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2,548,341

ABSORBENT PAD

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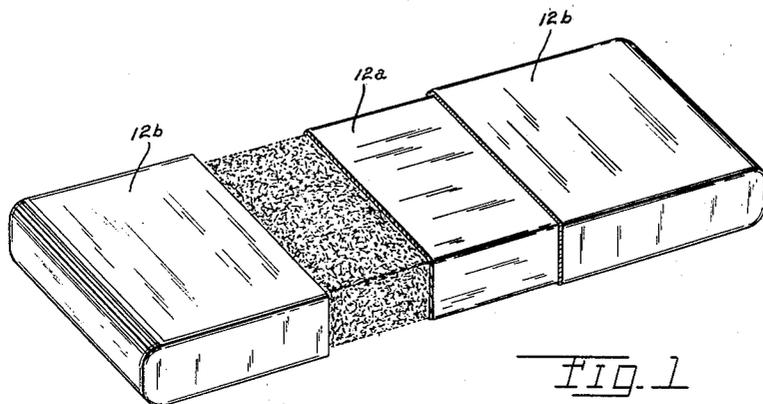


FIG. 1

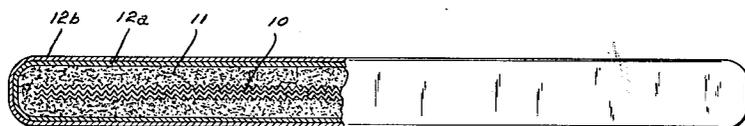


FIG. 2

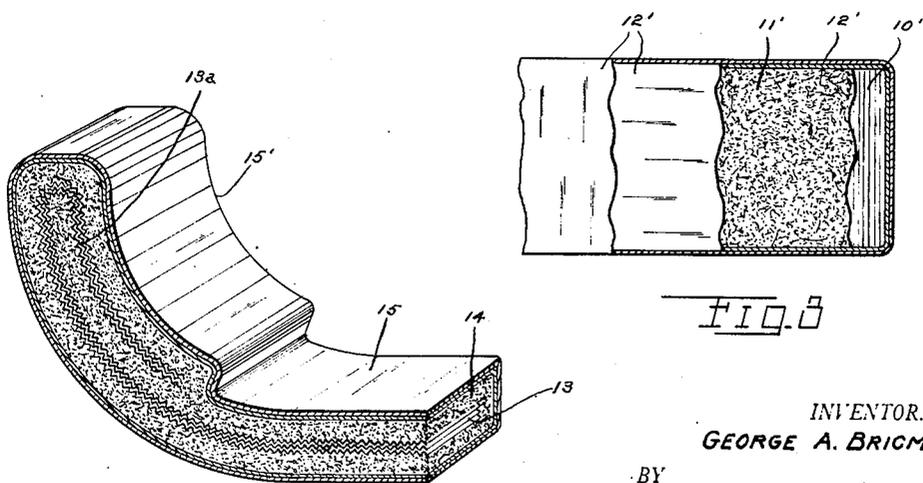


FIG. 3

FIG. 4

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ABSORBENT PAD

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3 Claims. (Cl. 128-290)

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This invention relates to an improvement in an absorbent pad particularly one adapted to absorb urine, feces, or other bodily excreta.

One of the objects of the present invention is to provide an absorbent pad which is very cheap to produce, very efficient in its absorption action, and sufficiently strong to properly perform its function.

Another object of the present invention is to provide an absorbent pad which is completely disposable in a toilet or the like.

Still another object of the invention is to provide a novel absorbent pad having a central core of strong wicking material surrounded by a finely comminuted, highly absorbent, but cheap material, and the entire pad embraced by an envelope of high wet strength material arranged in a novel manner.

Other objects and advantages of my invention will appear from the accompanying drawings and description and the essential features thereof will be set forth in the appended claims.

In the drawings,

Fig. 1 is a perspective view of a pad embodying my invention with portions thereof broken away to more clearly show the construction;

Fig. 2 is a side elevational view of the pad of Fig. 1 with parts broken away to more clearly show the construction;

Fig. 3 is a top plan view of a pad similar to that shown in Figs. 1 and 2 but showing a slightly modified form of construction; while

Fig. 4 is a fragmental perspective view of one end of a modified form of pad embodying my invention.

The pad which forms the subject matter of this invention is specifically designed for use in connection with a diapering garment for infants such as is disclosed in the copending application of Charles F. McKhann and myself, Serial No. 48,632, filed September 10, 1948, now abandoned, to which reference may be had for a more complete description. It will be understood by those familiar with this art that the pad has other uses than the specific form shown in the copending application.

The present pad is intended to be completely disposable in a toilet or the like after it has been used. To this end it is formed of paper material which easily becomes wetted and may be flushed down a toilet.

The core of my improved pad as indicated in Fig. 2, comprises a layer 10 of cellucotton or a large number of sheets of very fine creped tissue paper which provides a strong wicking action so

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that moisture absorbed at any point in the pad is quickly distributed to all points of the layer 10. Preferably, as shown in Fig. 2, the layer ends somewhat short of the side edges of the pad both at the ends and along the sides of the longer dimension. Completely surrounding the layer 10 is a filler material 11 which preferably is finely comminuted paper such as paper fluff. This may be formed in any number of ways but I find a very acceptable material is formed by finely comminuting the usual news print type of paper. This has a very high absorption capacity and is very cheap. The envelope which completely surrounds the pad is preferably formed of two layers, an inner layer 12a and an outer layer 12b. One suitable material for these layers is of a type closely related to a tissue which is commonly used as a facial tissue. This tissue, because of the manner of forming the same in the forming rolls, has a high wet strength in one direction. I prefer to form this double layer as graphically illustrated in Fig. 1. Here the layer 12a is indicated as having its greater wet strength in the direction of the shading lines shown or longitudinally of the pad. The outer layer 12b is then indicated as having its higher or greater wet strength in the direction of the shading lines or transversely of the pad. This adds to the total strength of the pad when wetted.

A modification of the structure of Figs. 1 and 2 is indicated in Fig. 3 where the core of wicking material 10' is similar to that already described in connection with the layer 10, but here the layer 10' extends both longitudinally and laterally to the outside envelope 12. Above and below the layer 10' is a layer 11' of finely comminuted material such as the paper fluff mentioned previously. The outside envelope 12' is preferably formed of two layers of high wet strength tissue paper as previously described with the greater wet strength of one layer at an angle to the greater wet strength of the other layer.

In Fig. 4, I have shown a modified form of my pad which is of the generally exterior form as described in my copending application Serial No. 47,442, filed September 2, 1948, now abandoned, to which reference may be had for a more complete description.

In the form shown in Fig. 4, I have provided a central core 13 of paper having a high wicking action such as the cellucotton or multiple creped tissue paper previously described in connection with the layer 10. Surrounding this central core is the finely divided, highly absorbent paper material 14 which is similar to the paper fluff de-

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scribed in connection with the filling material 11 of the first described form of my invention.

Embracing the entire pad is an envelope 15 of high wet strength tissue and preferably having two layers with their greater wet strength disposed at angles to each other as previously described. In this type of my invention at one end of the pad is a thickened portion 15' for the purpose of holding the pad away from the infant's body as explained in the above-mentioned depending application. In order to form this greater thickness the layer 13 is folded back upon itself as indicated at 13a and the filler material 14 is placed between the wicking layers 13 and 13a and on the outside of each of these layers so that the thickness is composed of two wicking layers and three layers of the finely divided filler material 14 plus the outside envelope.

It will thus be seen that in all forms of my invention I have provided a completely disposable paper pad which has high absorptive capacity, which is enabled to transfer moisture from one portion of the pad to all other portions thereof and which has sufficient wet strength in the outside envelope so that it will not pull apart during ordinary use.

I find that no particular structure is required to hold the paper fluff in the position shown in the drawing, because it mats sufficiently to remain in even layers as shown.

While I have shown a double layer envelope on the outside of the pad, with the higher wet strength of the two layers crossing each other at right angles, I may make a very satisfactory pad where the higher wet strength runs in one direction only.

What I claim is:

1. An absorbent pad consisting substantially entirely of paper and having a core of paper having good wicking characteristics, said core having at least one end portion thereof folded back upon the main portion thereof, a finely divided highly absorbent paper layer extending be-

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tween said folded and main portions of said core and covering said core, and a covering enclosing said pad and composed of two layers of paper, each layer having a high wet strength which is higher in one dimension of the paper, said two layers having their higher wet strengths crossing each other approximately at right angles.

2. An absorbent pad consisting substantially entirely of paper and having a core of paper having good wicking characteristics, said core having at least one end portion thereof folded back upon the main portion thereof, a finely divided highly absorbent paper fluff layer extending between said folded and main portions of said core and covering the outer sides of said core, and a soft tissue paper envelope of high wet strength enclosing said pad.

3. An absorbent pad consisting substantially entirely of paper and having a core of paper having good wicking characteristics, said core having at least one end portion thereof folded back upon the main portion thereof, a finely divided highly absorbent paper fluff layer extending between said folded and main portions of said core and covering the outer sides of said core, and a covering enclosing said pad and composed of two layers of paper, each layer having a high wet strength which is higher in one dimension of the paper, said two layers having their higher wet strengths crossing each other approximately at right angles.

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