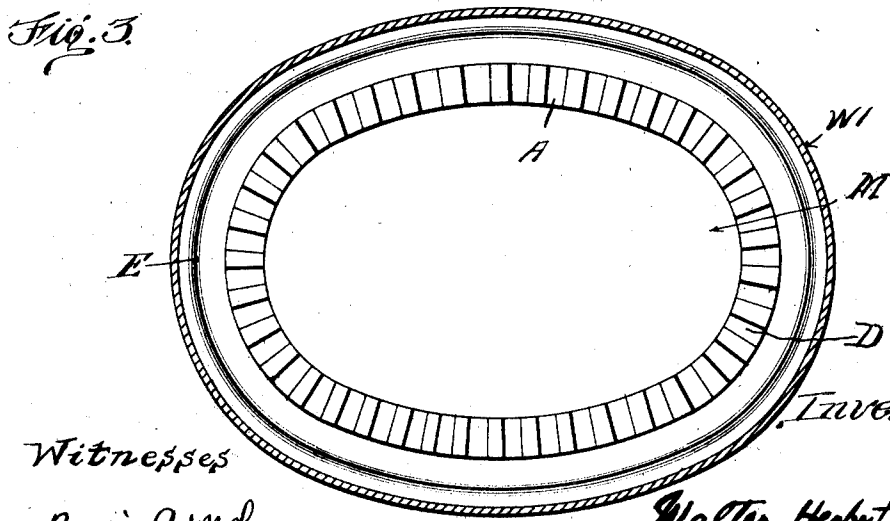
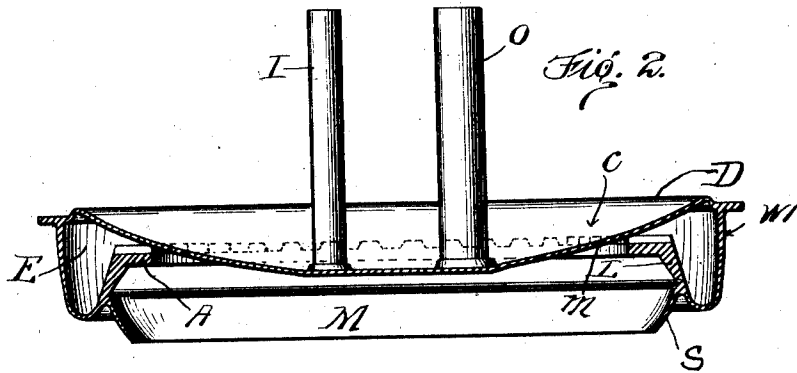
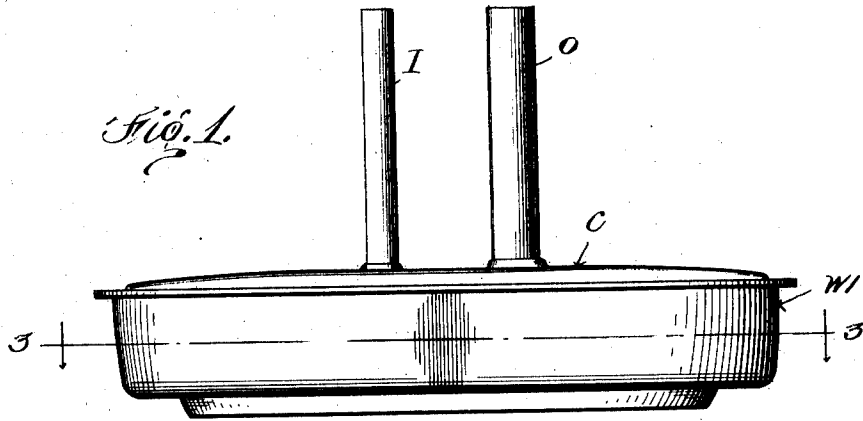


W. H. TAYLOR.
SURGICAL WOUND DAM.
APPLICATION FILED JUNE 27, 1919.

1,385,346.

Patented July 19, 1921.



Witnesses
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SURGICAL WOUND-DAM.

1,385,346.

Specification of Letters Patent.

Patented July 19, 1921.

Application filed June 27, 1919. Serial No. 307,248.

To all whom it may concern:

Be it known that I, WALTER HERBERT TAYLOR, of the city of Guelph, in the county of Wellington, Province of Ontario, Canada, have invented certain new and useful Improvements in Surgical Wound-Dams, of which the following is a specification.

This invention relates to surgical wound dams of the kind comprising an open hollow chamber constituted by a flexible annular wall adapted to form a fluid-tight contact with the patient's skin and a cover to which inflow and outflow tubes are connected.

It is the principal object of the present invention to provide a simple and inexpensive constructional form of device of this kind which will always insure a fluid tight contact with the skin without undue pressure thereon despite the disturbing influence of variations in pressure, the effects of muscular action and changes of the patient's position, and differences in the curvature of surfaces to which the device is to be applied. This object is attained mainly by the improved construction of the flexible annular wall of the dam and its connection with the cover as hereinafter more particularly described.

I attain my object by means of the constructions hereinafter described and illustrated in the accompanying drawings in which—

Figure 1 is a side elevation of my improved surgical wound dam;

Fig. 2 a vertical section of the same; and

Fig. 3 a section on the line 3—3 in Fig. 1.

In the drawings like letters of reference indicate corresponding parts in the different figures.

The device in the main, it will be seen, comprises an annular wall adapted for contact with the skin and provided with a cover. In its preferred construction, this annular wall comprises a ring A and a depending wall L, preferably outwardly flared and tapered from its upper to its lower edge. With the lower edge of this wall is connected the inwardly and downwardly directed annular flange S, also preferably tapered from its point of connection with the wall L to its lower edge. The cover C is preferably provided with a more or less well defined annular wall W¹, which is connected with the depending wall L below the upper edge of the latter so that the cover forms both an

external chamber E and an internal chamber M, which will become filled with fluid in the operation of the apparatus.

With the cover are connected the inflow tube I and the outflow tube O. Means must be provided to permit of the free passage of fluid through the wall L from one side to the other when the device is tightly bandaged down on a limb. For this purpose I form pasageways in said wall, preferably by means of the radial grooves D formed in the upper edge of the wall.

The operation of the device is substantially as follows. The device is applied to the skin with the annular wall surrounding the wound and is pressed down and held against the skin by means of a bandage, so that the annular flange S is pressed against the skin. The shape and arrangement of the wall L tends to stretch outwardly the upper part of the annular flange permitting its inner edge to accommodate itself to the contours of the skin around the wound without buckling, enabling it to maintain perfect contact with the skin. Water pressure within the chamber resting on the flange S tends to hold the latter in fluid-tight contact with the skin. The presence of the external water chamber E equalizes the fluid pressure introduced within the dam so that the fluid pressure will cause no disturbance in any way of the seal.

What I claim as my invention is:—

1. A surgical wound dam formed of flexible rubber and comprising a ring; a wall depending from the ring; an inwardly and downwardly directed annular flange formed at the lower edge of the wall; and a cover closing the top of the chamber within the ring and wall.

2. A surgical wound dam constructed as set forth in claim 1 in which the depending wall is outwardly flared.

3. A surgical wound dam constructed as set forth in claim 1 in which the cover is connected to the wall below the upper edge of the latter.

4. A surgical wound dam constructed as set forth in claim 1 in which the cover is connected to the wall adjacent the lower edge of the latter and passages are formed in the wall to permit of the fluid pressure in the device being equalized at the opposite sides of the wall.

5. A surgical wound dam constructed as set forth in claim 1 in which the depending

wall is outwardly flared and both the wall and flange are tapered from their upper to their lower edges.

5 6. A surgical wound dam formed of flexible rubber and comprising a depending outwardly flared wall; an inwardly and downwardly directed annular flange formed at the lower edge of the wall; and a cover closing the top of the chamber within the ring
10 and wall.

7. A surgical wound dam formed of flexible rubber and comprising a ring; an inwardly and downwardly directed annular flange; outwardly inclined means connecting the ring and flange adapted to impart
15 pressure applied to the upper surface of the ring to the connected edge of the flange; and a cover closing the top of the chamber within the ring and wall.

20 8. A surgical wound dam formed of flexible rubber comprising an annular wall; an annular engaging flange at the lower edge of the wall; and a cover connected to the wall below the upper edge of the latter and
25 closing the top of the chamber within the wall.

9. A surgical wound dam constructed as

set forth in claim 8 in which radial grooves are formed in the upper part of the wall to permit of the fluid pressure in the device
30 being equalized at opposite sides of the wall.

10. A surgical wound dam constructed as set forth in claim 6 in which the flange is tapered from its upper to its lower edge.

11. A surgical wound dam formed of
35 flexible rubber and comprising a depending downwardly tapered wall; an inwardly and downwardly directed annular flange formed at the lower edge of the wall; and a cover closing the top of the chamber within the
40 ring and wall.

12. A surgical wound dam constructed as set forth in claim 8 in which the annular wall is downwardly and outwardly flared.

13. A surgical wound dam constructed as
45 set forth in claim 8 in which the annular wall is downwardly and outwardly flared and the flange inwardly and downwardly directed.

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Witnesses:

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