No. 655,598. Patented Aug. 7, 1900.

W. BORCHERT.

SPRING SEAT.

(Application filed Dec. 29, 1899.)

(No Model.) 2 Sheets—Sheet 1.

Fig 1

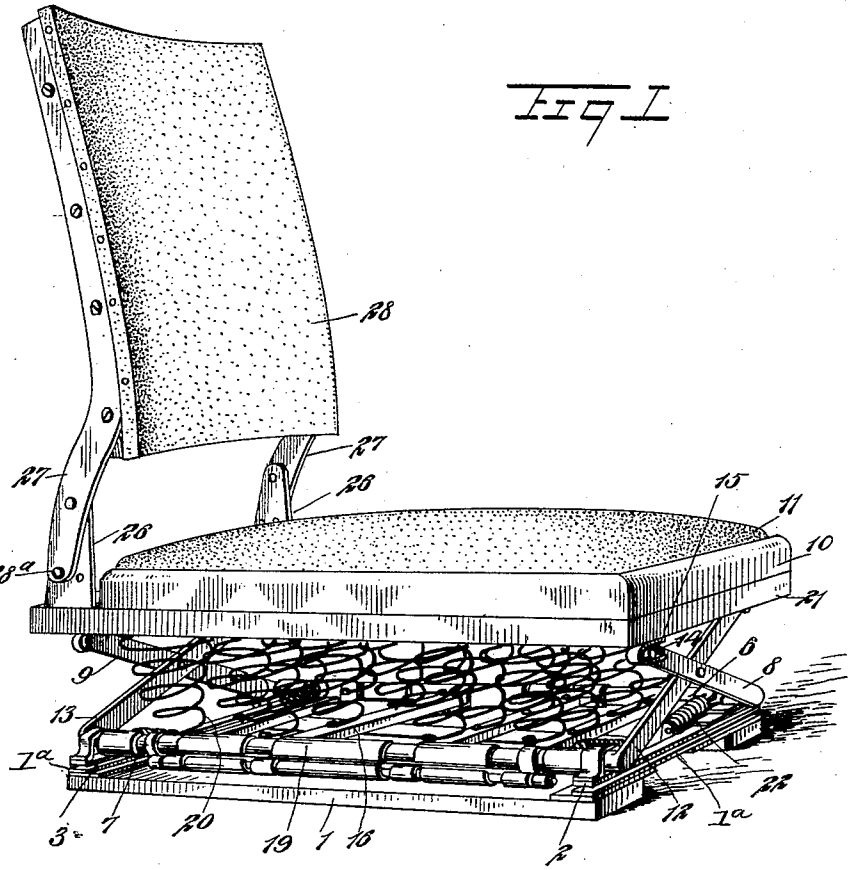
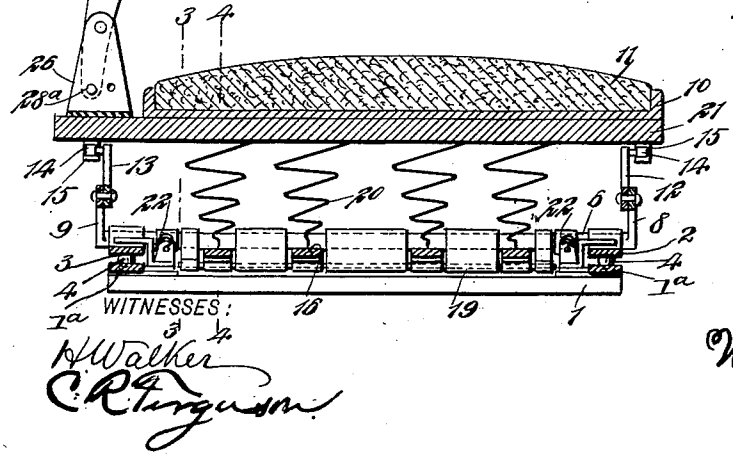


Fig 2



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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Fig 3

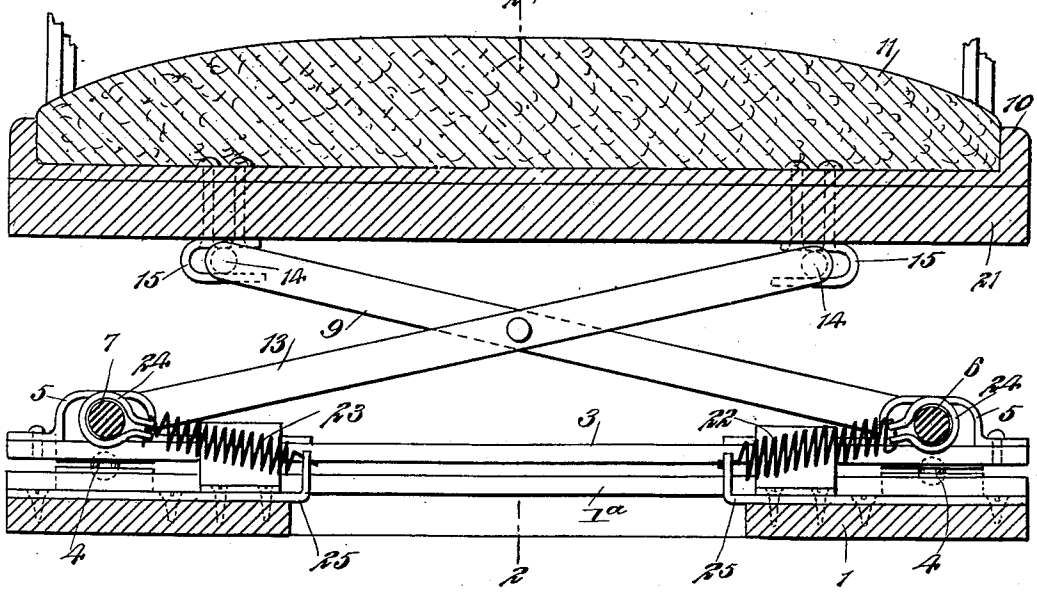
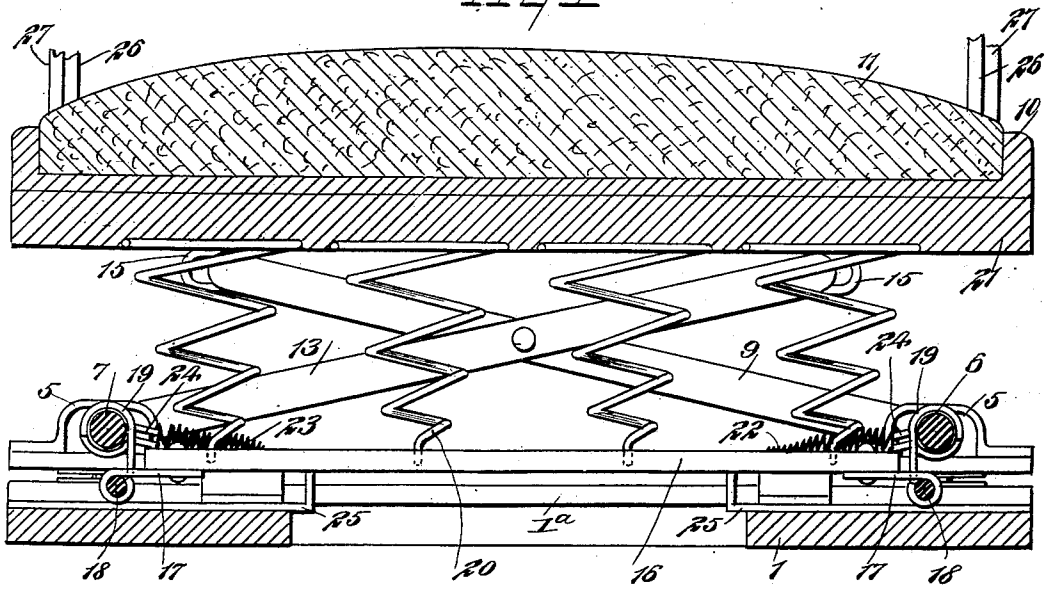


Fig 4



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UNITED STATES PATENT OFFICE.

WILLIAM BORCHERT, OF CARSON, NEVADA.

SPRING-SEAT.

SPECIFICATION forming part of Letters Patent No. 655,598, dated August 7, 1900.

Application filed December 29, 1899. Serial No. 741,954. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM BORCHERT, a citizen of the United States, and a resident of Carson, in the county of Ormsby and State of Nevada, have invented a new and Improved Spring-Seat, of which the following is a full, clear, and exact description.

This invention relates to improvements in spring-seats particularly adapted for use in locomotive-cabs; and the object is to provide a seat for this purpose that shall be simple in its construction and so arranged with equalizing devices that the seat at all times will maintain its parallelism or level with relation to the base, whereby all the springs will be equally compressed whether a man should sit on a corner, side, or edge of the seat, thus making a seat comfortable and easy under all running conditions of the locomotive.

I will describe a spring-seat embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of a spring-seat embodying my invention. Fig. 2 is a section on the line 2 2 of Fig. 3. Fig. 3 is a section on the line 3 3 of Fig. 2, and Fig. 4 is a section on the line 4 4 of Fig. 2.

Referring to the drawings, 1 designates the fixed base-frame of the seat.

2 3 are bars mounted to slide on the end bars 1^a of the fixed frame to permit of lateral adjustment of the seat automatically with relation to the frame as the locomotive tips or tilts more or less laterally. To provide for an easy movement of the slide bars on the frame, I arrange ball-bearings 4 between the same.

Mounted to slide in loops 5 on the ends of the bars 2 3 are rock-shafts 6 and 7. From the ends of the rock-shaft 6 arms 8 and 9 extend upward and have sliding connection with the seat-frame 10, which is here shown made in box-like form to receive a cushion 11. Arms 12 and 13 extend upward from the rock-shaft 7 and also have sliding connection with the seat-frame. The arms 8 and 12 cross each other at one end of the seat and are pivotally connected together, and the arms 9 and 13 at the opposite end of the seat cross each other and are pivotally connected with each other, as plainly indicated in the drawings. Each arm is provided with an antifriction-roller 14, engaging in and adapted to slide in a keeper 15, secured to the seat-frame 10.

Spring-supporting slats 16 are connected by means of straps 17 with rods 18, suspended from and adapted to swing relatively to the rock-shafts 6 and 7 by means of hangers 19. By this construction the rock-shafts will be permitted to slide inward and outward in the loops 5 as the seat is moved vertically by the weight of a person on the same. Supporting-springs 20 are connected at their lower ends to the spring-supporting slats 16 and at their upper ends are connected to the solid bottom board of the seat-frame 10, as plainly shown in Fig. 4, in which it will be noted that the lower ends are engaged in perforations formed in the slats and the upper ends are seated in depressions formed in the bottom board 21 of said frame.

The rock-shafts 6 and 7 are held yieldingly toward each other by means of springs 22 and 23, engaging at one end with the base-frame 1 and at the other end with eyes 24, which surround the rock-shafts, there being a spring at each end of each rock-shaft. The said springs 22 and 23 may be connected to the base-frame by means of metal strips 25, secured to the base-frame and having upwardly-turned portions with which the springs connect. Extended upward from one end of the seat-frame are arms 26, to which the downwardly-extending arms 27 of the seat-back 28 are pivotally connected. The angle of the seat-back 28 may be adjusted relatively to the seat by turning the back on its pivot connection on the arms 26 and inserting pins 28^a in any one of a series of holes formed in the arms 26.

In operation when the weight of a person is brought to bear upon the seat it will be forced downward against the resistance of the springs 20 and the several crossed arms will cause an equalization of the pressure on the several springs 20. Therefore I term these crossed arms "equalizing-arms." Of course as the seat is moved downward relatively to the base the rock-shafts 6 and 7 will be rocked and at the same time forced upward, drawing

upon the springs 22 and 23. The rods 18, however, will remain stationary with relation to the rock-shafts because of their swinging connection therewith. Upon relieving the pressure on the seat of course it will be moved upward by the several springs 20, the springs 22 and 23 moving the rock-shafts toward each other, while the upper ends of the equalizing-arms move upward.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a spring-seat, a seat, springs supporting the seat, opposite shafts mounted to rock and to slide toward and from each other, seat-spring supports having swinging connection with the rock-shafts and crossed arms extended from said shafts to connections with the seat, substantially as specified.

2. A seat, comprising a seat-frame, a fixed frame, rock-shafts mounted to slide relatively to the said fixed frame, equalizing-arms extended from said rock-shafts to sliding connections with the seat-frame, and seat-supporting springs supported from the rock-shafts, substantially as specified.

3. In a seat, a seat-frame, a fixed frame, bars mounted to slide on the fixed frame, rock-shafts having rocking and sliding connection with said sliding bars, crossed equalizing-arms extended from the rock-shafts to sliding connection with the seat-frame, springs for moving the shafts toward each other and springs supporting the seat-frame, substantially as specified.

4. In a seat, a fixed frame, shafts mounted to rock on and to slide relatively to the fixed frame, a seat, arms extended from the ends of the rock-shafts, the said arms being crossed and pivotally connected together and having sliding connection with the seat, spring-supporting slats having swinging connection with the shafts, and springs arranged between said slats and the seat, substantially as specified.

5. In a seat, a fixed frame, bars mounted to slide on said fixed frame, antifriction-bearings between the bars and the frame, loops on said bars, shafts mounted to rock in said loops and also to slide therein, a seat, equalizing-arms extended from the opposite shafts and having sliding connection with the seat, the two arms of an end being pivotally connected together, slat-supporting rods having swinging connection with the shafts, slats attached to said rods, springs arranged between the slats and the seat, and springs for moving the shafts toward each other, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM BORCHERT.

Witnesses:
W. H. COWAN,
U. F. WILSON.