ABSTRACT: A bed or chair construction is provided with a plurality of helical springs for resiliently supporting a horizontal top plate above the frame. At least one electromagnet is secured to each of the top plate and the frame, and the electrical circuit for the electromagnets energizes the electromagnets in such a manner that the facing portions of the electromagnets on the top plate and on the frame have the same magnetic polarity. The electrical circuit also includes a variable resistor for varying the magnetic force.
CONSTRUCTION FOR BED OR CHAIR

The present invention relates to a construction for a bed or chair, more particularly, to a bed or an upholstered chair structure having an adjustable magnetic cushion means.

At the present time, a bed or upholstered chair customarily consists of a coil or box spring provided with a mattress loosely disposed above it, so that the rate of resiliency and buffer or cushion thereof is difficult to be variable.

Accordingly, it is an object of the present invention to provide an improved construction for the bed or chair provided with an adjustable magnetic cushion means.

Another object of the present invention is to provide a new and improved construction for the bed or chair being rich in resiliency or cushion.

Other objects and advantages of the present invention will be clearly understood from the following exemplary description taken in connection with the accompanying drawings, in which:

FIG. 1 is a perspective view of a bed in accordance with the present invention;

FIG. 2 is a sectional view taken along line 2—2 in FIG. 1;

FIG. 3 is an enlarged perspective view of a part of spring unit of the bed in accordance with present invention; and

FIG. 4 is an electric circuit for energizing an electric magnet unit in the bed according to the present invention.

A preferred embodiment which has been selected to illustrate my invention comprises a coil spring unit 10. The spring unit 10 is substantially rectangular in shape thereof and includes a plurality of inverted helical coils 11 which are preferably placed apart from each other and a plurality of magnet units 12.

The lower ends of the coils 11 are attached to a rectangular baseplate 13 and the upper ends of the coils being attached to a rectangular top plate 14. Said magnet units each comprises a pair of electric magnets 12A and 12B which are respectively supported by said plates in a manner such that the same poles such as, for example, N poles of the magnets 12A and 12B are faced at a suitable distance to repel against each other.

To energize the magnet units, an electric circuit 15 is provided as shown in FIG. 4. The said circuit is connected to DC power 16, and includes a main switch 17 and a variable resistor 18 for variation of the magnetic force in the magnetic units. The main switch 17 and the resistor 18 are preferably mounted to an outer side for convenience in manual operation thereof.

The spring units 10 are customarily mounted on a bed frame 19 having legs 20 beneath each corner thereof. A mattress 21 is disposed above the spring unit 10, and a flexible cover sheet 22 extends from the lower edge of the bed frame 19 over the mattress 21 so as to enclose the bed frame 19 and the spring units 10 with the mattress 21.

In the above-mentioned construction of the bed, it will be understood that the mattress 21 with the top plate are resiliently held in cooperation with reaction of the facing magnets in the magnet units, if desired, to vary the rate of resiliency or cushion. When the user's weight is too heavy or vice versa, it is easily variable to the desired rate of the resiliency or cushion by adjusting the variable resistor 18 mounted to the outer side of the bed in manual operation. Consequently, considerably and suitable resiliency or cushion is given to the user to provide comfort. Furthermore, it will be noted that since the magnet units are enclosed within the spring unit and the spring unit is covered by the cover sheet 22, when the bed is viewed from the outer side the appearance thereof is thus identical with that of a conventional upholstered bed.

As many substitutions or changes could be made in the above-described construction, and as many apparently widely different embodiments of the invention within the scope of the claims could be constructed without departing from the scope and spirit thereof, it is intended that all matter contained in the accompanying specification shall be interpreted as being illustrative and not in a limiting sense.

What I claim is:

1. A construction for a bed or chair comprising a horizontal frame having supporting legs there beneath, a plurality of compressible coil springs above the frame, a horizontal top plate supported by the springs, the axes of the coils extending vertically whereby the top plate is elastically supported by the springs, at least a pair of electromagnets, one of the electromagnets being secured to the frame and the other electromagnet being secured to the top plate and being spaced from the first electromagnet, an electrical circuit having a variable resistor for energizing the electromagnets to provide the facing portions of each electromagnet with the same magnetic polarity.

2. The construction of claim 1 including a plurality of pairs of electromagnets, one electromagnet of each pair being secured to the frame and the other electromagnet of each pair being secured to the top plate and being spaced from the first electromagnet of the pair, the electromagnets of each pair being energized to provide the facing portions thereof with the same magnetic polarity.