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MATTRESS CONSTRUCTION

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Fig. 1.

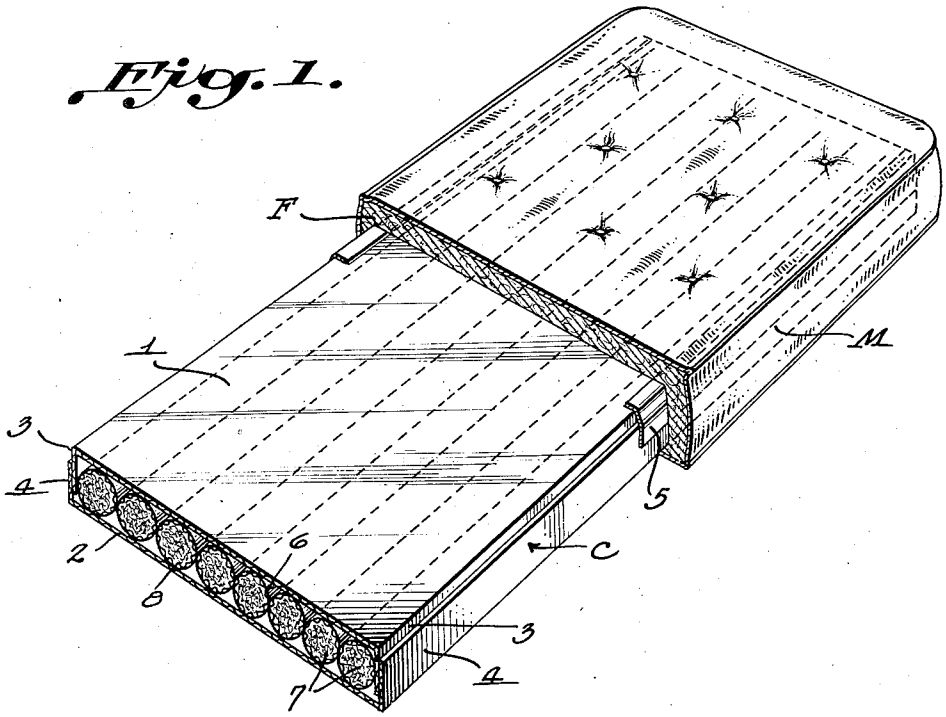
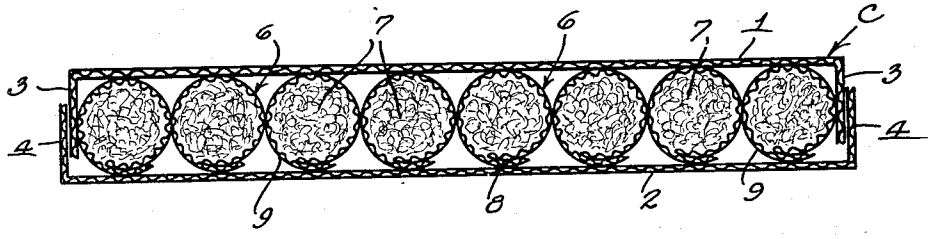


Fig. 2.



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MATTRESS CONSTRUCTION

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8 Claims. (Cl. 5—355)

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This invention relates to a mattress construction and more particularly to a baby crib mattress.

It is the object of the present invention to fabricate a crib mattress which is rugged in use and economical to produce and which avoids the use of essential war materials exemplified by metal springs.

It is the object of the present invention to provide a baby crib mattress which is comfortable and lasting despite the use of fibrous materials exclusively, which are comparatively plentiful.

It is a further object of the invention to provide a mattress construction which utilizes the inherent resilience of fibrous materials such as corrugated paper and excelsior, which are combined in a manner to produce a clean and compact resilient core unit which may be handled conveniently in the course of manufacture and assembly of a mattress embodying said core unit by comparatively inexperienced operators.

It is a further object of the invention to provide a resilient unit embodying a pair of telescopically arranged casings formed of corrugated paper and spaced by a plurality of tubular cushioning members each filled with a compressible fibrous material, to obtain a compact assembly which may be prefabricated at one point for combination with felt liners, pads, and fabric bags or covers to form mattresses, cushions and analogous devices at another point.

The invention proceeds upon the principle of obtaining a resilient or spring construction in the form of a compact and integrated core unit embodying a pair of telescopic casings of yieldable material which are relatively movable with respect to each other and which are normally spaced from each other by a plurality of separate cushioning members which yield upon the exertion of pressures upon the telescopic casings and which return the casings to the normal position upon the release of said pressures. The materials of which the casings and tubular members are formed contain no metal and are exclusively formed of fibrous products such as double-surfaced corrugated paper, single-surfaced corrugated paper and yieldable fibrous material such as excelsior. The cushioning members are formed in tubular configurations and are filled with the fibrous material to present compact units which may be handled conveniently in the assembly of the resilient unit in which the casings enclose the tubular cushioning elements. The box-like resilient unit may be handled conveniently for shipment and may be covered with any

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desired thicknesses of felt or cotton for the purpose of producing small mattresses, mats or cushions which are characterized by lasting comfort for the period of use required of such articles.

Other objects and purposes will appear from the following detailed description of the invention taken in conjunction with the accompanying drawing, wherein

Fig. 1 is a perspective view of a baby crib mattress in accordance with the present invention;

Fig. 2 is a vertical sectional view along the resilient core of the mattress shown in Fig. 1.

In Fig. 1 is shown a crib mattress assembled by the covering of a resilient core C in accordance with the present invention with a layer of felt F which in turn is covered by a fabric ticking or cover M in a manner well known in the construction of mattresses. The present invention is concerned primarily with the provision of a resilient core characterized by the elimination therefrom of all critical war materials such as metallic springs and the like. At the same time, the core satisfies the desiderata of a mattress, namely, a compact construction offering sufficient resilience and durability and one which is not compacted into a flat and inactive state after a short period of use.

These objectives are attained by the provision of a pair of box-like semi-rigid casings 1 and 2, which telescopically engage each other, by the open face of one disposed within the open face of the other. The side and end walls 3 of casing 1 are shown fitted within the side and end walls 4 of casing 2, but the same effect may be obtained in the reverse relationship of the walls 4 within the walls 3, whereupon each casing may be considered as a cover for the other. The casings 1 and 2 may be formed of conventional double-faced corrugated paper having a pair of plane sheets of paper on the opposite sides of the corrugated web. The spacings between the casings 1 and 2 are normally maintained by a plurality of tubular elements 6 formed of single-faced corrugated paper 9, having a single ply of paper adhesively attached to one side of the corrugated paper. This permits the corrugated paper to be coiled into cylindrical or other tubular formation. The tubular elements may be maintained in fixed position by the provision of a sealing medium 8, for example, glue or thermoplastic adhesives, on the overlapped portions of the paper, or a sealing tape may be employed to maintain the edges of the cylindrical elements in fixed position. Resilient fibrous material 7, for example, excelsior, is stuffed into these tubular elements in the course

of their formation or subsequent thereto, and the stuffed tubular elements constitute yieldable members which may be compressed by the exertion of pressures thereupon and which return to their original form upon the release of said pressures. A sufficient number of such elements are laid into the casings for the complete length thereof so that these elements are not permitted to spread in the course of use of the core. While the drawing shows the tubular elements 6 extending for the length of the casings, the arrangement may be modified by extending the tubular elements parallel to the smaller dimension of the casings and using a larger number of these elements to cover the longitudinal dimension of the casings. These tubular elements are preferably cylindrical, as shown in the drawing. In some instances the tubular elements alone, without any stuffing, may be used as cushioning elements.

As a refinement of the invention, the corrugated paper of the casings 1 and 2 may be of the water proofed type, well known in the prior art. Furthermore, if desired, the paper may be impregnated with fireproofing agents. In addition, insecticidal agents or odorizing agents may be embodied in the paper to guarantee against the deterioration of the mattress by insects, and furthermore to odorize the mattress by any healthy odors such as essences of cedar, fir and the like. If desired, the casings may be sealed by the provision of an adhesive tape 5 extending between the edges of the walls 4 and the top surface of the casing 1 to obtain a sealed structure. This tape offers no hindrance to the relative movements experienced by casings 1 and 2.

The provision of a core C, having the approximate dimensions of 2' x 4' and a depth of 3", enables a lining of approximately an inch of felt to be applied to the exterior thereof to produce a baby crib mattress which is sanitary, comfortable and as durable as mattresses of the usual construction. The low cost of the mattress makes it practical for the same to be changed often with the consequent hygienic advantages resulting from such a practice.

While I have described my invention as embodied in a specific form and as operating in a specific manner for purposes of illustration, it should be understood that I do not limit my invention thereto, since various modifications will suggest themselves to those skilled in the art without departing from the spirit of my invention, the scope of which is set forth in the annexed claims.

I claim:

1. In a mattress, cushion or the like, a resilient unit comprising a rectangular box of corrugated paper having an open top, a cover of corrugated paper having an open bottom fitting above said top and movable in telescopic relation thereto, and a plurality of tubular elements of corrugated paper each containing a yieldable mass of material, said tubular elements filling the chamber formed by said box and cover.

2. In a mattress, cushion or the like, a resilient unit comprising a rectangular box of corrugated paper having an open top, a cover of corrugated paper having an open bottom fitting above said top and movable in telescopic relation thereto, and a plurality of cylindrical elements of corrugated paper each surrounding a mass of compressible and expansible fibrous material, said cylindrical elements completely filling the chamber formed by said box and cover.

3. In a mattress, cushion or the like, a resilient unit comprising a rectangular box of double-faced corrugated paper having an open top, a cover of double-faced corrugated paper having an open bottom fitting above said top and movable in telescopic relation thereto, and a plurality of cylindrical elements of single-faced corrugated paper filled with excelsior completely filling the chamber formed by said box and cover.

4. A resilient unit comprising a rectangular box of corrugated paper having an open top, a cover of corrugated paper having an open bottom fitting above said top and movable in telescopic relation thereto, and a plurality of tubular elements of corrugated paper each containing a yieldable mass of material, said tubular elements filling the chamber formed by said box and cover, and a sealing tape extending between said box and cover to effect a seal therebetween while offering no hindrance to the telescopic movements of said box and cover.

5. A mattress comprising a yieldable core formed of fibrous material and a layer of felted material surrounding said core, said core consisting of a resilient unit comprising two rectangular semi-rigid casings of corrugated paper telescopically nested one within the other, each provided with an open face, in opposed relation, and a plurality of yieldable tubular cushioning elements of corrugated paper filled with excelsior disposed in said casings adapted to resiliently hold said casings in spaced relation.

6. In a mattress, cushion, or the like, a resilient core unit and a layer of soft cushioning material surrounding said core unit, said core unit comprising two nested box-like casings of semi-rigid material with open faces disposed towards each other and arranged for telescopic movement one within the other, and a plurality of independently free yieldable tubular cushioning elements disposed in said casings between the opposed semi-rigid closed faces thereof, adapted to hold said casings in spaced relation with a capability of to-and-fro movement one within the other.

7. A mattress, cushion, or the like as claimed in claim 6, wherein said tubular cushioning elements constitute a plurality of juxtaposed tubes readily removable from said box-like casings, each tube being filled with a yieldable mass of stuffing material.

8. A mattress, cushion, or the like as claimed in claim 6, wherein said tubular cushioning elements are of circular cross-section and correspond in length to one of the dimensions of said casings and are of such transverse dimension as to cover the other dimension of said casings by the plurality of cushioning elements disposed therein.

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