May 20, 1958 M. NAPPE 2,834,970

SEALED PAD

Filed Aug. 7, 1957

FIG. 1.

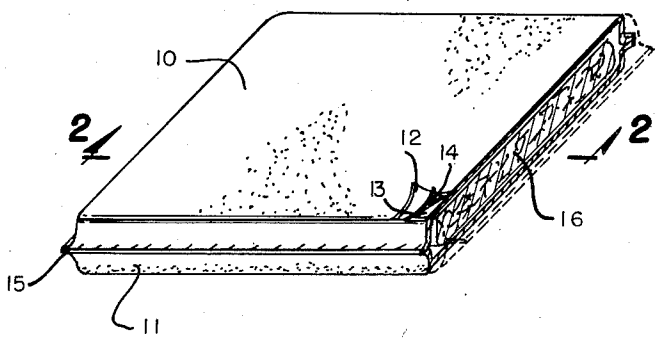
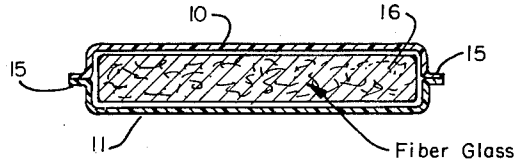


FIG. 2.



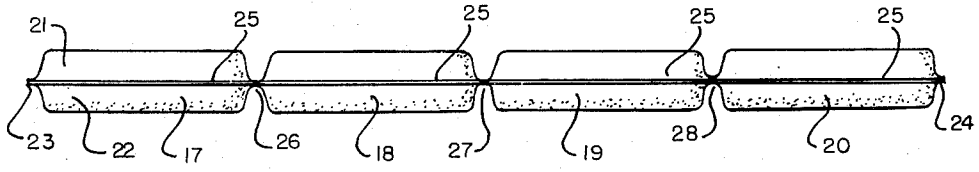


FIG. 3.

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SEALED PAD

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The present invention relates to improved body-supporting pad structures, and is more particularly concerned with a novel pad capable of use as a chaise pad, or as a ground pad, e. g. for beach and lawn use. In this latter respect, the improved pad of the present invention is particularly characterized by its novel construction which gives the pad longer life and greater comfort and versatility at lower cost than has been the case in other pads suggested heretofore.

Various forms of ground and/or chaise pads are known at the present time; and these pads may comprise a single pad section or may, in the alternative, comprise a plurality of interconnected pad sections whereby the said pad may be folded into a relatively small volume. In general, such pads comprise one or more cover sheets having the edges seamed to one another thereby to enclose a volume containing a filler material; and typical such filler materials have in the past, included cotton felt, kapok, and the like. The filler has, of course, been provided to give the pad a certain firmness and resiliency; but in practice it has been found that repeated use of the pad tends to compress the filler whereby, after use for relatively short periods of time, much of the resiliency of the pad is destroyed. It has further been found that pads known heretofore, even when the covers thereof comprise a water-proof material, have been so constructed that they tend to leak water and/or air, particularly adjacent the aforementioned seamed edges; and as a result of this feature of known pads, it has been considered undesirable to permit prolonged exposure of such pads to the elements.

The present invention serves to obviate each of these foregoing difficulties; and in particular, relates to an improved pad which is so constructed that the resiliency of the pad is maintained throughout the pad life. In particular, the pad of the present invention is characterized by the provision of a cover construction defining one or more completely enclosed, sealed, air and water-tight pockets; and these pockets are in turn substantially filled with a resilient air-containing mass of fibrous material, preferably glass fibers, whereby the cover material traps the aforementioned fibrous material and air within the completely enclosed pockets thereof.

By this construction, therefore, the pad itself is completely water-proof, thereby permitting its prolonged and repeated exposure to the elements; and moreover, the pad filler comprises not only the aforementioned fibrous material, but also air spaces within and adjacent to the said fibrous material, whereby one lying on the pad receives resiliency not only from the filler material itself but from the air trapped within the pad as well

It is accordingly an object of the present invention to provide an improved pad construction for use in chaise pads or in ground pads.

A further object of the present invention resides in the provision of an improved pad which is completely waterproof; and which has greater life than other pads suggested heretofore.

A still further object of the present invention resides in the provision of a pad taking the configuration of one or more completely sealed pockets which are both air and water impervious.

Still another object of the present invention resides in the provision of an improved pad comprising a cover material so constructed that it contains both a fibrous filler and air trapped therein, whereby said trapped air increases the resiliency of the pad afforded by the said fibrous material, and continues to do so throughout the life of the pad.

Still another object of the present invention resides in the provision of an improved pad which is of relatively simple and inexpensive construction, but which has much longer life and greater comfort than other more complex and costly pads suggested heretofore.

In providing for the foregoing objects and advantages, the present invention contemplates the provision of a pad comprising a cover material enclosing a fibrous filler. The cover itself comprises a material which is both water and air impervious; and a particular preferred form of such material comprises a plastic material, such as a laminated vinyl plastic. The cover may in fact take the form af a pair of sheets of such material disposed in facing relation to one another, and the edges of the sheets are sealed to one another, for example by an appropriate heat-sealing technique whereby the said cover forms a completely enclosed water and air-tight volume.

Prior to completion of the sealing of the edges, a fibrous filler is placed within the aforementioned enclosed volume, and this filler, in accordance with a preferred embodiment of the present invention, takes the form of a self-supporting mat of air-containing glass fibers, the said mat having a thickness of for example four inches. The dimensions of the mat are in fact so chosen that when the mat is inserted within the aforementioned enclosed volume, it substantially fills said volume and is trapped therein with air after the cover sealing has been completed. By this arrangement, therefore, the filler of the pad comprises not only a mat of fiber glass material, but also comprises air contained within the mat and adjacent thereto; and this air is permanently retained within the mat throughout the mat life, and adds resiliency to the overall mat structure. Moreover, the said air, being permanently trapped within the mat, prevents permanent compression of the fibrous filler during prolonged use of the mat; and as a result, the fibrous filler is caused to retain substantially its full dimensions and resiliency throughout the life of the pad. This characteristic of the pad of the present invention is markedly different from pads suggested heretofore wherein, under conditions of use, the pad filler is permanently compressed and loses both its initial form and resiliency.

The foregoing objects, advantages and construction of the present invention will become readily apparent from the following description and accompanying drawing, in which:

Figure 1 is a perspective view of an improved pad constructed in accordance with the present invention.

Figure 2 is a cross-sectional view taken on line 2—2 of Figure 1; and

Figure 3 is a side view of a foldable pad comprising a plurality of pad sections such as those illustrated in Figure 1.

Referring now to Figures 1 and 2, it will be seen that, in accordance with the present invention, my improved pad may comprise a pair of cover sheets **10** and **11** which may be of substantially rectangular or other configuration, and which may be disposed in substantially facing relation to one another. The sections **10** and **11** com-

prise a water and air impervious material, and a preferred such material may comprise a laminated vinyl plastic. Thus, it will be seen, for example by reference to Figure 1, that each of the sheets **10** and **11** may comprise two layers of vinyl plastic **12** and **13** containing a further fibrous layer **14** therebetween; and the said layers **12** and **13** may, in the initial manufacture of the cover sheet material, be heat-sealed to one another thereby to permanently retain fibrous layer **14** in place. Moreover, the layers **12** and **13** may, if desired, be electronically tufted thereby to give the exterior of the pad an ornamental aspect, and the two cover sheets **10** and **11** (or the exterior layers **12** of each) may indeed have any appropriate design in any desired color or colors thereon to lend to the ornamental configuration of the overall pad.

The two cover sheets **10** and **11** are disposed, as illustrated in Figures 1 and 2, in spaced relation to one another; and the adjacent corresponding edges of the two sheets are contiguous with one another in overlapping relation. These overlapping edges are electronically sealed by applying heat thereto; and in particular, it will be noted that the seal so provided, designated **15**, surrounds the pad and is disposed at a position between the facing surfaces of the sheets **10** and **11**. Prior to completing the sealing of all four edges of the pad, a mat of fibrous material **16**, preferably comprising a self-sustaining mat of fiber-glass, is inserted between the sheets **10** and **11**; and the edges of the sheets **10** and **11** are thereafter completely sealed to one another in surrounding relation to the filler **16**. The filler **16** substantially fills the entire volume between sheets **10** and **11**, but by its very nature, contains considerable air between the several fibers comprising the mat **16**. Moreover, the mat **16** does not completely fill the volume between sheets **10** and **11** whereby additional air is trapped within the pad upon completion of the aforementioned edge sealing; and as a result, the overall mat comprises a water and air impervious cover having fiber-glass and air sealed and permanently trapped therein.

In passing, it should be noted that the structure thus provided distinguishes most significantly from pads suggested heretofore. It is recognized that fiber-glass has been employed as a filler in various forms of pad and mattress structures; and it is further recognized that one or more of the cover portions for pads employed heretofore may comprise a water-proof material. However, prior pad constructions have universally been of such nature that air leakages generally occur, particularly adjacent the pad seams; and accordingly, even though some air might be trapped within the pad at the time of its initial construction, the pad tends to "breathe" during use thereof whereby the application of pressure to the pad causes air to be expelled from the interior thereof. This breathing feature of known pads prevents air within the pad from imparting any appreciable resiliency to the pad; and, moreover, permits the filler material employed to be permanently compressed. Indeed, it has been suggested that various means such as inner springs be employed in the pad to prevent permanent compression of the filler material; but it will be noted that this costly construction is completely obviated by the sealed nature of the pad comprising the present invention.

It should moreover be noted that by reason of the water and air impervious nature of both the cover material and seam employed in the present invention, the improved pad shown and described above can be exposed to the elements for prolonged periods of time without deteriorating in any way either in pad construction or in comfort imparted by that construction. No moisture can possibly enter the interior of the pad, nor can the air within the said interior of the pad possibly leak to the exterior of the pad even after prolonged exposure to the elements; and accordingly, the pad of the present invention not only exhibits appreciably longer life than pads suggested heretofore and not only exhibits more consistent comfort throughout this prolonged life, but the said pad is also capable of a wider versatility of use inasmuch as it may be continuously exposed to the elements without any danger of destroying the pad structure or function.

The pad of the present invention may be made in an individual pad section such as has been illustrated in Figures 1 and 2, or the said pad, particularly when employed as a chaise pad or ground pad, may be formed in a plurality of integrally interconnected foldable sections. One such configuration is shown in Figure 3; and in particular, it will be seen that the pad illustrated therein comprises a total of four sections identified by the numerals **17** through **20** inclusive. In the manufacture of such a pad, two elongated sheets **21** and **22** of plastic material, e. g. the laminated vinyl plastic material discussed previously, may be disposed in superposed spaced facing relation to one another. The end edges of the two sheets **21** and **22** may, as before, be electronically sealed to one another as at **23** and **24**. In addition, the elongated edges of the two sheets can be sealed to one another and one such elongated edge has been designated **25**. Prior to completion of the sealing, a plurality of self-supporting fiber-glass mats similar to those designated **16** previously, can be inserted between the sheets **21** and **22** in spaced relation to one another; and the sheets **21** and **22** can thereafter be further sealed to one another at positions intermediate the several fiber-glass mats **16**, for example at positions 26 through 28 inclusive.

The pad, as so constructed, therefore comprises the aforementioned four sections **17** through **20**, each of which is self-contained; and each of which is individually and completely sealed to both water and air. In addition, the intermediate seals **26**, **27** and **28**, being resilient in nature, permit the several sections **17** through **20** of the pad to be folded one upon the other thereby to permit the pad to assume various configurations and to facilitate handling of the pad.

Still further variations will be suggested to those skilled in the art. It must therefore be stressed that the foregoing description is meant to be illustrative only and should not be considered limitative of my invention; and all such variations as are in accord with the principles described are meant to fall within the scope of the appended claims.

Having thus described my invention, I claim:

1. A body-supporting chaise or ground pad comprising a plurality of individual relatively thick substantially flat rectangular fibrous mats, said mats being individually self-supporting, said mats being disposed in aligned spaced relation to one another, each of said mats comprising a large plurality of fibers having air containing spaces therebetween, the thickness and external dimensions of each said mat being sufficiently large so that each said mat is adapted to individually and resiliently support a major portion of the body of a person reclining upon said alined plurality of mats, and a retaining cover for said mats comprising air-tight and water-tight thermoplastic sheet material, said sheet material having a thickness in the order of a small fraction of the thickness of said fibrous mats whereby the thickness of said sheet material is insignificant in contributing to the resiliency of said body-supporting pad, said sheet material including opposed portions disposed in covering relation adjacent the opposed sides of each of said mats, said opposed portions of said sheet material being heat-sealed to one another at a plurality of positions located respectively in the spaces between said spaced fibrous mats and also being heat-sealed to one another adjacent the exterior edges of said spaced fibrous mats whereby said sheet material forms a plurality of independent completely enclosed air and water-tight pockets respectively containing said fibrous mats, the air in said spaces between the fibers of said mats being permanently and

completely trapped within said mats and envelopes whereby said permanently and completely trapped air imparts substantially permanent resiliency to each of said fibrous mats.

2. A body-supporting chaise or ground pad of elongated configuration adapted to resiliently support substantially the entire body of a person reclining thereon, said pad comprising a resilient unitary fibrous filler disposed in a substantially flat relatively thick self-supporting configuration containing air between the fibers thereof, said mat being sufficiently thick and having sufficiently large dimensions to resiliently support at least a major portion of the body of a person reclining thereon, and a cover structure of air and water-tight relatively thin plastic sheet material sealingly enclosing the top, bottom and all sides of said flat mat filler, the edges of said thermoplastic sheet material being electronically sealed to one another in completely surrounding relation to said resilient fibrous mat whereby said electronically sealed plastic cover structure permanently contains said mat filler within a permanently sealed envelope of said sheet material in air-tight and water-tight relation to the exterior of said envelope, the air between the fibers of said mat being permanently trapped within said mat and envelope thereby to impart substantially permanent resiliency to said pad and to prevent permanent compression of said filler even after prolonged pressure of the body of a person reclining thereon.

3. The structure of claim 2 wherein said sheet material is of laminated construction.

4. The structure of claim 2 wherein said fibrous filler comprises glass fibers.

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