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A. M. SPAMPINATO

1,897,281

ILLUMINATED REFLECTOR

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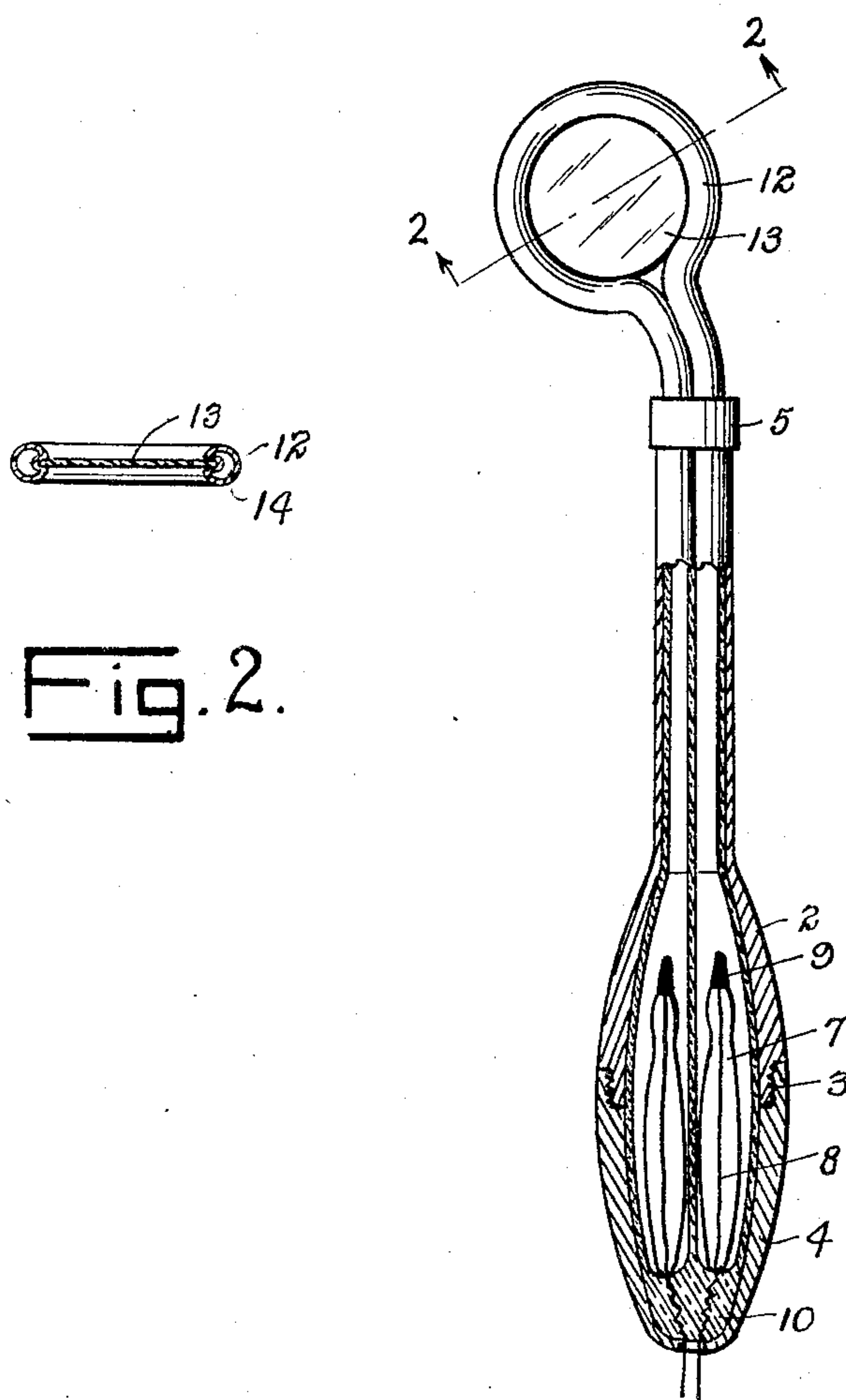


Fig. 2.

Fig. 1.

Inventor

ANTHONY M. SPAMPINATO

By

Jesse R. Stone

Attorney

## UNITED STATES PATENT OFFICE

ANTHONY M. SPAMPINATO, OF HOUSTON, TEXAS, ASSIGNOR OF ONE-HALF TO WILLIAM J. BUFORD, OF HOUSTON, TEXAS

## ILLUMINATED REFLECTOR

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The invention relates particularly to an improvement in reflectors and provides for the proper illumination of the reflector so that the scope of its utility may be greatly increased.

Heretofore various reflectors have been provided, and, in some instances, attempts have been made to illuminate these reflectors. It is difficult, however, to provide the illumination in the proper form so that the light rays will come in contact with the reflector. Reflectors of the type here described are such as those generally in use by dentists and surgeons in order to obtain proper inspection of inaccessible cavities.

It is one of the objects of the present invention to provide a simple and economical illuminated reflector.

Another object of the invention is to arrange the illuminating medium so that it completely surrounds the reflector.

Another object of the invention is to arrange the reflector so that it will be illuminated by a neon bulb.

A still further object of the invention is to provide a reflector handle so that it will accommodate the terminals of a neon bulb.

It is also one of the objects of the invention to arrange the neon bulb in a form which will receive a reflector.

Other and further objects of the invention will be readily apparent to those skilled in the art to which my invention appertains when the following description is considered in connection with the accompanying drawing therein.

The operation of neon gas tubes is well understood as the gas in the tube serves as a conductor for the electricity. These tubes are of particular advantage in devices of the present type in that there is no heat generated which would tend to burn the patient, or in any way affect the use of the reflector. This heat of the illuminating bulb has been very objectionable in reflectors heretofore in use, and it is one of the important features of the present device which contributes to its successful operation. It is to be noted also that the light is provided in a continuous circle about the reflector disc, and that the

reflection of the disc will be equal. A much better image may be obtained in this manner than when the bulb is situated at one side of the reflector. The bulb may be made in any desired size but serves as a rounded edge for the reflector. The entire device is simple in its construction, and may be kept clean and sterilized without difficulty. The reflector disc may be made in any desired shape or form to accomplish the purpose in view, and I do not desire to be limited to the precise construction shown in the present drawing as, obviously, the invention may take many forms without departing from the spirit of the appended claims.

Fig. 1 is a side view of an illuminated reflector embodying my invention but showing certain parts broken away to disclose the interior construction.

Fig. 2 is a section taken on the line 2—2 of Fig. 1 and looking in the direction of the arrows.

The invention is best disclosed in Fig. 1 wherein a handle structure is indicated generally at 2. This may be formed of rubber, wood fibre composition, or any suitable insulating or other material, and is provided with a reduced threaded shank 3. The cap 4 is shown as adapted for threading on to the shank 3, and is arranged to close the end of the handle 2. The forward end of the handle is shown as being hollow and is closed by means of a ferrule 5. Within the handle 2 are shown the ends of a neon electric bulb. This bulb is of the usual construction and is provided with glass terminals 7 which receive the electric conductor 8 which is fastened in the contact member 9. These terminals 7 are suitably anchored in a refractory material such as 10. The cap 4 is adapted to fasten upon the threads 3 and retain the terminals in a rigid position. The ends of the neon tube pass into the handle at the central portion of the tube. The tube indicated at 12 is formed to retain the reflector 13 which is here in the form of a disc, and is best seen in Fig. 2. The tube is provided adjacent to the disc 13 with a concave groove 14 into which the reflector disc is fitted. It is obvious that this structure may be provided



when the glass is in a flexible condition and is arranged so that the reflector will not become displaced. The ferrule 5 serves to hold the ends of the tube in proper alignment, and prevents any vibration which would tend to break the tube. The reflector may be flat as shown or concaved and is preferably polished or mirrored upon both sides so that the instrument may be viewed from either side.

Having thus described my invention, what I desire to secure by Letters Patent is:

1. An illuminated reflector including a handle, a neon tube having its ends anchored in said handle, and a reflector carried by said tube.

2. A dental reflector including a reflector surface, an electric neon tube surrounding said reflector, and a handle fixed on said tube.

3. An illuminated dental reflector including a handle, a reflector surface, and a neon tube connecting said handle and said surface, said tube being in the form of a continuous member from the said handle around said reflector surface and back to said handle.

4. A reflector adapted to be illuminated including a neon tube curved intermediate its ends, a groove in said curved portion, a reflector placed in said groove, a handle fixed to the ends of said tube, said tube serving as the only connection between said handle and said reflector.

5. An illuminated dental reflector including a reflector surface, an illuminating tube about the periphery of said surface, said tube being arranged to engage and support said reflector surface and a handle fixed to said tube.

6. A device of the character described for use as a dental reflector including a handle, a reflector surface, and an illuminated tube support surrounding said surface connecting said handle and said surface, said tube serving as the sole support for said reflector surface.

7. A device of the character described including a neon tube bent to have its ends in parallel position, a loop formed intermediate said ends, a reflector surface fixed in said loop, a handle fixed on said ends, and electrical connections for said tube leading into said handle.

In testimony whereof I hereunto affix my signature this 6th day of August, A. D. 1929.

ANTHONY M. SPAMPINATO.