T. LIDBERG.

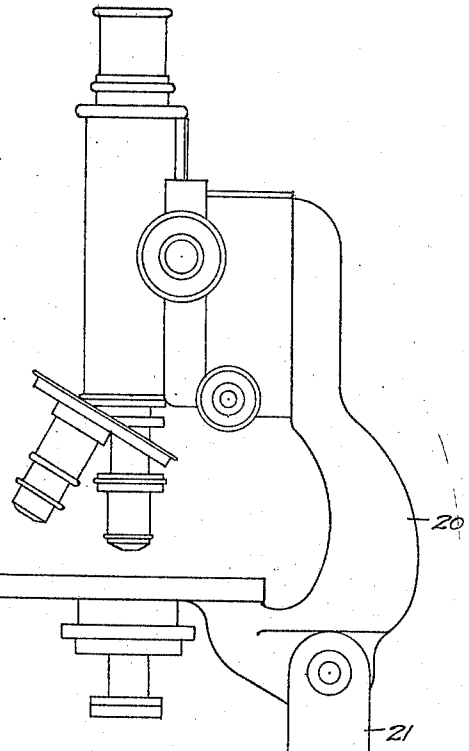
MICROSCOPE ILLUMINATOR.

APPLICATION FILED JULY 13, 1918.

1,316,050.

Patented Sept. 16, 1919.

Fig. 1.



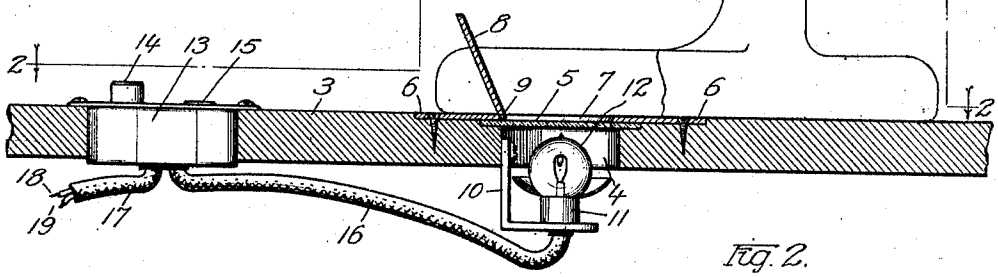
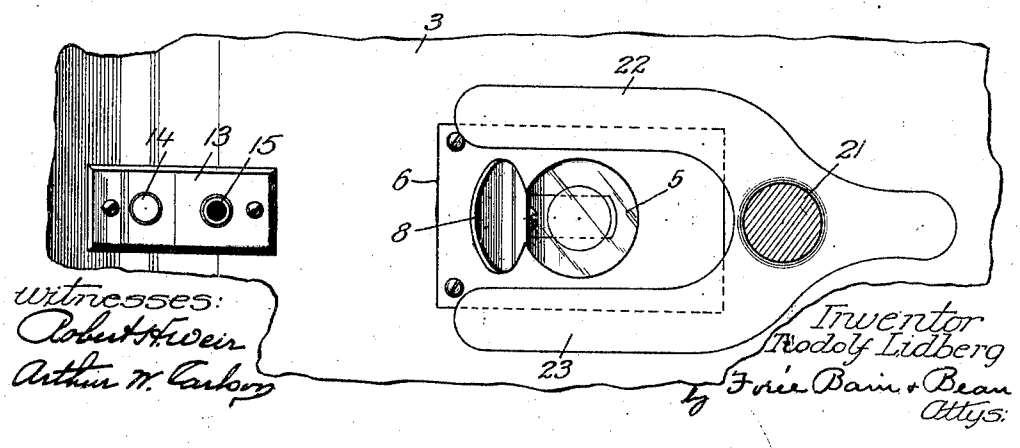


Fig. 2.



Witnesses:
Robert H. Weir
Arthur W. Carlson

Inventor
Rodolf Lidberg
by Fries Bair & Bean
Attys.

THE COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

TIODOLF LIDBERG, OF CHICAGO, ILLINOIS, ASSIGNOR TO CHICAGO SURGICAL & ELECTRICAL COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

MICROSCOPE-ILLUMINATOR.

1,316,050. Specification of Letters Patent. Patented Sept. 16, 1919.

Application filed July 13, 1918. Serial No. 244,804.

To all whom it may concern:

Be it known that I, TIODOLF LIDBERG, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Microscope-Illuminators, of which the following is a specification.

My invention relates to improvements in means for illuminating the objectives or the fields of microscopes.

It is the general practice to illuminate the objective fields of microscopes by reflected light. Even when artificial light is employed for the purpose, the same reflecting mirror is used as that which is required for illuminating the field by sunlight. This is an essential condition to be brought about because the light must pass upwardly from below the objective field in substantially the same axial line as the line of vision, and the source of light, proceeding from another direction, must be reflected from its natural course into the desired path.

In my invention, I place the source of light immediately below the field to be illuminated and place the miscroscope immediately above the source of light, so that the rays of light are projected directly and primarily into the desired vertical path.

One of the specific objects of my invention is to provide a convenient means below the top surface of a table, desk or the like, within which to include an electric lamp and a cover for the lamp receptacle, flush with the top of the desk, or other support, adapted to be open, when the light is to be used, and so arranged that it will be located between the two spaced apart feet of the microscope, from which the light may be projected in a vertical direction and so arranged that when not in use the cover may be closed flush with the surface of the table or desk top whereupon the desk or table top may be used without any obstruction being interposed by the light-producing means.

In the drawings,

Figure 1 illustrates a table top with a microscope placed immediately thereon and located above the source of light.

Fig. 2 is a section taken on line 2—2 of Fig. 1.

In both the views the same reference characters are employed to indicate similar parts.

3 is a desk or table top provided with an orifice 4, which is substantially circular in outline and which is preferably covered by a ground glass plate 5 which will diffuse the direct rays of light, to a greater or less extent, and cause a more even distribution on the objective of the miscroscope.

A plate 6 is let into the upper surface of the table or desk top 3 and is flush therewith. The plate is provided with an orifice 7, closed by a cover 8, which is hinged, as at 9, to the plate. The plate 6 has a cover 9, preferably made of brass or other sheet metal, and of a character similar to the structure usually employed within which to insert an electric attaching plug into a receptacle located on the opposite side of the wall or cover, and insertible through the orifice 7. In such a structure the cover 8 is flush with the upper surface of the plate 6 when the orifice 7 is closed.

Fastened to one side of the opening 4 in the table top 3, is a bracket 10, for supporting a socket 11, for an incandescent lamp 12, a suitable reflector 12′ being used in connection therewith. A switch 13, also has its upper surface substantially flush with the upper surface of the cover or plate 3, and is provided with push buttons 14 and 15 with which to open and close the circuit containing the lamp 12. The switch 13 is connected by wires 18 and 19 to the lamp and by said wires, in conduits 16 and 17 to a suitable source of current supply. There are two wires or conductors 18 and 19 shown within the conduits 16 and 17. A microscope 20, having a base 21, is provided with feet 22 and 23, separated sufficiently to straddle the illuminating device, as shown in Fig. 2. The cover 8 is lifted and when in open position, is not in the way, when the microscope is being used. After the microscope is placed in the position shown, the cover 8 having been opened, one of the push buttons 14 and 15 is pushed to close the switch so that the lamp 12 may be energized to illuminate the light diffusing plate 5.

This device produces all the light that may be required for the microscope, and it is quickly and easily accessible at all times, night or day, and when not in use, it does not present any obstruction upon the top surface of the table, the lamp being below the table top and the cover 8 being flush with the upper surface thereof.

The switch 13 may be located in the table top, as shown, or it may be located on the wall, or take the form of a pear shaped pendant switch suspended by a cord. Any suitable means for closing the circuit through the lamp 12 is within the contemplation of my invention.

While I have herein shown a single embodiment of my invention for the purpose of clear disclosure, it is manifest that some changes may be made in the configuration and arrangement of the parts, within the scope of the appended claim.

Having described my invention, what I claim is:—

In a device of the character described, in combination with a table or desk top having a perforation; a plate flush with the upper surface of the top and having an opening registering with the opening in the top; a light diffusing plate secured in a rabbet surrounding the opening below the flush plate; a cover hinged to the flush plate to overlie said openings to protect said light diffusing plate and a lamp below the latter plate and a bracket secured to the under side of the top and having a part underlying said opening to support said lamp.

In testimony whereof I hereunto subscribe my name.

TIODOLF LIDBERG.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."