Aug. 9, 1932. C. K. LONGLETZ ET AL 1,871,003

COMBINATION PILLOW AND COVERLET

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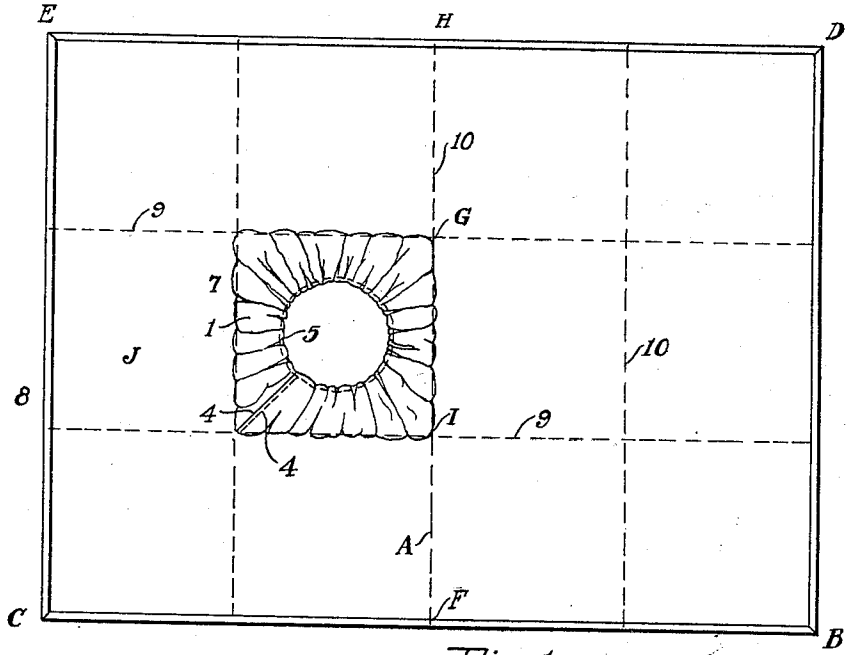

Fig. 1.

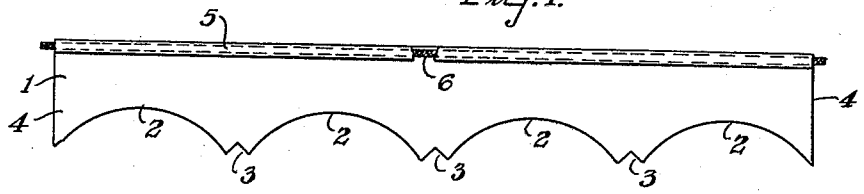

Fig. 2.

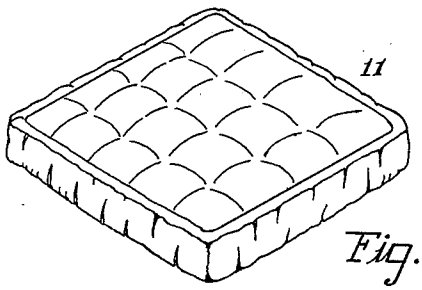

Fig. 3.

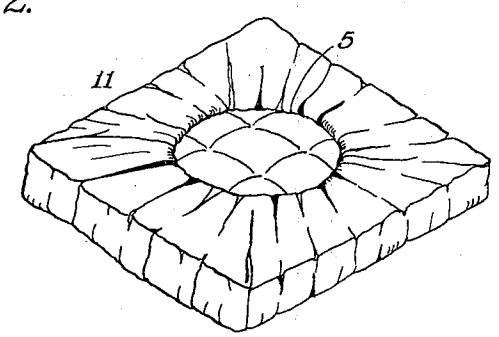

Fig. 4.

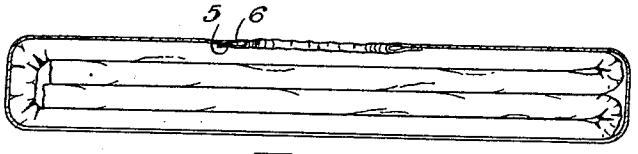

Fig. 5.

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UNITED STATES PATENT OFFICE

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COMBINATION PILLOW AND COVERLET

Application filed November 15, 1929. Serial No. 407,404.

This invention relates to a new and useful combination pillow and coverlet.

It is the principal object of our invention to provide a decorative pillow which may be easily and quickly converted into a coverlet when the latter is needed without being required to arise and go to a shelf or drawer for one.

When not in use as a cover, our article may be employed as a practical or decorative pillow. The conversion from coverlet to pillow may be easily effected by simply folding its rectangular portions and bringing the assembled folds through the elastic ring portion of the square pad, or by reversing the process to make the change back to the coverlet.

When made of the proper material the invention is a great convenience to motorists as a pillow or light robe when traveling. It would be equally useful and decorative at the foot of a bed or couch.

In the accompanying drawing, Figure 1 is a plan view of our invention in its unfolded form as a coverlet, showing on top the square pad with its elastic ring opening that forms the framework for the pillow. Figure 2 is a side view of a piece of material cut to form my combination pillow and coverlet. Figure 3 is a perspective view, on a larger scale than Figure 1, of the top portion of the pillow formed from our article. Figure 4 is a perspective view, on a still larger scale, of the bottom or elastic ring portion of the pillow. And Figure 5 is an enlarged side view of the pillow with the retaining member broken away to show the folded coverlet, showing the four major folds of the folded coverlet.

For the purpose of making our combination pillow and coverlet, we provide a piece of suitable material 1 and make it the framework of the pillow portion by cutting it as shown in Figure 2, with four curved recesses 2 in its bottom. Triangular notches 3 act as breaks between the ends of the inner recesses 2, about which the rectangular piece of material is bent to square form and the seam ends 4, 4 stitched together.

At the top straight edge of the piece 1 a hem 5 is formed to receive an elastic 6 whose free ends are connected to form a ring when the mitered corners are joined to form the square pad 7 shown in Figure 1.

Referring to Figures 1 and 2, the four sides formed by the curved edges of the recesses 2 of the piece 1 shown in Figure 2, are attached by stitching the body of a rectangular coverlet 8 preferably made of the same material. Parallel stitch lines 9 and 10, crossing each other to form squares of the same area as the square 7, become the major fold lines of the coverlet when converted into a pillow. This is done in the following manner.

On the line designated A in Figure 1, the coverlet is doubled upon itself, with the square pad 7 on the outside, bringing the corner B to C and D to E.

With the loose ends held down, the sides are then folded in and overlapped, while the square pad 7 still remains on the outside. This brings F to G and H to I. The folds below the square J are then brought below the square pad 7 to form the body of the pillow.

The hand is then inserted through the elastic ring to bring each corner of the pad 7 through the ring by stretching the latter. With all the loose edges thus enclosed, the pillow 11 shown in Figures 3, 4 and 5, is formed for use on a bed, couch, or davenport, or in an automobile, ready for quick and easy conversion back into a coverlet by a reversal of the process just described.

Our improved article may also be used by those who go to bathing beaches, to protect them as a robe from cold and sunburn when they are out of the water, as well as to serve them as a pillow while they are lying on the beach or reclining in chairs on the same.

I do not wish to be limited to the details of construction and arrangement herein shown and described, as any changes or modifications may be made therein within the scope of the subjoined claims.

Having described our invention, we claim:

1. An article of the type described, comprising a rectangular coverlet divided into rectangular folds, a flexible retaining member secured at its inner edges to one of the

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UNITED STATES PATENT OFFICE

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CATALYZER FOR GASEOUS REACTIONS

No Drawing. Application filed November 30, 1928, Serial No. 322,967, and in Italy March 26, 1928.

This invention relates to the art of producing chemical reactions affecting the status of gaseous bodies in the presence of catalyzing agents, and more particularly refers to improvements in catalyzers; and its primary object is to provide a novel and improved type of physical structure for a catalyzing material, insuring its capacity to permanently offer a relatively low resistance to the passage of gases therethrough while providing a relatively large amount of active surface.

Another object of this invention is to provide a catalyzing structure which may be produced at relatively low cost, insuring quick and effective action and providing a maximum of efficiency in inducing or assisting gaseous reactions.

Other objects and advantages of the present invention will more fully appear as the description proceeds and will be set forth and claimed in the appended claims.

The various catalyzers used in connection with gaseous reactions such as for instance, the synthesis of ammonia from its elements hydrogen and nitrogen, generally consist of metallic oxides, in granulated or comminuted form, obtained by successive oxidations and reductions of the metal or metals composing the same.

These catalyzers are composed of grains of various degrees of fineness, according to conditions; and since the efficacy of their action is primarily dependent upon the quantity of surface exposed to the contact of the reacting gases, it follows that for a given volume of the mass a greater subdivision results in a greater active surface and less weight of the catalyzing body.

The physical structure of the grains thus obtained however, tends to deteriorate after a relatively short period of use, due to the effect of the catalyzing action, of the working temperatures and of the reacting gases; so that after a while the grains lose their original porosity by breaking up and by clogging of the interstices between various particles, so that the passages provided therebetween for the passage of the gases gradually decrease in size. As a consequence the active surface of the catalyzer also decreases and the resistance offered by the mass to the passage of the gases increases accordingly, still more intensifying the clogging action.

By virture of these conditions a diminished ratio of catalyzing surface to volume of gases is obtained, while a portion of the catalyzer is partly or totally cut off from active service and the uniformity of action of the catalytic mass is seriously affected.

I have therefore devised a new type of catalytic body the main characteristic of which is that the same is composed of elements having a physical structure insuring a relatively large surface of contact without depending for it upon the porosity of the material itself.

While the porous structure is an essential individual feature of the grains generally used, the elements composing my new type of catalyzing body are not porous, and are therefore more apt to resist the disintegrating action of the combined pressure, temperature and chemical reactions. The physical structure selected for these elements is therefore such as to prevent the possibility of crumbling or clogging of the mass while insuring a greater ratio of active surface in relation to the weight of the catalyzer employed.

My improved catalytic material accordingly consists of elements in the form of shavings of various sizes such as are obtained by machining operations such as cutting on a lathe, or milling, or planing, or filing. This type of physical structure affords a relatively large exposed surface in relation to weight and therefore permits of dispensing with the porosity which is one of the essential characteristics of the ordinary granulated form of catalyzer and which also constitutes one of its inherent weaknesses.

This type of structure therefore, is free of the danger of crumbling, and due to the coiled form of each element an abundance of passages is provided between adjoining elements for the gases, which makes it impossible for the mass as a whole to become clogged to any material extent.

When a columnar catalytic mass is employed as is the case for instance, in an apparatus for the synthetic production of ammonia such as described in another patent