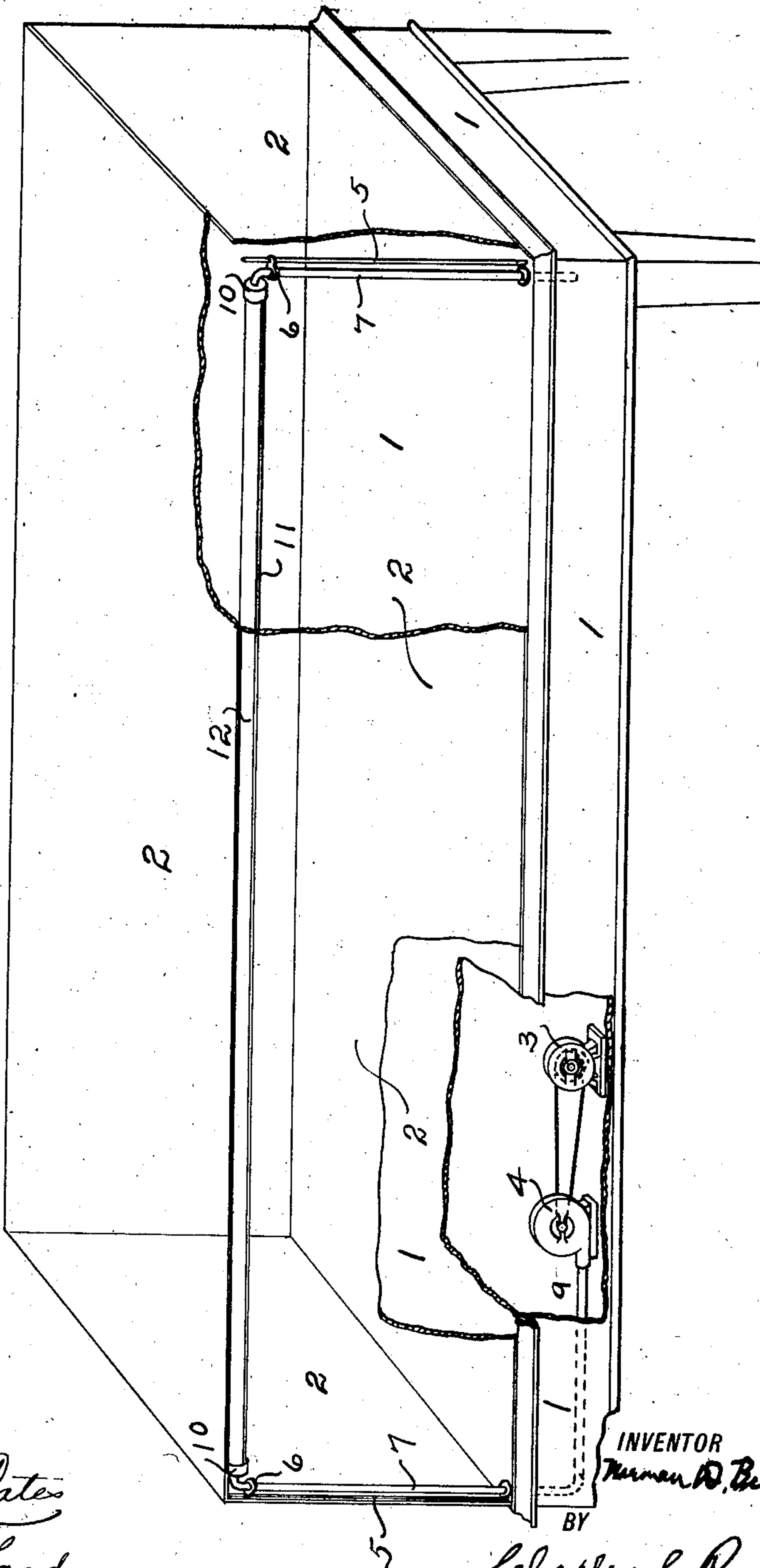
No. 841,765.

PATENTED JAN. 22, 1907.

N. D. BISHOP.
ILLUMINATING APPARATUS.
APPLICATION FILED AUG. 24, 1904.

2 SHEETS—SHEET 1.

Fig. 1



WITNESSES:

Owen G. Cates
Mignon Ford

INVENTOR

Norman D. Bishop

BY

Charles H. Rogers
ATTORNEY

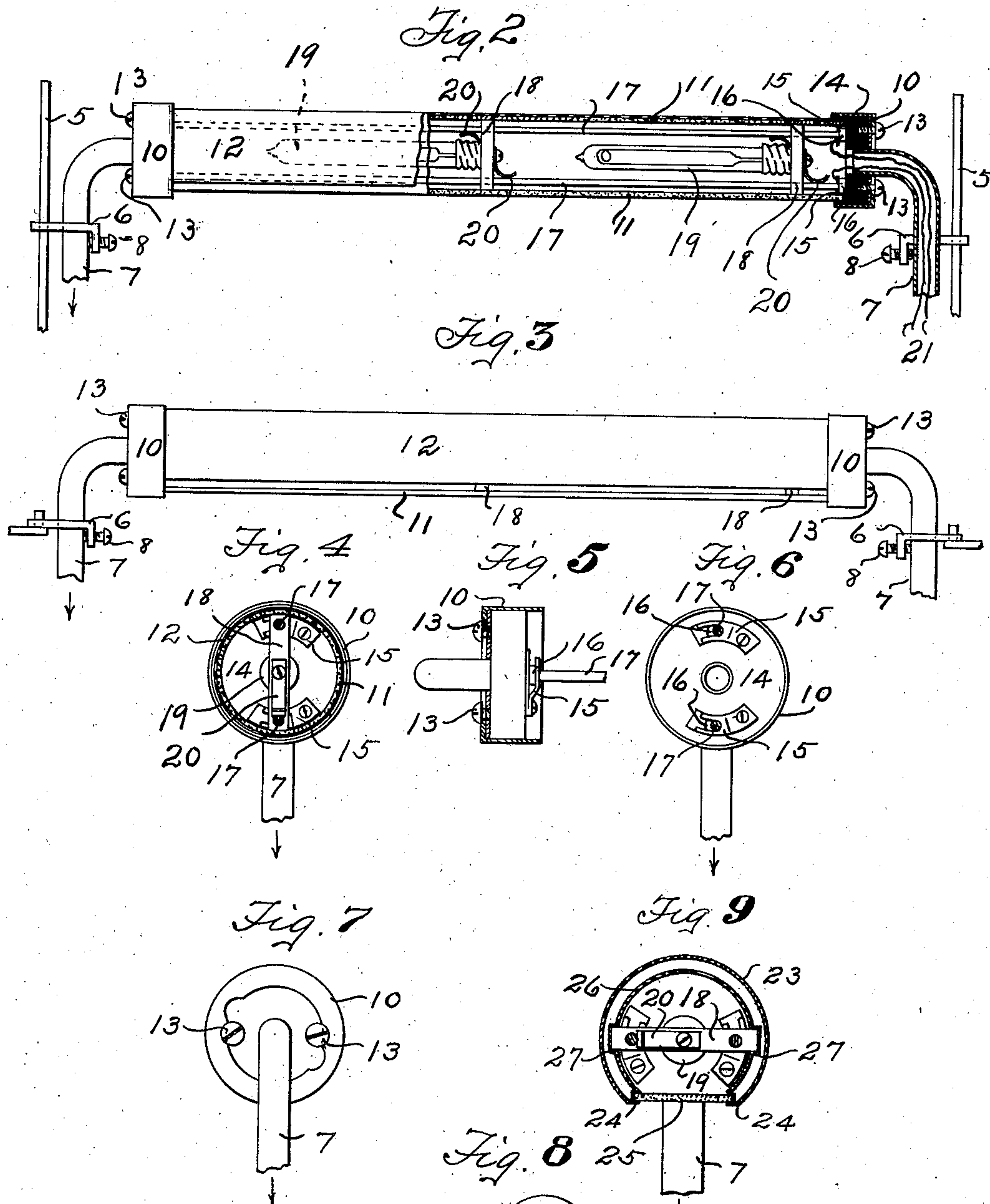
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Charles G. Pater
Mignon Ford.

INVENTOR

Norman D. Bishop

BY

Charles S. Rogers
ATTORNEY

UNITED STATES PATENT OFFICE.

NORMAN D. BISHOP, OF LOS ANGELES, CALIFORNIA, ASSIGNOR TO
DONALD G. BISHOP, OF LOS ANGELES, CALIFORNIA.

ILLUMINATING APPARATUS.

No. 841,765.

Specification of Letters Patent.

Patented Jan. 22, 1907.

Application filed August 24, 1904. Serial No. 222,004.

To all whom it may concern:

Be it known that I, NORMAN D. BISHOP, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Illuminating Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention; such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to illuminating apparatus, and particularly to apparatus adapted to illuminate inclosed spaces and to be inclosed by transparent material, and some of the objects of the invention are to provide an apparatus of this general character which will be simple and cheap in construction and efficient for the purpose intended.

It is also an object of the invention to provide a circulation of fluid through the apparatus to prevent injury to the contents of the structure illuminated by reason of the heat generated by the illuminating devices.

It is also an object of this invention to provide an illuminating apparatus constructed to receive any number of illuminating devices and wherein such devices are adjustably mounted.

Still another object of the invention is to provide an illuminating apparatus capable of use with an all-glass show-case and one requiring no adjustment to the show-case or show-window.

Furthermore, an object of this invention is to produce an illuminating apparatus constructed to be readily attached and disassembled in order to increase or renew the illuminating devices.

With these and other objects in view the invention consists, essentially, in the construction, combination, and arrangement of parts, substantially as more fully described in the following specification and as illustrated in the accompanying drawings, forming part of this application, in which—

Figure 1 is an enlarged perspective view, partly broken away, illustrating an all-glass show-case for which the invention is illustrated as applied. Fig. 2 is a detail view, partly broken away and partly in section, of a portion of the apparatus. Fig. 3 is an elevational view of the construction shown in Fig. 2. Figs. 4, 5, 6, and 7 are detail views

of the end portions and connections to the apparatus. Fig. 8 is a detail view of a clamp or bracket employed, and Fig. 9 is an enlarged detail view of a modified form of the construction illustrated in Figs. 4 to 7, inclusive.

Referring to the drawings, and particularly to the construction illustrated in Figs. 1, 2, and 3 thereof, reference character 1 designates the base or bottom portion of a show-case of any desired construction, but preferably having the upper portion constructed entirely of glass or transparent material 2, substantially as illustrated in Fig. 1 of the drawings; although it will be understood that this invention is in no wise limited to an all-glass show-case or show-window, as it may be employed with show-cases or show-windows constructed only partially of glass or other transparent material.

When used with an all-glass show-case, the actuating device or motor 3 may be mounted in the lower portion of the case or under the floor, as may be found desirable in practice, and the motor 3 may be suitably connected with an exhausting device or blowing apparatus 4, so as to drive the latter and either exhaust or force the fluid, preferably air, through the illuminating apparatus in order to keep the same cool and prevent the heat from the illuminating devices or lamps from injuring the show-case or its contents, which usually results with illuminating devices now in use.

In all-glass show-cases are preferably vertical corner-rods 5, Fig. 1, or if these rods are not in use they can be readily secured in the base or bottom portion 1 of the show-case, substantially as illustrated in Fig. 1 of the drawings, and secured thereon are brackets or clamps 6, Figs. 1, 2, 3, and 8, constructed to receive the end tubes 7 and to be clamped thereon by the set-screws or other devices 8, substantially as shown, and the end tubes 7 preferably extend beneath the bottom of the show-case, and one thereof is desirably connected to the exhausting or blowing device 4, (shown at 9, Fig. 1.)

Upon the end of the tube 7 are movably mounted cap-pieces or holders 10, constructed to removably receive a cylindrical device or tube 11, preferably constructed of transparent material, and a reflector or partial shield 12 may be mounted upon the tube 11

for the purpose of directing the rays of light into the show-case and upon the articles therein, as well as preventing the light from being directed into the face of observers of the contents of the show-case, although this invention is not limited to use with this reflector or shield 12.

Within the caps or end pieces 10 are preferably secured, by means of screws 13 or otherwise, insulating blocks or pieces 14, upon which are mounted spring contact clips or devices 15, constructed to detachably receive the extremities 16 of the guide-rods or conductors 17, the opposite ends whereof are removably mounted in openings or recesses in opposite block 14, and on the guide-rods or conductors 17 are slidably mounted strips or devices 18, carrying incandescent or other illuminating devices or lamps 19 and also contact fingers or strips 20, which bear against or contact with the guide or conducting rod 17 and close the electrical circuit therethrough and through the electrical conductors 21, connected with said contact-clips 16 and with the source of electrical supply.

Referring to the construction shown in Fig. 9 of the drawings, there is illustrated a modified form of that hereinbefore described and shown, wherein there is a double casing 23, having recessed ends 24 constructed to receive a strip 25 of transparent material, and the interior 26 is preferably recessed, as at 27, to receive the sliding device 18, as will be readily understood by those skilled in the art to which this invention appertains.

It is not desired to limit or confine this invention to the specific construction, combination, and arrangement of parts herein shown and described, and the right is reserved to make all such changes in and modifications of the same as come within the spirit and scope of this invention.

I claim—

1. An illuminating apparatus provided with an inclosing portion, a plurality of adjustable illuminating devices therein and connection between the latter and the source of electrical supply.

2. An illuminating apparatus having a tubular portion, illuminating devices slidably mounted therein and electrical connection between said devices and the source of electrical supply.

3. An illuminating apparatus provided with a tubular portion, guide-rods therein, illuminating devices on said rods and connection between said rods and the source of electrical supply.

4. An illuminating apparatus provided with a translucent tube or cylinder, illuminating devices slidably mounted therein, and electrical connections between said devices and the source of electrical supply.

5. An illuminating apparatus provided with a tube, guide-rods therein, illuminating devices slidably mounted on said rods and electrical connection between said rods and the source of electrical supply.

6. An illuminating apparatus provided with a tube, illuminating devices therein having electrical connection and means for ventilating said tube.

7. An illuminating apparatus having illuminating devices provided with electrical connections inclosed in tube or casing, pipes in each end of said tube or casing and means for effecting the circulation of air through said pipes and tube or casing.

8. An illuminating apparatus provided with a tube, caps for the ends thereof, illuminating devices in the tube for the electrical connection and means of engaging said caps to support the tube.

9. An illuminating apparatus provided with a tube, illuminating devices mounted therein, guide-rods carrying said devices, electrical connections between said rods and the source of electrical supply and means for supporting the tube.

10. An illuminating apparatus provided with a tube, illuminating devices mounted therein, guide-rods carrying said devices, electrical connections between said rods and the source of electrical supply and means for supporting and effecting the ventilation of said tube.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, at Los Angeles, county of Los Angeles, State of California, this 13th day of August, 1904.

NORMAN D. BISHOP.

Witnesses:

ONRU G. CATES,
MIGNON FORD.