To all whom it may concern:

Be it known that I, CHARLES C. MEUTSCH, 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 Mattresses and Cushions, of which the following is a full, clear, and exact specification.

This invention relates to improvements in mattresses and cushions provided with a series of upright spiral springs sustained in their operative position by individual cylindrical inclosing pockets, made from textile fabric, such for example as muslin and ticking, heretofore separately formed by stitching together the opposing side edges of two pieces of textile fabric, such for example as muslin or ticking, or in series, by similar lines of stitches at intervals from each other in a strip of fabric of such a length that following the insertion of the springs they may be folded back and forth to conform to the desired width or length of the mattress to be constructed therefrom, and with the springs grouped in either straight or staggered arrangement.

In practice for closing the ends of the cylindrical pockets above referred to, the pockets must be of a length sufficiently greater than that of their contained springs, for folding their ends over against the ends of the springs, and stitching these folded ends together flatly against the ends of the springs, and also stitching them to the surface of a cover surrounding and inclosing a series of such pockets and their contained springs.

The necessity for stitching to close the sides of the pocket, the end folds thereof, and both ends of every pocket to their inclosing covering not only requires an objectionable amount of time and expense, but is subject to the more serious objection that for the removal of one or more springs, defective from loss of tension due to use, which frequently occurs, it is not possible to substitute a new spring without ripping the inclosing cover apart followed by ripping the stitching thereto at both ends of the spring, and then ripping the stitching from either one or frequently both ends of the pocket, before it is possible to remove the worn out spring, and replace it with a new one.

With this understanding it will now be apparent that any means by which it is possible and practical to substantially reduce the amount of stitching heretofore required in the use of spring inclosing pockets, and at the same time provide a means for inserting and removing springs through a permanently open side in the pockets, instead of at the ends of the pockets, will be a substantial and material advance in the art of constructing mattresses and cushions of the type above described.

The object of my invention is to provide a means by which upright, coiled springs may be inclosed by and confined in textile fabric pockets sustaining them in their operative position and from contact with each other, the construction of which pockets is such that such springs may be removed therefrom without any necessity for breaking the stitching securing their folded ends together or to their surrounding cover.

A further object of my invention is to secure the several pockets for a mattress or cushion to their surrounding cover in such a relative position thereto and to each other that they may be sustained in their operative position when stitched at but one end to the cover.

Another object of my invention is to make it possible and practical to utilize narrow and waste strips of textile fabric for forming pockets adapted to inclose the springs of mattresses, and which on being secured at one end of their cover are permanently closed at both ends and accessible for the insertion and removal of a series of adjacent springs isolated from contact with each other by the fabric of the pocket.

With these ends in view, my invention finds embodiment in certain features of novelty in the construction, combination and arrangement of parts by which the said objects and certain other objects are attained, all as hereinafter fully described with reference to the accompanying drawings, and more particularly pointed out in the claims.

In said drawings:

Figure 1 is a perspective view of a mattress or cushion in which my invention finds embodiment.

Fig. 2 is a longitudinal section on the line 2—2 of Fig. 1, and through the pockets in their operative position with the springs therein, the cover immediately surrounding the springs and the filling between such cover, and the outer exposed cover of the mattress.

Fig. 3 is a detail plan view illustrating the arrangement of the several pockets relative
to their cover with the top and bottom halves of the cover unfolded and laid flat.

Fig. 4 is a section taken on the line 4—4 of Fig. 3, with the top and bottom halves of the cover partly folded together.

Fig. 5 is a detail plan view of the body portion of the lounge illustrated in Fig. 4, and

Fig. 6 is an enlarged view showing the relative position of the cross strips from which the pockets are formed.

Similar characters of reference indicate the same parts in the several figures of the drawings.

Referring to Figs. 2 and 3, 7 and 8 indicate the opposing side surfaces of a textile fabric connected at their side edges by strips 9 and 10 and at their opposite sides by strips 11 and 12, the width of which strips conforms substantially to the length of coiled springs 13, compressed or otherwise as may be, and therefore to the thickness of the mattress.

Secured to the surfaces 7 and 8 of the cover in checker arrangement are a series of pockets 14 consisting (see Fig. 6) of two narrow strips of textile fabric 15 and 16, which at their center of length cross each other and are secured together at their crossing by a line of stitching 17 and have their free ends respectively secured to the cover 7 and 8 as may be by lines of stitching 18.

With the pockets so constructed it will now be apparent that a coil spring 13, may be inserted in each pocket to its operative position therein, or removed therefrom between the adjacent disconnected longitudinal edges at any one of the four corners of the pocket therefor when the pockets are in the position shown in Fig. 3, wherein the top and bottom halves of the cover are unfolded and laid flat, as in Fig. 3, or when partly folded together, as indicated in Fig. 4.

In other words, when the mattress is to be assembled for immediate use and sale, the springs are inserted in the pockets as above described before folding the cover with its attached pockets, whereas for economy in shipment, the springs are inserted after the cover and springs therefor reach their destination.

For facilitating the stitching of the pockets to their cover in the checker arrangement shown in Fig. 3, every pocket is provided at its several sides, with end flaps 19 overlapping the lines along which they are respectively severally stitched to the cover, with the result that but four lines of stitching need be used for securing every pocket in its operative position to the adjacent side of the cover therefor, and that one or more of such lines of stitching may be made by the continuous operation of a sewing machine.

For securing the cross strips together for forming the pockets a single line of stitches 17 extending diagonally of the strips is sufficient, as shown in the drawings, and in this connection it should be noted that a number of these strips may thus be stitched with the single operation of a sewing machine by first placing them in a proper relative position for that purpose, as indeed is the practice.

Following the common practice the opposing top and bottom surfaces 7, and 8, and the end 9, and 10, of the side surfaces of the cover are first stitched together at one end, and to which all of the pockets for a mattress of my invention may be and are secured by, and which moreover provides a means for utilizing a single row of stitching for securing the flaps of adjacent pockets by the continuous single operation of a sewing machine. That is to say following the overlapping of the adjacent edge flaps between the edges of the cover and the adjacent end or side surfaces, and simultaneously stitching through the three layers, thus opposed to the needle of a sewing machine after first spacing such flaps as indicated in the drawing, and then stitching the ends of the other flaps 90 directly to the face of the cover opposing them by means of the transverse and longitudinal lines of stitching crossing each other as before described, followed by inserting the springs into the pockets through the sides thereof, then folding the structure over to bring the springs in their operative position between the opposing surfaces of the mattress or cushion, and finally stitching together the remaining surrounding opposing edges of the fabric.

In this connection it should be observed that my invention not only provides for forming pockets from very narrow strips, and therefore from otherwise waste strips, and the use of pockets of minimum length of material, but pockets preventing the longitudinal displacement of their contained springs, and which need be secured but at one end to the covering inclosing the springs.

My invention also provides for permanently locating the springs with reference to each other, in a predetermined arrangement, which may be done by marking off squares on the cover with a pencil before attaching the pockets, to aid the operator in locating them correctly.

As shown in Figs. 1 and 2, a mattress or cushion constructed as above described may be provided with a filling of cotton or other fiber 20, confined between an outer surrounding cover 21, and constructed in the usual manner, but in this connection it should be noted that my invention is not limited to the employment of such an outer cover or filling, and that my invention is not to be limited to the details of construction herein shown and described.

In conclusion it may be observed that in practice the size of the pockets is such that 130
for the insertion of the springs the latter must be slightly compressed; and that when in their operative position the springs more or less closely fit the pockets until exposed to a compressive force, so that when the mattress and cushion thus formed is not in use it will maintain its shape and that every spring will normally return to its operative position when not subjected to a compressive force.

Furthermore, owing to the fact that the normally closed ends of the pockets are detached from the surfaces of the cover opposing them, every pocket may have a shifting movement sufficient to enable its contained spring to automatically return to an upright position when displaced therefrom by any cause, as, for example, a force directed laterally against the pockets and springs.

Having described my invention, what I claim and desire to secure by Letters Patent is:

1. A device for the purpose described, comprising a series of upright springs, a flexible pocket for each of said springs provided with longitudinal corner openings adapted for a bodily insertion in each pocket of a spring in its operative position and for its removal therefrom.

2. A device for the purpose described, comprising in combination a series of coil springs, an inclosing cover therefor, pockets one end of which is permanently closed and the other end permanently secured to and closed by one side of the cover, provided at intervals with longitudinal slit-like openings through which to introduce a spring.

3. A device for the purpose described comprising a series of upright springs, an inclosing cover therefor, pockets individual to said springs, consisting of crossed strips of flexible material, the free ends of which strips are permanently stitched to the surface of the cover opposed thereto.

4. A device for the purpose described, comprising in combination a series of upright springs, a flexible cover inclosing said springs, individual flexible pockets for each of the several springs, consisting of crossed strips of textile fabric stitched together at their crossing and forming a closed end for said pockets, the ends of which strips are permanently stitched transversely to the opposing surface of the inclosing cover.

5. A device for the purpose described comprising a flexible cover, a series of upright springs, flexible pockets for containing said springs, provided with permanent side openings, some of which pockets are secured at one end to the under side of the cover, and others to the top side thereof, in spaced apart arrangement, whereby on folding the cover fabric to its operative position, the springs secured to one side thereof are projected between the springs of the opposite side of said cover.

6. A device for the purpose described comprising in combination a series of pockets for upright springs in checker-like arrangement, an inclosing cover for said springs, said pockets being closed at one end and provided at their opposite end with straight flaps, the flaps at the sides of the opposing pockets being arranged to project over a line passing therethrough, and the flaps of said several adjacent pockets being stitched to the cover by means of the same straight line of stitching, extending between the opposing sides and end edges of the cover.

7. A device for the purpose described comprising a series of upright springs, flexible pockets inclosing said springs consisting of crossed strips of flexible fabric closing one end of said pockets, an inclosing textile cover for said springs, and stitching securing the free ends of said strips thereto, whereby side openings are provided in the pockets for inserting the springs in and removing them therefrom, which springs and pockets are located and secured in checkered arrangement to the respective opposing top and bottom surfaces of the cover, and project between each other with the closed and free ends of said pockets in removale contact respectively with the opposing sides of said cover.

In witness whereof, I have hereunto set my hand and affixed my seal, this 13th day of August, A. D. 1915.

CHARLES C. MEUTSCH. [L. s.]

Witnesses:

MILDEED ELSNER,
JNO. G. ELLIOTT.