

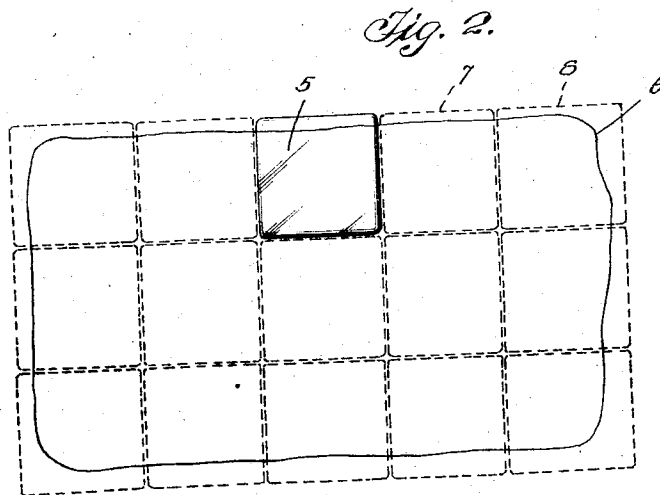
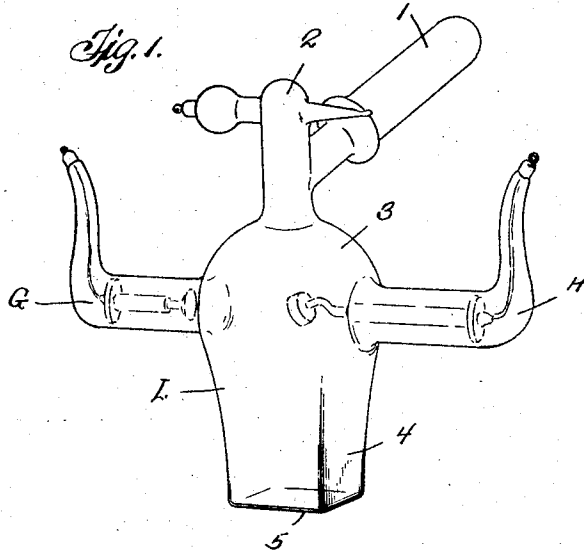
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VACUUM TUBE

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## UNITED STATES PATENT OFFICE.

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## VACUUM TUBE.

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This invention relates to a vacuum tube, similar to the well-known X-ray tube and adapted for use in the same general manner for the treatment of certain skin affections, and for other similar purposes which require the direct application of the window end of the tube against the parts.

An object of the invention is to provide a tube of this type having the contact surface of its window end made of such contour that when being applied to a surface to be treated it may be moved from one point of application to another adjacent point and then to another, and so on, and thus be made to cover substantially the entire expanse of surface without necessity for any lapping of treatments and with a greater degree of certainty upon the part of the operator that the entire affected surface has been covered than has been possible with the usual circular window end heretofore employed.

A further object is to so design the window end portion of the tube that substantially all portions of the contact surface shall be effective for imparting proper treatment to the affected parts.

Other objects and aims of the invention, more or less specific than those referred to, will be in part obvious and in part pointed out in the following description of the elements, combinations, arrangements of parts, and applications of principles constituting the invention and the scope of protection contemplated, will be indicated in the appended claims.

In the accompanying drawings which are to be taken as a part of this specification, and in which I have shown only a preferred form of embodiment of the invention:

Figure 1 is a perspective view of a vacuum tube constructed in accordance with this invention, and

Figure 2 is a bottom plan view of the window end seen in Figure 1, and illustrating in dotted lines the manner in which the tube would be moved from one point to another for properly treating the full expanse of an affected surface.

Referring to the drawings for describing in detail the structure therein shown, the reference character L indicates the main or body portion of the tube, having the opposite extensions G and H for carrying the electrodes and for the attachment of conductors.

A suitable handle 1 extends laterally from the vertical extension part 2 at the top of the body L, and by means of this handle the entire device may be readily manipulated in use. This handle is preferably attached to the extension 2 below the top end of said extension as it has been found that greater strength and convenience can be secured by this arrangement.

While the upper portion as 3 of the body L has the usual globular form, it is, proposed by the present invention that the lower or window portion as 4 shall be of rectangular form, that the bottom or contact surface as 5 shall be of substantially square contour, and that the walls of the window portion shall be tapered gradually upwardly and outwardly in all directions to merge with the upper portion 3. In this way not only is the contact surface 5 of the window given the desirable contour mentioned but the interior of the body and window portion is left free of any inward perturbances which would interfere with the free downward passage of rays to and through the window.

The manner of use of this device is clearly illustrated in Figure 2 wherein it is suggested that the irregular line indicated by the reference numeral 6 indicate the extent of the affected surface which it is desired to treat. In treating this surface the operator places the window 5 of his bulb against the surface, for instance in the position indicated by the full line illustration in this figure. After a desirable lapse of time he then moves the window to an adjacent position, as for instance that illustrated by the dotted line representation of the window designated by the numeral 7. After the proper treatment period in this position the window is moved for instance to the position 8, and so on until the position indicated by all of the dotted line representations of the window have been treated.

With proper care and attention on the part of the operator it will be quite possible for him to cover the entire affected surface in this way in a minimum of time and without the probability of any lap of treatments; and in order that this point may be made more apparent it will be here mentioned that if the window 5 be made of circular contour, as has been the practice heretofore, there would necessarily be large untreated surfaces at the center of each four points of

treatment. These untreated surfaces would require subsequent treatment which would of course result in double treatment where the subsequent treatments overlap the first.

5 As many changes can be made in this construction without departing from the scope of the invention defined in the following claims it is intended that all matter contained in the above description or shown  
10 in the accompanying drawings shall be interpreted as illustrative only and not in a limiting sense.

Having thus described the invention what I claim as new and desire to secure Letters  
15 Patent is:

1. A vacuum tube of the type indicated having a window portion adapted to be moved about an afflicted surface for treating said surface, the contact surface of said win-

dow portion being of substantially square 20 contour whereby to avoid necessity for overlapping treatment of any portion of the afflicted surface while yet enabling treatment of the entire afflicted surface as and in the manner set forth.

25 2. A vacuum tube of the type indicated comprising the usual relatively large globular body part and a downwardly extending relatively small window end portion, said window end portion being of rectangular 30 form, the contact surface thereof being of substantially square contour, and the side walls thereof tapering gradually upwardly and outwardly to merge into the globular portion of the body, for the purpose set 35 forth.

In testimony whereof I affix my signature.  
FRANK R. GEYSER.