April 15, 1941. M. E. RABELL 2,238,450

SANITARY APPLIANCE AND METHOD OF MAKING SAME

Filed March 16, 1937

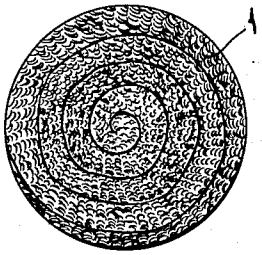


Fig. 1.

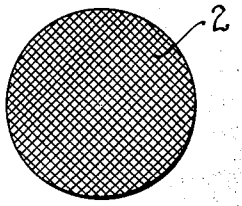


Fig. 2.

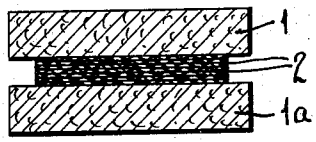


Fig. 3.

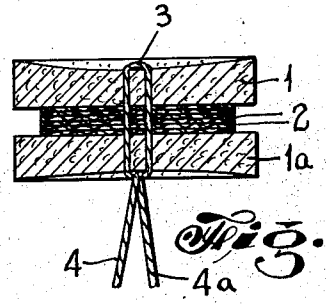


Fig. 4.

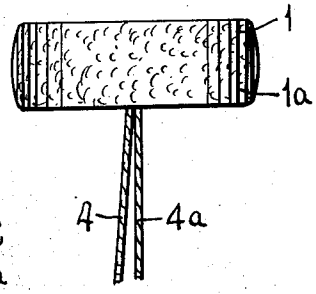


Fig. 5.

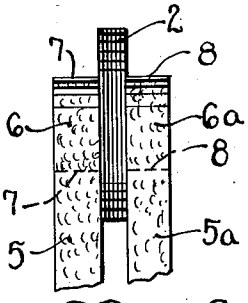


Fig. 6.

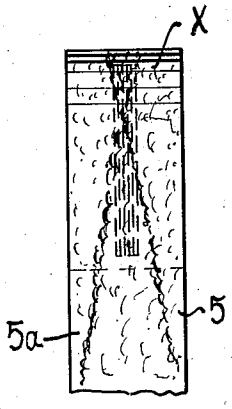


Fig. 8.

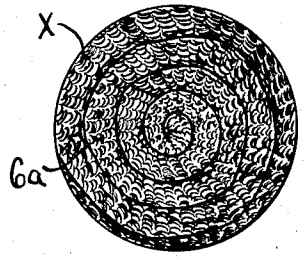


Fig. 9.

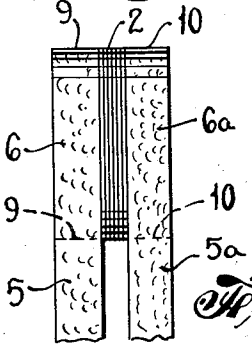


Fig. 7.

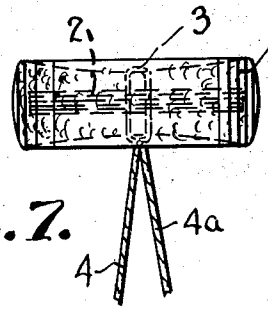


Fig. 10.

INVENTOR
Miriam E. Rabell
BY Mock & Blum
ATTORNEYS

Patented Apr. 15, 1941 2,238,450

UNITED STATES PATENT OFFICE

2,238,450

SANITARY APPLIANCE AND METHOD OF MAKING SAME

Miriam E. Rabell, New York, N. Y.

Application March 16, 1937, Serial No. 131,163

9 Claims. (Cl. 128—285)

My invention relates to a new and improved menstrual tampon and to a new and improved method of making the same.

One of the objects of my invention is to provide improvement over the device or appliance which is shown in U. S. Patent No. 1,941,717 issued on January 2, 1934.

Another object of the invention is to provide an improved method of making such an article or appliance, so as to produce a superior article, and to reduce the cost of manufacture.

Another object of my invention is to provide a device of this kind, having a central portion or insert made of gauze, or other material which is extremely absorbent, and which is preferably more absorbent than the cotton which forms the outer portion of the appliance. Whenever I refer to absorbent cotton, it is to be understood that I may utilize any type of absorbent material or absorbent fabric.

Another object of my invention is to provide a device of this kind, having a central portion or insert made of gauze or other material, said central insert being completely covered by the exterior material of the appliance.

While I have shown a preferred method of making the improved article, it is to be understood that the claims for the article of manufacture are not to be limited to any particular method of making the same.

Fig. 1 is a top plan view of one embodiment of the invention, and shown held with its wide face horizontal.

Fig. 2 is a top plan view of the gauze insert.

Fig. 3 is a central sectional view, illustrating the first step in the method of manufacture.

Fig. 4 is a view similar to Fig. 3, showing the second step in the method of manufacture.

Fig. 5 is a side elevation showing the completed article.

Fig. 6 illustrates the first step in a different method of manufacture. Fig. 7 illustrates the second step in the method of manufacture which has been illustrated in connection with Fig. 6.

Fig. 8 illustrates a third step in the method of manufacture which is illustrated in Fig. 6 and in Fig. 7.

Fig. 9 is an end view of the article shown in Fig. 8.

Fig. 10 is a side elevation, generally similar to Fig. 5, and showing the article which results from the second method of manufacture.

Referring to Figs. 1, 2 and 3, the improved article comprises a core or an inner portion 2, which can be made from ordinary woven gauze material, of the type which is commonly used for making bandages and the like. This gauze material may be substituted by any other type of material or fabric. It is extremely absorbent. The core portion 2 can be made by assembling a number of sheets of thin gauze material, and without the use of any binder or binder means. This core 2 is very flexible and soft.

According to the first embodiment of the invention, I apply to the face of the core portion 2, spirally wound layers 1 and 1a of cotton batting or other absorbent material. The turns or windings of said face layers 1 and 1a are held to each other by means of the natural adhesion of said material, and without the use of any binding material or binding means. Said natural adhesion maintains the turns in contacting position.

When the members 1 and 2 and 1a have been assembled as shown in Fig. 3, the outer members 1 and 1a have their edges spaced from each other and separated by the intermediate inner core member 2.

Thread is then passed substantially centrally through the members 1 and 1a and 2, so as to form a loop 3 which can be tightened, said thread having projecting thread end portions 4 and 4a.

Upon tightening the loop 3, by pulling upon the ends 4 and 4a, the adjacent faces of the members 1 and 1a are brought into firm contact with each other, so that the edges of members 1 and 1a become continuous in effect, as shown in Fig. 5, and said edges cover the side edges of the core member. Said edges of members 1 and 1a then adhere to each other. The edges of members 1 and 1a may be then pressed together, although this is not necessary or preferred. It is then impossible or substantially impossible, to distinguish any lines of separation between the members 1 and 1a. The members 1 and 1a therefore have a continuous outer periphery which completely encloses and covers the core member 2. The loop 3 can be maintained in the tightened material by the natural friction of the thread or in any other suitable manner.

It will be understood that Fig. 3 and Fig. 4 are exaggerated, as the separation between the members 1 and 1a will be much less than the separation illustrated in Fig. 3 and in Fig. 4, when the parts are assembled, and prior to the tightening of the loop 3.

Since the gauze or other core member 2 is made of material which is preferably more absorbent than the material which is used for making the members 1 and 1a, if the appliance

is moistened, the core member 2 will become saturated with the moisture, before the outer covering, composed of the members 1 and 1a, is saturated.

Likewise, since the soft cotton material which is used for making the members 1 and 1a, completely encloses the member 2, any contact between the member 2 and the tissue of the body is prevented, thus preventing any irritation.

According to the second method of manufacture, the core member 2 is located between two spirals 6 and 6a, which are made by spirally winding the strands 5 and 5a, which are made of absorbent batting, or other suitable material. It will be noted that the spirals can be formed by winding the strands 5 and 5a around a suitable mandrel, which can be made of rigid material. By making this mandrel of small diameter, and winding the turns of the spiral with sufficient tension, said spiral becomes continuous at the inner central portion thereof, when the mandrel is withdrawn, thus producing the continuous spiral shown in Fig. 1 or Fig. 9, in which the various windings or turns abut each other.

Referring to Fig. 6, it may be assumed that this winding action has started at the central points of the circular end faces of the core member 2, and that said spiral winding has been continued, until the peripheries of said spirals are defined by the circular lines which are indicated by the reference numerals 7 and 8.

The winding is then continued, until the spirals have the same diameters as the circular end faces of the core member 2. This is illustrated in Fig. 7, in which the circular lines which are defined by the reference numerals 9 and 10, indicate that the outer diameter of each spiral is equal to the diameter of the end face of the core member 2.

As shown in Fig. 8, the strands 5 and 5a are now crossed.

The spiral winding of the crossed strands 5 and 5a is then continued, so as to make one or more additional layers, which are indicated by the reference letter X in Fig. 9.

There may be one or more of said additional layers of the crossed strands.

The purpose of this is to completely cover the edge of the core member 2, independently of the tension which is exerted by the loop 3.

The members which are assembled according to the second method are connected in any suitable manner, as for example by passing thread through the members, in order to form the loop 3 and the projecting end-portions 4 and 4a.

However it is one of the advantages of the second method of manufacture, and of the article resulting therefrom that it is not necessary to subject the loop 3 to any substantial tightening, in order to cause the relatively soft cotton batting to cover the edge of the core 2 completely.

The complete device has a continuous outer covering of soft absorbent cotton, whose layers are maintained in proper form by the natural adhesion of the layers of absorbent cotton.

I do not wish to be limited to any specific material or materials.

In the broadest aspect of my invention, it includes a core member which is completely enclosed by face material. Said core member 2 is flexible, but it has enough stiffness to cause said core member to have a normal predetermined shape, which is disc-like in this embodiment. The core member is stiffer than the face material.

I have shown a preferred embodiment of my invention but it is clear that numerous changes and omissions could be made without departing from its spirit.

I claim:

1. A menstrual tampon comprising an absorbent core member having end faces, face members applied to said end faces, and a connecting member holding the central portion of said core member and the central portions of said face members together in compressed condition, said face members extending laterally beyond said core member and having their edges held substantially abutting each other by said connecting member so as to cover the edge of said core member.

2. A menstrual tampon comprising a disc-like absorbent core member having end faces, disc-like face members applied to said end faces, and a connecting member holding the central portion of said core member and the central portions of said face members together in compressed condition, said face members extending beyond said core member and having their edges substantially abutting each other by said connecting member so as to cover the edge of said core member, said face members comprising substantially closed and spirally wound layers of absorbent cotton.

3. A menstrual tampon comprising a disc-like absorbent core member having end faces, disc-like face members applied to said end faces, and means holding the central portion of said core member and the central portions of said face members together in compressed condition, said face members extending beyond said core member and having their edges substantially abutting each other so as to cover the edge of said core member, said face members comprising substantially closed and spirally wound layers of absorbent cotton, said means comprising a thread loop which is under tension and which passes only through the central portions of said face members and the central portion of said core member.

4. A method of making a menstrual tampon which consists in connecting the central portions of an absorbent disc-like core member and of disc-like face members which extend laterally beyond said core member, by means of a transverse loop of thread which passes through said core member and through said face members and which is subjected to tension, said tension being sufficient to cause the edges of said face members to substantially abut each other and to substantially enclose said core member.

5. A menstrual tampon comprising a disc-like absorbent core member having end faces, absorbent and spirally wound disc-like face members applied to the end faces of said core member, said spirally wound members substantially covering the end faces of said core members, the material of said face members being crossed at the periphery of said core member and being continued in spirally wound formation beyond the edge of the core member, so as to substantially enclose the edge of said core member.

6. A menstrual tampon comprising a disc-like core member having end faces, absorbent and spirally wound disc-like face members applied to the end faces of said core member, said spirally wound members substantially covering the end faces of said core members, the material of said face members being crossed at the periphery of said core member and being continued in spirally wound formation beyond the edge of the core

member, so as to substantially enclose the edge of said core member, said face members being made of absorbent cotton.

7. A menstrual tampon comprising an absorbent core member, separate absorbent face members having edge-portions which extend around and which substantially completely enclose said core member so as to prevent any substantial contact between said core member and body tissue, the material of said face members being softer than the material of said core member, and holding means spaced from said edge-portions, and entering said core and holding said face members to said core member and holding said edge-portions substantially abutting each other.

8. A menstrual tampon comprising a disc-like absorbent core member, and absorbent disc-like face members extending laterally beyond and completely enclosing said core member, said core member being flexible but having enough stiffness to cause said core member to have a normal predetermined shape, said core member being stiffer and being more absorbent than said face members.

9. A menstrual tampon comprising an absorbent core member formed of a plurality of thin gauze sheets, face members applied to the end faces of said core member, said face members being formed of a relatively less absorbent material than said core member, a connecting member holding the central portion of said core member and the central portions of said face members together in compressed condition, said face members extending beyond said core member and having their edges held substantially abutting each other by said connecting member so as to cover the edge of said core member.

MIRIAM E. RABELL.