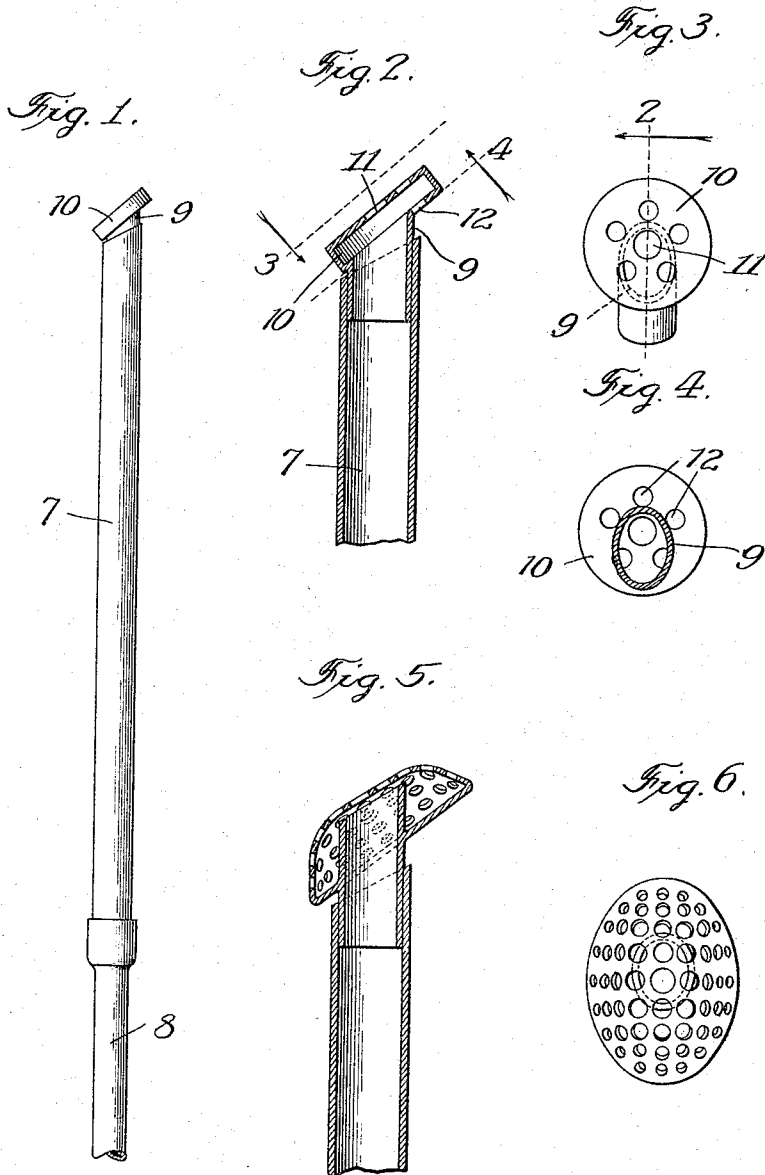


C. E. KELLS.  
 APPARATUS FOR SURGICALLY CLEANSING SURFACES.  
 APPLICATION FILED MAR. 22, 1915.

1,148,093.

Patented July 27, 1915.



Witnesses:  
 E. J. Gaylord,  
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 Attys.

# UNITED STATES PATENT OFFICE.

CHARLES EDMUND KELLS, OF NEW ORLEANS, LOUISIANA.

APPARATUS FOR SURGICALLY CLEANSING SURFACES.

1,148,093.

Specification of Letters Patent.

Patented July 27, 1915.

Application filed March 22, 1915. Serial No. 16,231.

*To all whom it may concern:*

Be it known that I, CHARLES EDMUND KELLS, a citizen of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented a new and useful Improvement in Apparatus for Surgically Cleansing Surfaces, of which the following is a specification.

My invention relates to certain new and useful improvements in apparatus for surgically cleansing surfaces, and is fully described and explained in the specification and shown in the accompanying drawings, in which:

Figure 1 is a side elevation of my improved device; Fig. 2 is a longitudinal section; Fig. 3 is an elevation, the plane of which is indicated by the line 3 of Fig. 2; Fig. 4 is a section on the line 4 of Fig. 2; Fig. 5 is a view, similar to Fig. 2, of a modified form of construction, and Fig. 6 is an elevation, similar to Fig. 3, of a modified form.

Referring to the drawings, 7 is a tubular handle connected by a flexible tube 8 to a suitable vacuum pump (not shown). In the end of the handle is inserted a nipple 9 projecting backwardly and at an angle from a disk-shaped head 10. The disk-shaped head is provided on its forward face with openings 11 and on its rear face with openings 12.

In operation the device is manipulated in the following manner: Suction being supplied by the handle, the tip is run over the surface to be cleansed and the fluids upon said surface are picked up and carried into the handle and therethrough to the suction pipe. The present device is superior to the ordinary suction devices heretofore employed for the same purpose by reason of the presence, in the disk-shaped head, of the openings 12 in the rear face thereof. These result in a constant relief of the vacuum within the head, so that it is impossible for the flesh of the patient to be caught and pulled into the operative openings 11 on the front of the head. It has been found in practice that without these openings the flesh is frequently caught and drawn forcibly into the openings 11, resulting in pain to the patient, which is aggravated if the operator moves the device while the flesh is so held. The degree of suction maintained makes very little difference in this regard,

because if the flesh once fills the openings usually provided on the front or operative face of devices of this character, the suction continues to build up with the undesirable results set forth. But with my construction, the openings 12 at the rear can be and are so proportioned to the pump that the necessary suction for picking up fluids is always provided on the operative face. But if the front openings are closed, the slightest increase of the suction produces sufficient flow through the rear openings to prevent any undesirable attachment between the flesh and head.

In the modified form shown in Figs. 5 and 6, the head is almond-shaped rather than disk-shaped, and the tube is continued inward into close proximity with the center of the head. In this manner, the central and forward openings of the head are in closer proximity to the tube and tend to pick up any fluid which may be available. The lateral openings are so withdrawn from the surface as to vent the head if the central openings are closed.

I realize that considerable variation is possible in the details of the construction herein shown, and I do not intend to limit myself thereto, except as pointed out in the following claims, in which it is my intention to claim all the novelty inherent in the device as broadly as is permitted by the state of the art.

What I claim as new and desire to secure by Letters Patent is:—

1. A device of the character described, comprising a hollow head, and means for connecting the head with suction means, the head being provided with a reticulated operating surface and with a vent out of the plane of the operating surface so proportioned relative to the suction means as to relieve the suction within the head when the openings in the operating surface are closed.

2. A device of the character described, comprising a hollow head, and means for connecting the same with a source of suction, the head having a reticulated operating surface, and a plurality of perforations out of the plane of said surface so proportioned relative to the suction means as to admit air to the interior of the head and prevent the surface operated upon from being drawn into the holes of the operating surface.

3. A device of the character described, comprising a tubular handle, a hollow head

adapted to be connected to said handle to  
extend at an angle thereto and provided on  
its outer face with openings in line with  
said handle and on its rear face with open-  
5 ings out of line therewith, means for con-  
necting the head with suction means exerted  
through the handle, the openings on the rear  
face of the head being so proportioned rela-  
tive to the suction means as to relieve the

suction within the head when the openings 10  
on the outer face of the head are closed.

In testimony whereof I have hereunto set  
my hand this 15 day of March, 1915.

CHARLES EDMUND KELLS.

In presence of two subscribing witnesses:

SAMUEL H. McAFEE,

P. L. MARS.

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