W. J. KOCH.

ADJUSTABLE BACKREST.

APPLICATION FILED MAR. 9, 1920.

1,345,785. Patented July 6, 1920.

Fig. 1.

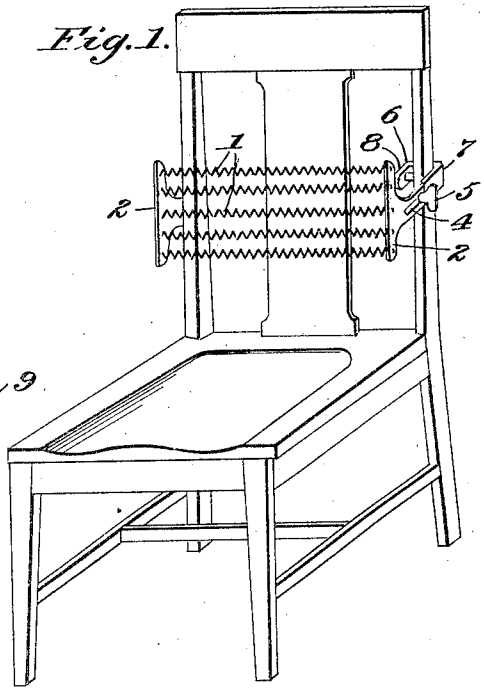


Fig. 2.

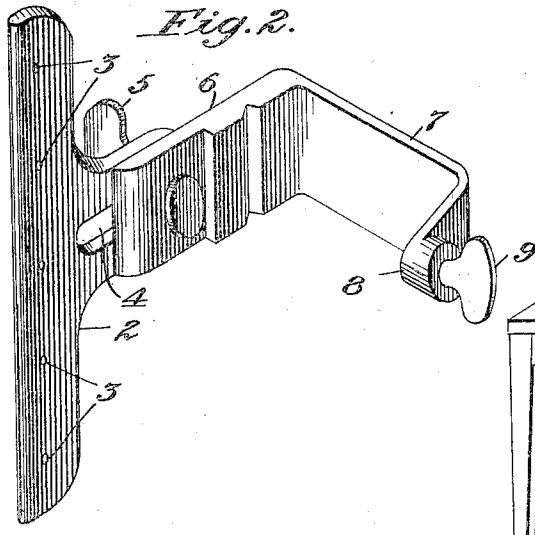


Fig. 3.

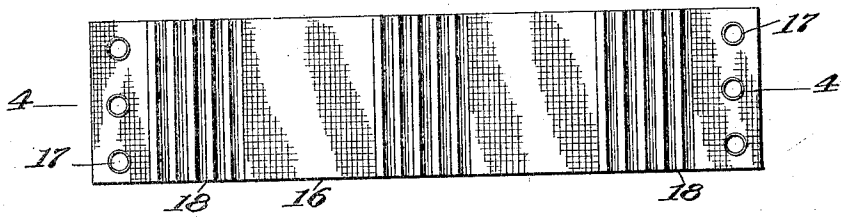


Fig. 4.



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UNITED STATES PATENT OFFICE.

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ADJUSTABLE BACKREST.

1,345,785. Specification of Letters Patent. Patented July 6, 1920.

Application filed March 9, 1920. Serial No. 364,589.

To all whom it may concern:

Be it known that I, WILLIAM J. KOCH, a citizen of the United States, residing at La Crosse, in the county of La Crosse and State of Wisconsin, have invented certain new and useful Improvements in Adjustable Backrests, of which the following is a specification.

My invention relates to a back rest attachment for chairs and other seats.

The object of the invention is to provide a back rest that may be readily attached to the backs of chairs, stools, seats, automobile seats, and the like that is composed of a number of parallel longitudinally extending spiral springs suitably secured between forwardly extending arms mounted adjustably on adjustable clamps adapted to be affixed to opposite sides of any ordinary chair or seat back. My construction affords a universal back support and is intended to fill a long felt want, particularly in factories where employees are seated day by day and are required to lean forward. This position throws the entire weight of the body on the small of the back and region of the kidneys; said parts of the body being the most sensitive to this position, and the worker being injured thereby and his efficiency impaired.

My back rest, owing to the arrangement of the spiral springs, responds to the slightest pressure brought to bear, and a pleasant, restful sensation is afforded. This is due to the fact that the series of longitudinally arranged springs distribute the pressure equally to both the back and sides of the waist line without bringing any undue pressure to bear that could possibly be injurious to the individual. The springs give and take constantly with every slight movement of the body, according to the high and low portions of the spinal column, regardless of the position of the occupant of the chair to which the rest is applied.

Friction is eliminated and a soft, easy rest for the back is afforded entirely different from the action of compression springs, whether of spiral or plate form.

This object I accomplish by the construction shown in the accompanying drawing, in which:

Figure 1 shows a chair with my back rest attachment applied.

Fig. 2 is a perspective of the attachment removed.

Fig. 3 is a front elevation of another form of the rest.

Fig. 4 is a longitudinal section thereof.

The back rest attachment comprises a series of parallel longitudinal spiral springs 1 arranged one above the other as shown, and this series of springs is held between the outer ends of a pair of parallel arms 2—2, each having a vertically disposed series of apertures 3—3, to which the ends of the springs 1 are secured in any suitable manner.

The arms 2—2 are provided with horizontal slots 4—4 secured adjustably by thumb screws 5—5 to the forwardly extending members 6—6 of clamps 7—7. These clamps 7—7 are shown as U-shaped and provided in their other members 8—8 with thumb screws 9—9. By hooking these clamps around the vertical members of a chair or seat back as shown and setting up the screws 9—9 the rest may be adjusted vertically along the back to suit the individual. Then, again, one or both arms 2—2 may be adjusted forwardly or backwardly to bring the back rest proper into the desired position. Moreover, the back rest 1 may be adjusted to an inclined position by tilting the arms 2 on the thumb screws 5—5.

In Figs. 3 and 4 the longitudinal springs, instead of being in a single series of long spiral springs directly connected at their ends to the clamp or bracket arms 2, as in Fig. 1, are formed of several series of short springs 15 carried by an extensible backing strip 16 of suitable fabric eyeleted at its ends, as shown at 17, for connection with the apertured arms 2—2. The backing strip 16 is extensible between the points where each series of springs 15 is secured, and this extensibility is effected by accordion plaiting or bellows construction, as shown at 18. These bellows-like portions straighten out to the limits of the longitudinal extension of the spring 15.

In both forms, however, the longitudinal springs are carried by the arms 2—2, directly or indirectly, and a longitudinally yielding spring back rest is afforded capable of yielding in every way to the movements of the user and adjustable universally

on the chair or seat back. Of course, the spring in Fig. 1 may be inclosed between arms 2—2 within a loose covering, if desired, just so long as the action of the springs is not interfered with.

What I claim is:

1. A back rest attachment for chairs, seats and the like comprising a pair of attaching devices having forwardly extending independently adjustable arms, and a longitudinally expansible and contractible back rest carried by outer ends of said arms.

2. A back rest attachment for chairs, seats and the like comprising a pair of attaching devices having forwardly extending arms, and a longitudinally expansible and contractible back rest carried by the outer ends of said arms and including parallel longitudinal springs.

3. A back rest attachment for chairs, seats and the like comprising a pair of attaching clamps or brackets having longitudinally adjustable forwardly extending arms, and a longitudinally expansible and contractible spring back rest carried by the outer ends of said arms.

4. A back rest attachment for chairs, seats and the like comprising a pair of parallel forwardly extending arms, means for securing the arms to a chair back or the like, a longitudinally expansible and contractible back rest carried by the outer ends of said arms and formed of a strip, and series of longitudinally arranged groups of spiral springs secured at intervals to the strip; said strip being loose or expanded between the ends of every series of springs to permit free longitudinal expansion and contraction thereof.

5. A back rest strip provided with transverse full or bellows-like sections to permit of longitudinal expansion and contraction, and series of longitudinally extending groups of spiral springs secured at their ends to the strip and extending across said bellows-like or full sections.

In testimony whereof I affix my signature.

WILLIAM J. KOCH.