F. A. NACHMAN.

CUSHION CONSTRUCTION.

APPLICATION FILED SEPT. 13, 1915.

1,253,272. Patented Jan. 15, 1918.

Fig 1

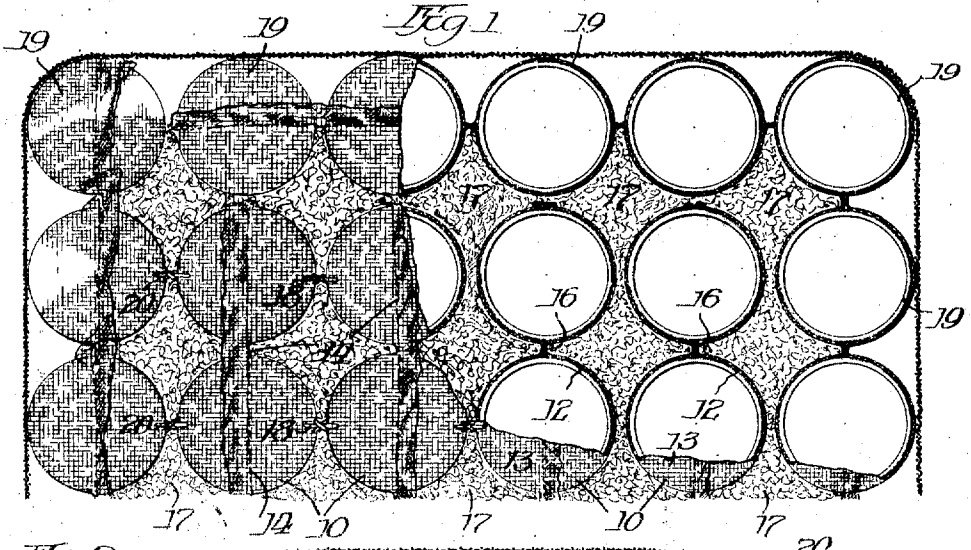


Fig 2

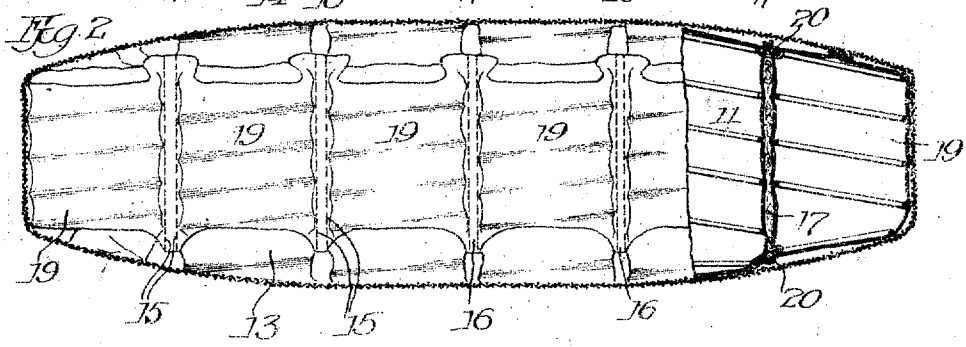
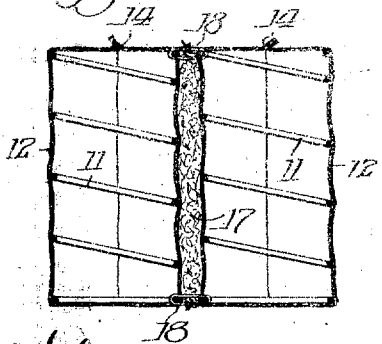


Fig 3



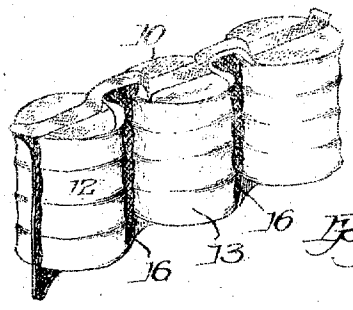


Fig 4

Witnesses:

Fred. C. Parrow

William R. Raymond

Inventor

Fred A. Nachman

By C. C. Linthicum

Atty.

UNITED STATES PATENT OFFICE.

FRED A. NACHMAN, OF CHICAGO, ILLINOIS.

CUSHION CONSTRUCTION.

1,253,272. Specification of Letters Patent. Patented Jan. 15, 1918.

Application filed September 13, 1915. Serial No. 50,395.

To all whom it may concern:

Be it known that I, FRED A. NACHMAN, a citizen of the United States, and resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Cushion Constructions, of which the following is a specification.

This invention relates to improvements in cushion constructions, and is more particularly related to cushions of a loose or portable character as distinguished from those built into and made a part of rigid structures.

The object of the present invention is to provide a structure which includes as the basic resilient feature a plurality of spring units properly related to impart the requisite yielding to the weight imposed thereon, but which are so separated with respect to each other as to preclude overlapping or nesting of the coils employed in the units, thereby preventing interference in the motion of the contiguous springs and likewise wear on the textile covering of the springs incident to their proximity with each other.

A further object of the invention is to so construct a cushion as to render the same substantially noiseless in its action under the weight to which it is subjected, and to so arrange and relate the parts that only a minimum amount of material is necessary to produce the cushion.

The invention also seeks to provide a novel form of spring unit for incorporation in the cushion which will permit the ready use of the unit in any length or numbers without impairing the integrity or adaptability of the individual springs and their coverings.

The invention is fully illustrated in the accompanying drawings, set forth in the following description, and the novel features thereof are defined in the claims hereto appended.

In the drawings:

Figure 1 is a top plan view of a cushion construction embodying the hereindescribed invention, partly in section.

Fig. 2 is an end elevation thereof, also partly in section.

Fig. 3 is a transverse sectional view taken through the binding ties for adjacent coils.

Fig. 4 is a detail perspective view of one of the spring units.

Referring now in detail to the accompanying drawings, the numeral 10 designates a series of spring units which are arranged in parallel lines across one of the dimensions of the cushion. Each of these units includes a series of spring coils 11 of proper size, and each of these coils is incased by a pocket or cell 12. In the original construction of the spring units the pockets or cells are produced in any length and are formed of a suitable textile fabric 13, which may be muslin, each pocket being closed at one of its ends and open at the other for the introduction of the particular spring coil which is to be incased thereby. After the coils are introduced into the respective pockets the entire length of the fabric is stitched along a longitudinal line, defined by the numeral 14, and the coils are thus confined within the several pockets or cells. The fabric from which the pockets are formed is provided with vertically-extending rows of stitches 15 arranged in pairs, and these rows of stitches form the several pockets or cells, but interposed between the stitches of each pair is a webbing 16 which provides a connecting medium between the adjacent pockets and also permits severance of the strip of pockets at any desired point. By means of this expedient any number of the incased coils may be taken from the strip as occasion may require without impairing the integrity of any individual pocket, and the spring units therefore may be made of any length and to include any number of the coils which shall be essential in producing the various sizes of cushions.

To construct a cushion of the dimensions required, the units are arranged in the parallel relation previously referred to, and more particularly illustrated in Fig. 1. In so assembling the units a layer 17 of cotton felting, or other suitable material, is arranged between the contiguous units in parallel relation therewith, said filling extending between said units throughout their length, and the top and bottom ends of the several spring coils are tied to the respective top and bottom ends of the immediately contiguous spring coils, as at 18. These ties 18 are preferably formed of stout twine or equivalent material and they penetrate the filling layer 17 so that the layer and the coils are thereby bound together. The ties effectually hold the contiguous coils immediately opposite each other and prevent them overlapping or nesting into the spaces between the coils of the adjacent units. At

the same time in the application of these ties the filling layer 17 is compressed to such an extent immediately between the coils that the portion of the layer which is in the interstices between the coils readily expands into these interstices and thus fills the latter. By reason of this, the expanded portions of the layers 17 tend to prevent any swerving of the coils from their positions opposite to the coils to which they are tied, and also reduce the noise incidental to the working of the coils under the superimposed weight to a minimum.

Surrounding the body of the cushion as formed by the parallel units described is a series of marginal coils 19 which are formed in precisely the same way as the other coils and units, that is to say, as a connected strip, but these marginal coils are of less height than the body coils and thus give to the edges of the cushion a more symmetrical appearance. These marginal coils also serve to prevent the formation of sharp edges at the side portions of the cushion and give to the cushion a central portion which is raised in relation to such side portions. The ends of these coils are tied to the ends of the immediately adjacent coils of the body units by ties 20 which are the same in construction and application as the ties 18. The marginal series 19 also precludes the necessity of any binding bands or irons which are commonly in use in portable cushions of this character.

The construction herein described while specifically referred to in connection with cushion constructions is obviously adapted for use in the construction of mattresses.

It will also be obvious that with the units assembled in the manner described, to complete a cushion the assembled units will be upholstered by inclosing the same in the usual casing and filling the casing at the appropriate points with soft material, such as cotton, hair, and the like, as is commonly employed.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. A construction of the class described, comprising a plurality of pocketed springs arranged in rows, the springs of each row being directly opposite the springs of contiguous rows, a yielding filling interposed between the springs of the contiguous rows, and ties connected to the opposite springs and also those portions of the interposed filling directly between the opposite springs and compressing the filling at such points, the portions of the filling intermediate the ties being expanded into the interstices between the springs and filling the same.

2. A construction of the class described, comprising a plurality of spring units each of which consists of a connected series of pockets and springs incased by said pockets, compressible yielding layers interposed between said units and serving to separate the springs of each unit from the springs of the units immediately contiguous thereto, the springs of the units being opposite each other, and ties penetrating the units and the interposed filling and binding together the opposite springs of contiguous units to preserve them in opposite relation but separated from contact with each other, those portions of the filling intermediate said ties being expanded into the interstices between the coils of the respective units to fill such interstices.

3. A construction of the class described, comprising a plurality of pocketed springs arranged in parallel rows and forming body units; a filling interposed between contiguous rows of said pocketed springs to maintain the latter in separated relation and prevent their contact, a connected series of pocketed springs surrounding said body units and forming a marginal unit, said marginal springs being of less height than the body springs, ties connecting contiguous body units and penetrating the interposed filling to compress the latter and to hold the units in opposite relation to each other, and means for connecting the marginal unit to said body units.

FRED A. NACHMAN.

Witnesses:
WILLIAM N. CROMWELL,
FRANKLIN M. WARDEN