Dec. 12, 1933. R. N. WEST 1,939,477

RESILIENT PAD

Filed Aug. 22, 1930

Fig. 1.

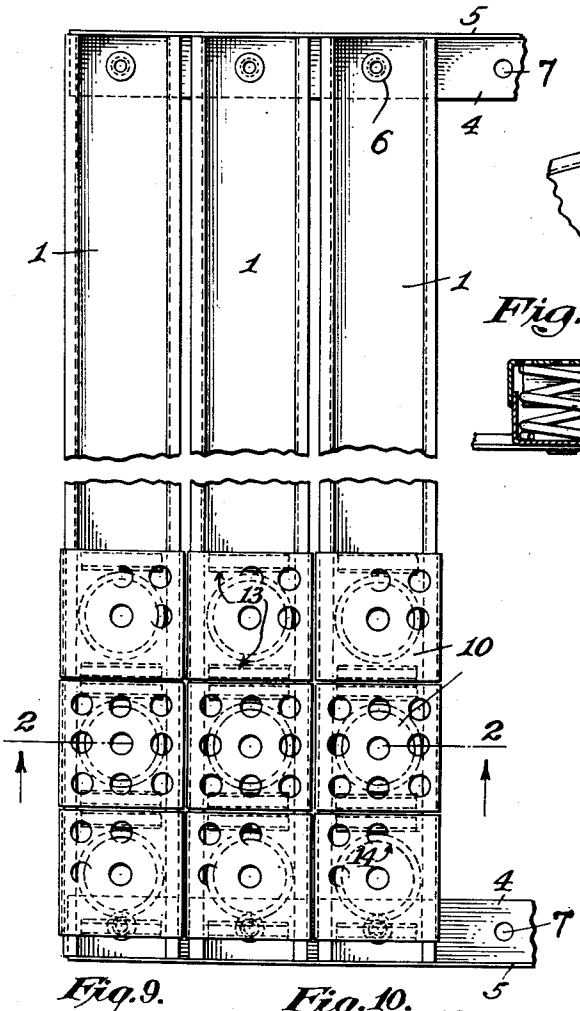


Fig. 3.

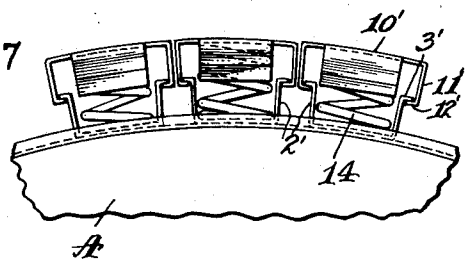


Fig. 8.

Fig. 5.

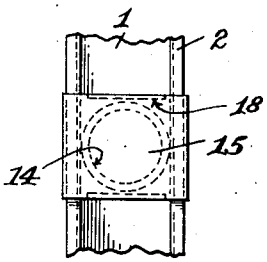


Fig. 6.

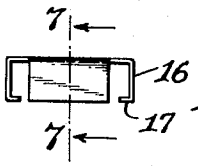


Fig. 7.

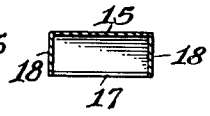


Fig. 9.

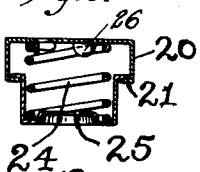


Fig. 10.

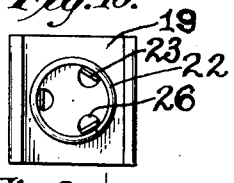


Fig. 2.

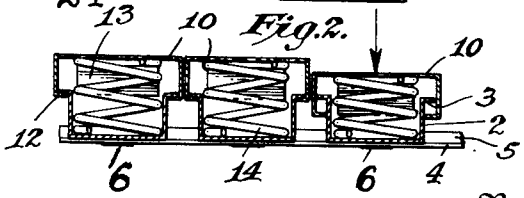
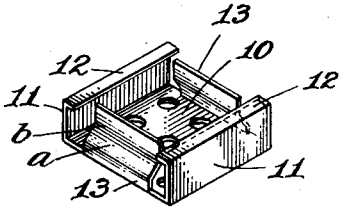


Fig. 4.



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UNITED STATES PATENT OFFICE

1,939,477

RESILIENT PAD

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Application August 22, 1930. Serial No. 477,004

9 Claims. (Cl. 68—9)

This invention relates to resilient cushions or pads for garment presses, ironing machines, either of the flat or roll type, upholstered furniture, bed springs, carpet pads, chair pads, foot pads and the like. The particular objects of my invention are the provision of a simple, durable and compact construction which provides an even, yieldable, highly responsive surface that readily accommodates itself to applied pressures, whether mechanical or gravity. Further objects of my invention are hereinafter set forth.

I am fully aware that various resilient ironing pads have been heretofore devised, such for example as the constructions disclosed in Patents Nos. 1,466,363, 1,054,407 and 1,628,196 and accordingly, do not claim any construction therein disclosed.

My invention is fully set forth in the following detailed descriptions and drawing forming a part of this specification in which latter

Figure 1 is a plan view of my improved pad, the same being shown of indeterminate length and having but a portion of its complete complement of the cages in position thereon;

Fig. 2 is a transverse, vertical section on the line 2—2 of Fig. 1;

Fig. 3 is an end view of a modification adapted for a roll of a flat work ironer;

Fig. 4 is a perspective view of one form of a retainer cage isolated;

Fig. 5 is a plan view; Fig. 6 is an end view, and Fig. 7 is a section, on the line 7—7 of Fig. 6, all showing of a modified form of retainer cage;

Fig. 8 is a vertical section showing the spring in elevation of a modified form of pad wherein opposing plain faced terminal members are employed in lieu of flanged terminal members;

Fig. 9 is a vertical section and Fig. 10 is a plan view of a still further modified form of retainer cage.

Referring to the drawing and the construction shown therein, the reference numeral 1 designates longitudinal channel members of my improved pad, the same having vertical sides 2 and opposing longitudinal flanges 3 at the upper ends thereof. Cross pieces 4, each having a lateral marginal flange 5, serve to rigidly secure said terminal members in definite relation with each other, the same being preferably secured thereto by means of eyelets or grommets 6, which are inserted in the aperture 7.

Said channel members are adapted to receive and support spring retainer cages 10 which, as shown, are provided with opposing depending lateral arms 11 each having terminal flanges 12, and also end flanges 13 which, as indicated by the reference letter *a*, are inclined inwardly intermediate the ends thereof and the lower ends *b* thereof are brought into spaced relation which corresponds approximately to the distance between the inner edges of flanges 12, thereby serving to receive and center springs 14 which, as shown in Fig. 2, are adapted to rest on the bottom of said channels 1 and to normally hold the retainer cages in their uppermost position as illustrated at the left of Fig. 2.

In the construction shown in Fig. 3, the retainer cages 10' are essentially similar to those shown in Figs. 1 and 2, except that the top of each cage is described on a radius which is concentric to the radius of the supporting roll A. As shown, these retainer cages are provided with depending arms 11' which are flanged, as indicated by the numerals 12', and are adapted to be normally held in their uppermost or extended position by a spring 14.

In the construction shown in Figs. 5, 6 and 7, the retainer cages 15 have vertical arms 16 which correspond to the arms 11 in the construction shown in Fig. 2, and also these arms are provided with terminal flanges 17, but in lieu of the converging arms 13 of the construction shown in Figs. 2 and 4, these retainer cages are provided with vertical arms 18 and since these retainer cages are of rectangular configuration, being of greater length between the arms 16 and 18, these cages serve to effectively center the springs 14 when the latter are mounted between the flanges 2 of the channels 1.

In Figs. 9 and 10 the retainer cages 19 are provided with depending arms 20, having terminal flanges 21, but in lieu of the end arms shown in the construction of Figs. 1 to 6, the upper surface of said retainer cage is provided with three struck-up barbs or lugs 23 which are disposed around the circumference of a circle that is slightly less in diameter than the diameter of the spring 24. The lower coil of the latter is adapted to snugly fit over a struck-up boss 25 in the channel member 1', which latter otherwise corresponds to the channel member 1. The manner in which the barbs 23 are formed results also in the formation of apertures 26 which serve for the purpose of ventilating the pad.

When the foregoing pad is employed for garment presses or ironing machines, the customary textile padding is employed to cover the top surface and sides of the same, said covering being suitably secured in the regular manner to the buck or roll upon which the pad is supported.

In the construction illustrated in Fig. 8, the top and bottom channeled members when embraced by a textile padded covering, such as is now commonly employed on flat work ironers and garment presses, will have the movement relative to each other limited by such covering, whereby their complete vertical separation from each other will be prevented.

Preferably, when employing my pad for ironing purposes, the retainer cages are provided with a plurality of small apertures to permit of the passage of the steam through the textile padding or covering into the space within the bottom channeled members from which the same can be continually removed by suction or by a current of compressed air in the well known manner.

The construction of my improved pad, except the form thereof illustrated in Figs. 9 and 10 readily admits of the replacement of a broken or worn out spring without necessitating the removal of the entire pad as such, it being merely necessary to remove a sufficient number of the adjacent cages by sliding the same longitudinally along the bottom channeled member until the particular cage containing the spring to be replaced has been removed and then the spring is renewed and the cages replaced into their original position.

My improved pad is ideally adapted for ironing purposes or for furniture or foot rests and the like, because of the remarkably smooth and substantially unbroken surface afforded thereby, when the retainer cages or when bottom and top channeled members are employed. Furthermore, the same can be assembled at the place of manufacture and shipped as a unit and readily mounted on the machine or article to be supplied therewith.

Having thus described my invention, what I claim and desire to obtain by United States Letters Patent is:

1. In a resilient pad, the combination comprising a frame having a plurality of flanged channeled elements, a series of flanged spring retainer cages slidably mounted on each of said channeled elements for movement vertically thereof, the flanges of said spring retainer cages interlocking with the flanges of the channeled member on which the same are mounted, whereby the movement of said cages away from said channel member is positively limited and spring members interposed between each of said cages and the channeled member in which the same are mounted and serving to normally maintain the respective flanges of a cage and said channeled member in contact while permitting of the depression of said cage.

2. A resilient pad, comprising a plurality of longitudinal channeled flanged members, means for securing the same in fixed relation with respect to each other, flanged retainer cages slidably mounted on each channeled member for movement vertically and longitudinally thereof, spring elements interposed between said flanged cages and the channeled member supporting the same and means for centering each of said spring members at its top and bottom respectively.

3. In a resilient pad, the combination comprising a plurality of channeled members having opposing, outwardly projecting side flanges at the open edges of said channel, means for securing the same in fixed longitudinal relation with respect to each other, spring retainer cages slidably mounted on each of said channeled members for movement vertically thereof, and having their outward movement away from said channeled members limited by the flanges of the latter, said spring retainer cages being of oblong configuration and having depending side and end members, the distance between the free ends of its end members being substantially equal to the width of the channel of said channeled members and spring elements interposed between the top of said spring retainer cages and the bottom of said channeled members.

4. In a resilient pad, the combination comprising a plurality of channeled base members, means for holding the same in substantial parallelism with each other, said base members having opposing marginal flanges at the upper ends thereof, spring retainer cages having downwardly extending flanged side members slidably mounted on each base member for movement vertically thereof, the flanges of said side members embracing the flanges of said base members and coiled springs interposed between the bottom of said base members and the top of said retainer cages carried thereby.

5. In a resilient pad, the combination comprising a plurality of channeled base members, means for holding the same in substantial parallelism with each other, said base members having opposing marginal flanges at the upper ends thereof, a plurality of coil springs mounted in said channeled base members, rectangular spring retainer cages slidably mounted on said base members for movement vertically thereof and each of which has flanged side members and spring guide means, both of which extend downwardly at right angles to the top of the cage, said flanged side members co-operating with the flanges of the base members and being capable of relative movement with respect thereto when the retainer cages are depressed and said guide means projecting into the channeled base member in which the cages are mounted and preventing direct contact between adjacent spring elements positioned therein.

6. In a resilient pad, the sub-combination comprising a rectangular spring retainer cage having flanged side members and spring guide means, both of which extend downwardly with respect to the top of the cage.

7. An article of manufacture, the combination comprising a support, longitudinal flanged channeled members secured thereto in parallelism with each other, coil springs mounted in said channeled members, spring retainer cages resiliently supported by said springs and slidably mounted on said channeled members for movement vertically thereof, each spring retainer cage having downwardly projecting flanged side members and also flat downwardly projecting spring guiding means, said retainer cages each being of rectangular configuration at the top thereof and having the shortest top dimension thereof substantially equal to the width of the channels in the channeled members whereby the guide means are so spaced as to prevent lateral upsetting of the coil springs during the vertical movements of said cages with respect to said longitudinal channeled members.

8. A resilient pad including in combination, channelled supporting means providing a plurality of separated parallelly extending channels, a series of spring-retainer members mounted on said means in interlocking but slidable engagement therewith and spring members retained beneath the respective spring-retainer members

and serving to resiliently support the same with respect to said channelled supporting means.

9. A resilient pad including in combination, channelled supporting means providing a plurality of separated parallelly extending channels, a series of spring-retainer members, each having a rectangular top, mounted on said means in interlocking but slidable engagement therewith and spring members retained beneath the respective spring retainer members and serving to resiliently support the same with respect to said channelled supporting means.

ROBERT N. WEST.