Nov. 18, 1924. **1,516,176**

H. A. DRIESSEN

BACKSEAT FOR MOTOR CYCLES

Filed Oct. 26, 1922 2 Sheets-Sheet 1

Fig. 1.

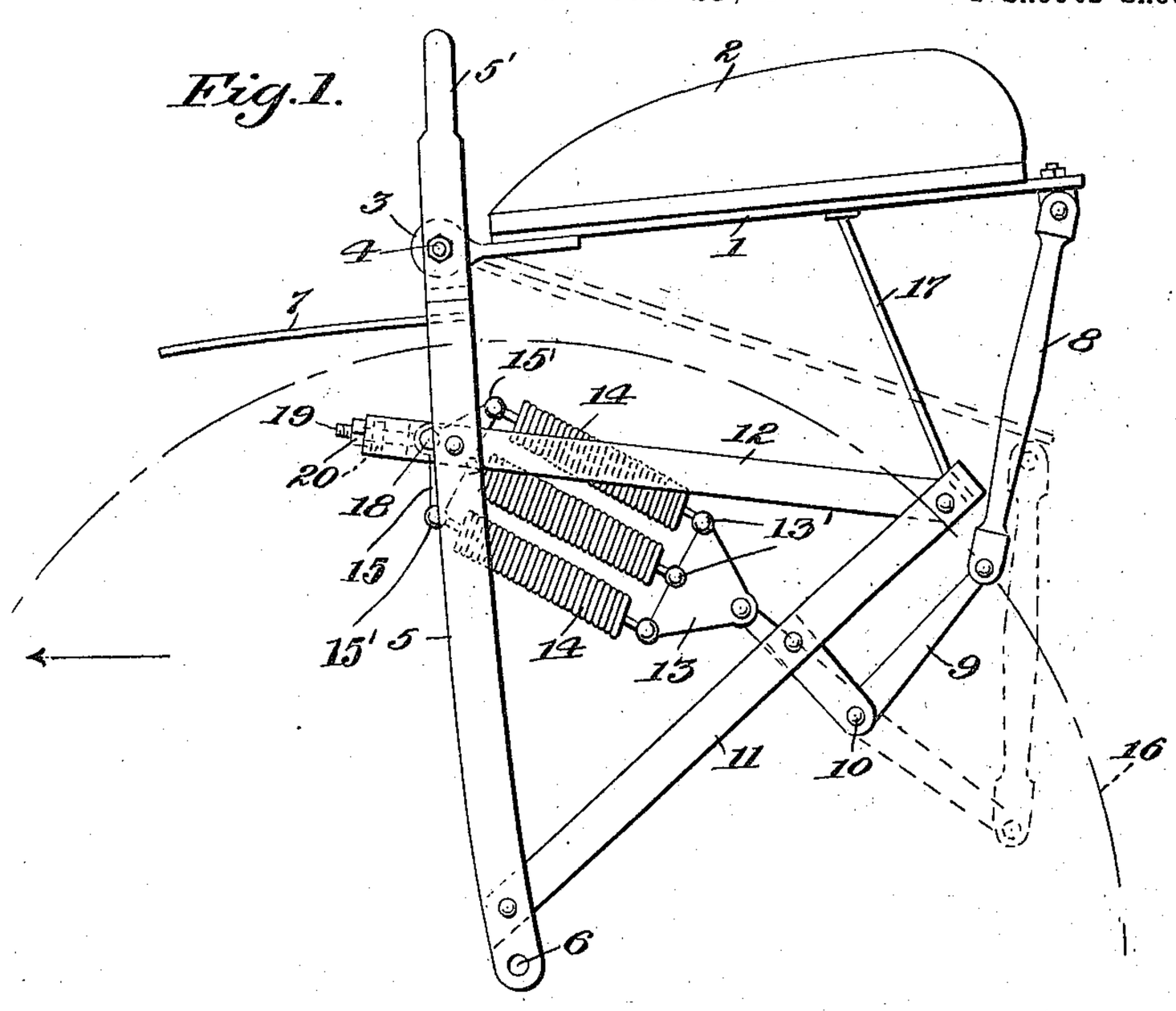


Fig. 2.

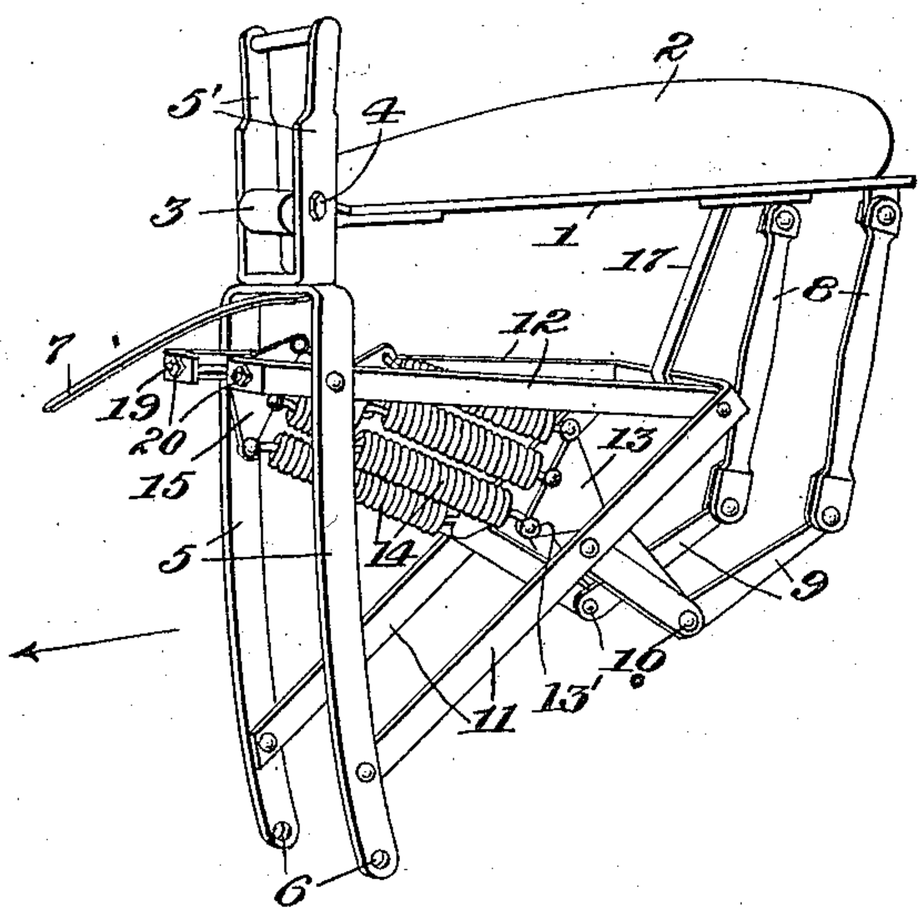
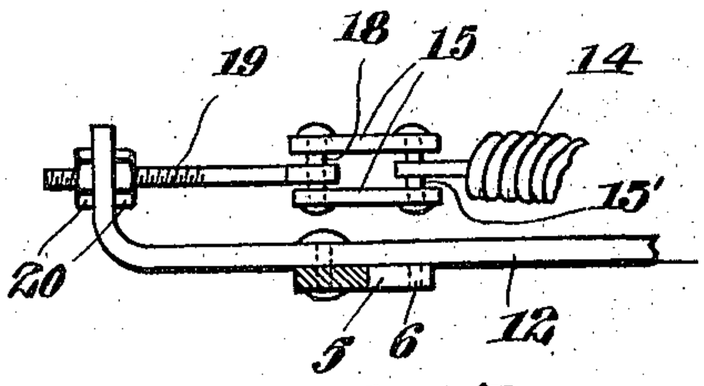


Fig. 7.



Inventor:
H. A. Driessen,

by *Langner, Parry, Card & Langner*

Att'ys.

Nov. 18, 1924. 1,516,176

H. A. DRIESSEN

BACKSEAT FOR MOTOR CYCLES

Filed Oct. 26, 1922 2 Sheets-Sheet 2

Fig. 5.

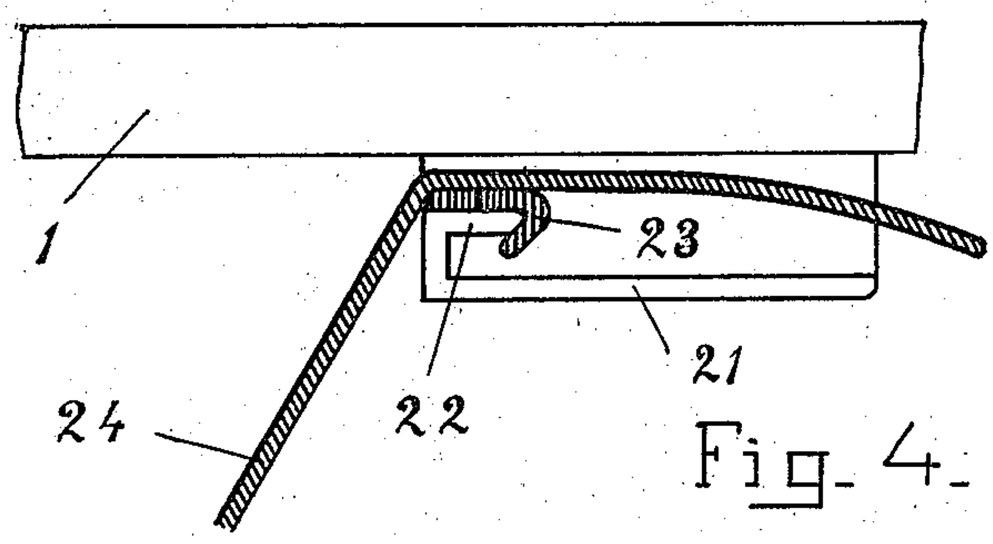
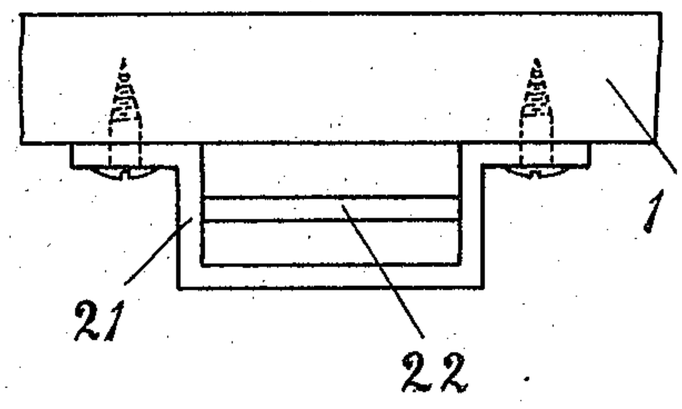


Fig. 4.

Fig. 3.



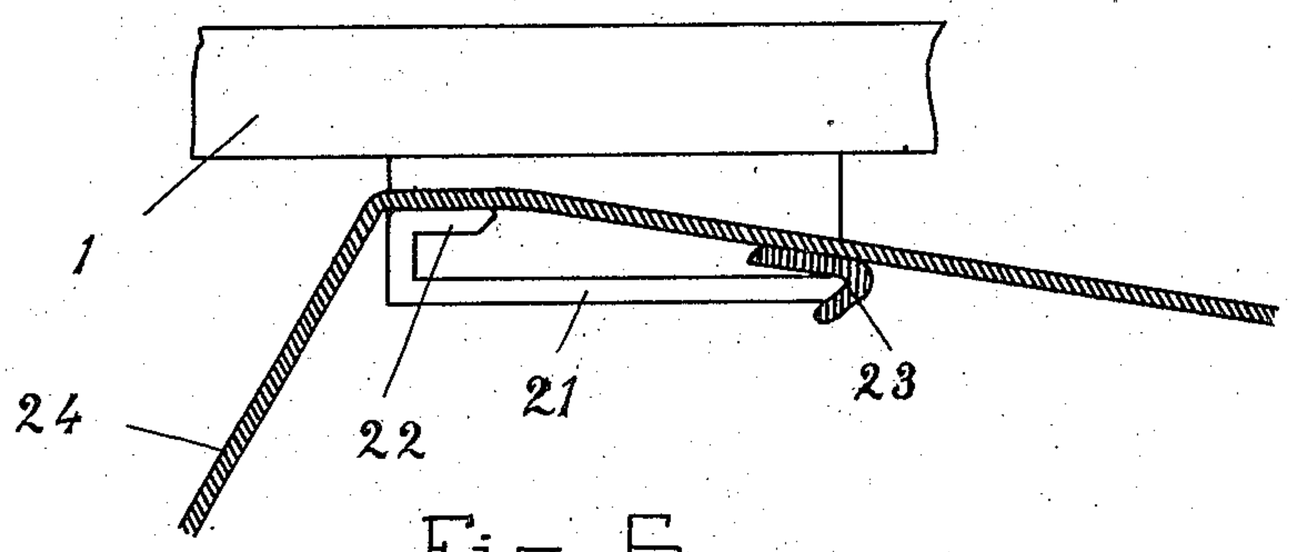
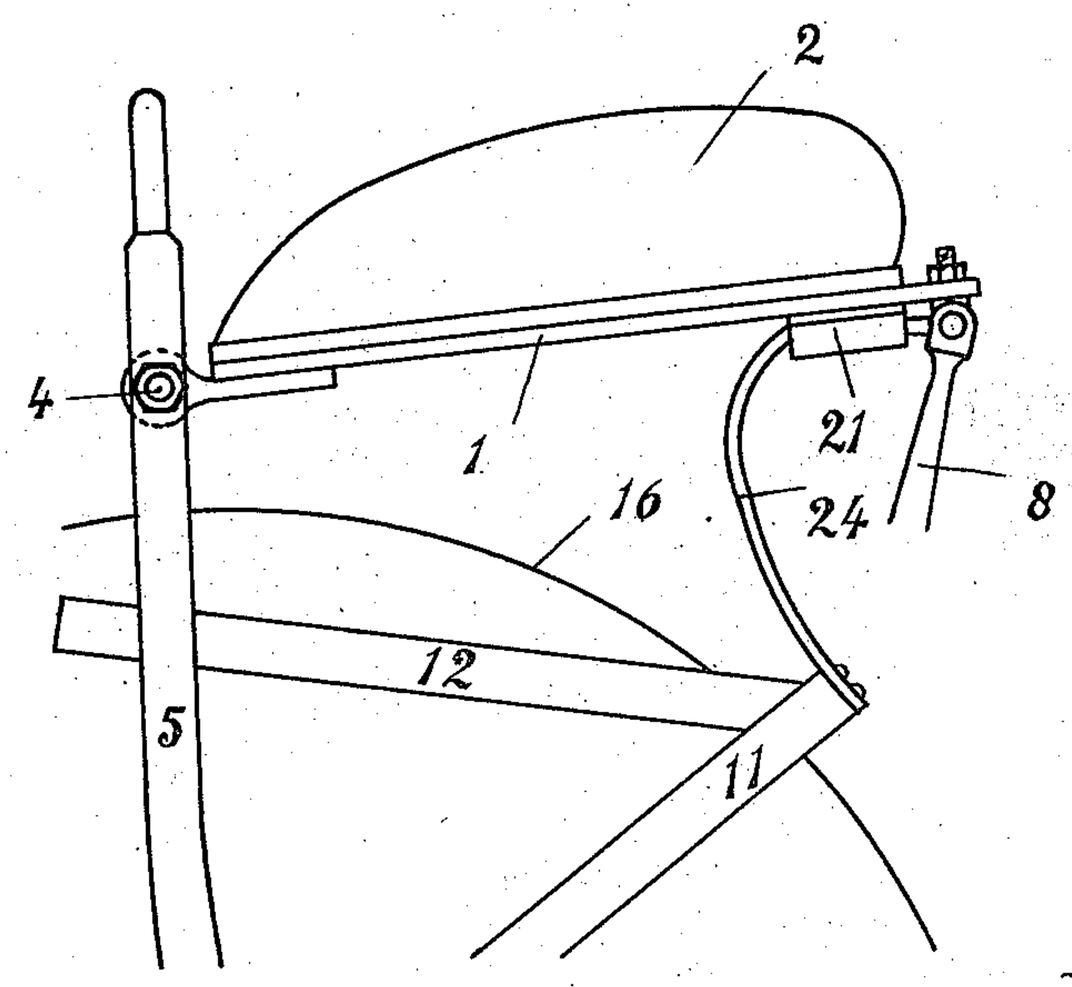


Fig. 6.



Inventor
H. A. Driessen

By
Langner, Parry, Card & Langner
Att'ys

Patented Nov. 18, 1924. 1,516,176

UNITED STATES PATENT OFFICE.

HERMANUS ANTONIUS DRIESSEN, OF THE HAGUE, NETHERLANDS.

BACK SEAT FOR MOTOR CYCLES.

Application filed October 26, 1922. Serial No. 597,187.

To all whom it may concern:

Be it known that I, HERMANUS ANTONIUS DRIESSEN, a citizen of the Kingdom of the Netherlands, and resident of The Hague, Netherlands, have invented a certain new and useful Back Seat for Motor Cycles, of which the following is a specification.

The invention relates to an improved additional backseat for motorcycles. Already many different kinds of backseats have been proposed with a view to obtaining a product which meets all reasonable requirements. One of the best, which moreover shows some resemblance to the object of this application, is specified in the published Dutch patent-application No. 17703 Ned. cl. 63 g. Such seat is of the type, in which the rear end of the seat proper is provided with one or more links, the under ends of which are connected to the fixed frame by means of draw-springs, while the forepart of the seat proper is rotatable around a horizontal shaft of the frame. The lower end of each of the links is pivotally connected with one arm of a double-armed lever the other arm of which is flexibly connected with the frame.

This particular construction has indeed many advantages, since, by the connection of the fore-part the seat is prevented from moving laterally, a sufficient space is obtained for permitting the seat proper to spring as necessary, and still it can be mounted but a short distance above the mudguard, so that the stability is not greatly decreased. However the springing itself does not meet all reasonable requirements, because the tension is decreased by the holding of the springs which act directly on the link. Moreover, there is not enough attention paid to the requirement, that the upward force of the springs must be very slight at the beginning of the downward movement of the seat, and must increase rapidly on further downward movement.

It is the purpose of the present invention to improve the said spring arrangement, and therefore it is characterized by the fact, that the spring effect is obtained solely by means of draw-springs, which act on links by the intermediary of levers, while the arms, on which the springs act, will, in the first part of the downward movement of the seat form an angle of nearly 180° with the direction in which the springs act. Thus it is obtained, that the springs first act with but slight force on the seat, while the force on further downward movement, increases strongly with the decrement of the said angle.

With the construction which is most evident, the said obtuse angle would cause the springs to be located very low, so that they would be in the way for the passenger, if no particular guard be applied thereto. For overcoming this slight objection, and at the same time for obtaining a very practical and simple construction, the levers may be formed according to the present invention, as bell-crank-levers, the arms of which are at an angle of about 90° to each other. The arms, on which the springs act, are directed forwards and upwards, so that the fulcrums of the springs can be situated near the horizontal pivot axle of the seat proper.

As one example, in the accompanying drawings, an embodiment is shown for carrying the invention into effect, wherein,

Fig. 1 is an elevation of the improved seat,

Fig. 2 is a perspective elevational view,

Fig. 3 is a rear view of a clip for maintaining the seat-bottom, when desired, in a nearly horizontal position, in cooperation with a belt with a hook,

Figs. 4 and 5 are longitudinal sections of the said clip with the belt in two different positions, and

Fig. 6 is an elevation showing the arrangement of the connecting device.

Fig. 7 is a fragmentary view showing the adjustable spring connecting means.

The seat-bottom 1, supporting a cushion 2, is pivotally connected by a ball-bearing 3, to the middle of a fixed horizontal shaft 4, which is supported by two rods 5′, in order to prevent lateral movements. These rods 5′ are supported on rods 5 which bear in any desired manner, upon a stationary part such as the rear axle of the cycle, by means of apertures 6. A second connection is applied between rods 5 and any part of the machine frame proper, by means of a flexible strap 7, to be wrapped about any convenient part of the frame, to hold rods 5 in set position. The rear end of the seat-

bottom is provided with two links 8, the under ends of which are pivotally connected to the arms of two bell-crank-levers 9, which are fulcrumed on a horizontal spindle 10, supported by a frame 11, 12, which is connected to the rods 5. The other arms of the bell-crank-levers are pivotally connected to spring bearers 13. Between these bearers 13 and other bearers 15 (see Fig. 7) are positioned coiled springs 14. The bearers 13 and 15 are formed of two parallel spaced plates, connected by cross bolts 13′, and 15′. The bearers 15 are rotatably mounted on short shafts 18, which are situated beneath, and adjacent to, the shaft 4, the shafts 18 being adjustably mounted on frame members 12, by means of screw threaded eye bolts 19 and nuts 20, so that the tension of the springs 14, can be varied at will by adjusting the position of bearers 15. In arranging the springs 14 in the above described manner, at the inner sides of the rods 12, they offer no obstruction to the passenger, and all damage to his legs or his clothes, is avoided.

In Fig. 1 the extreme low position of the seat-bottom 1 is indicated by dotted lines, so that it is clearly to be seen, that there is a considerable distance between this position and the normal position. Hence, a free springing action is secured, without any necessity to mount the seat-bottom at a relatively great distance above the mud guard 16. It clearly appears from Fig. 1, that the springs 14, at the first part of the downward movement of the seat-bottom, act with only a very small force, while this force increases rapidly on any further downward movement, on acount of the aforementioned angle decreasing toward 90°.

A belt or the like 17, of any desired material and fastened in any appropriate manner, may be provided for maintaining the seat-bottom in a nearly horizontal position when not used. By the particular construction of a back seat according to the present invention, the springs have only very slight tension, when the rear end of the seat-bottom is in its highest position. Therefore, it is very necessary that there be a device, by which the seat-bottom can be maintained in a somewhat lowered position. In order that this may always be easily obtained, and without placing the vehicle on its support, there may be provided a clip 21 as indicated in Fig. 3 and a single belt 24 as indicated in Figs. 4, 5 and 6. The belt 24 is connected to the frame 11, and passes through the clip 21. This belt has a hook 23, attached to its underside. When the belt is drawn backwards, and at the same time pressing down the seat proper, the hook 23 can be placed over the rear end of the clip, as indicated in Fig. 4, whereby the seat-bottom is maintained in a nearly horizontal position.

Otherwise, the hook 23 will rest against a bridge member 22, so that the seat-bottom can spring freely.

In Fig. 6 the arrangement of the locking device 21—24, is clearly shown.

Having fully described my invention, what I claim is:

1. A back seat for motorcycles, comprising, a frame detachably connectable to a motorcycle, a horizontal shaft on the frame, a seat rotatably connected to the shaft at its front portion, bell-crank-levers pivoted to the frame, links connected at one end to the rear portion of the seat, and at the other end to arms of the bell-crank-levers, spring supports on the frame, tension coil springs connecting the spring supports and the free arms of the bell-crank-levers, whereby the springs tend to force the seat upwardly, the angles between the springs and the arms of the bell cranks to which the springs are connected, being substantially of 180° when the seat sustains merely its own dead weight.

2. A backseat according to claim 1, the bell-crank-lever being at an angle of about 90°, the arms to which the springs are attached being directed forwardly and upwardly, the spring supports being situated near and beneath the said horizontal shaft.

3. A backseat according to claim 1, including a belt for preventing the seat when not in use from being spring actuated to its uppermost position.

4. A backseat according to claim 1, the bell-crank-lever being at an angle of about 90°, the arms to which the springs are attached being directed forwardly and upwardly, the spring supports being situated near and beneath the said horizontal shaft, including a belt for preventing the seat when not in use from being spring actuated to its uppermost position.

5. A backseat according to claim 1, including a belt for preventing the seat when not in use from being spring actuated to its uppermost position, a clip on the seat to accommodate the said belt and a hook on the belt cooperating with the clip, whereby the seat may be free, or else maintained in a somewhat sagged position.

6. A backseat according to claim 1, the bell-crank-lever being at an angle of about 90°, the arms to which the springs are attached being directed forwardly and upwardly, the spring supports being situated near and beneath the said horizontal shaft, including a belt for preventing the seat when not in use from being spring actuated to its uppermost position, a clip on the seat to accommodate the said belt and a hook on the belt cooperating with the clip, whereby the seat may be free, or else maintained in a somewhat sagged position.

7. A backseat according to claim 1, including a belt for preventing the seat when

not in use from being spring actuated to its uppermost position, a clip on the seat to accommodate the said belt and a hook on the belt cooperating with the clip, whereby the seat may be free, or else maintained in a somewhat sagged position, said clip including means to hold the hook when the seat bottom is free.

8. A backseat according to claim 1, the bell-crank-lever being at an angle of about 90°, the arms to which the springs are attached being directed forwardly and upwardly, the spring supports being situated near and beneath the said horizontal shaft, including a belt for preventing the seat when not in use from being spring actuated to its uppermost position, a clip on the seat to accommodate the said belt and a hook on the belt cooperating with the clip, whereby the seat may be free, or else maintained in a somewhat sagged position, said clip including means to hold the hook when the seat bottom is free.

9. A backseat according to claim 1, said springs being adjustably supported on said frame.

10. A backseat according to claim 1, the bell-crank-lever being at an angle of about 90°, the arms to which the springs are attached being directed forwardly and upwardly, the spring supports being situated near and beneath the said horizontal shaft, said springs being adjustably supported on said frame.

11. A backseat according to claim 1, including a belt for preventing the seat when not in use from being spring actuated to its uppermost position, said springs being adjustably supported on said frame.

12. A backseat according to claim 1, the bell-crank-lever being at an angle of about 90°, the arms to which the springs are attached being directed forwardly and upwardly, the spring supports being situated near and beneath the said horizontal shaft, including a belt for preventing the seat when not in use from being spring actuated to its uppermost position, said springs being adjustably supported on said frame.

13. A backseat according to claim 1, including a belt for preventing the seat when not in use from being spring actuated to its uppermost position, a clip on the seat to accommodate the said belt and a hook on the belt cooperating with the clip, whereby the seat may be free, or else maintained in a somewhat sagged position, said springs being adjustably supported on said frame.

14. A backseat according to claim 1, the bell-crank-lever being at an angle of about 90°, the arms to which the springs are attached being directed forwardly and upwardly, the spring supports being situated near and beneath the said horizontal shaft, including a belt for preventing the seat when not in use from being spring actuated to its uppermost position, a clip on the seat to accommodate the said belt and a hook on the belt cooperating with the clip, whereby the seat may be free, or else maintained in a somewhat sagged position, said springs being adjustably supported on said frame.

15. A backseat according to claim 1, including a belt for preventing the seat when not in use from being spring actuated to its uppermost position, a clip on the seat to accommodate the said belt and a hook on the belt cooperating with the clip, whereby the seat may be free, or else maintained in a somewhat sagged position, said clip including means to hold the hook when the seat bottom is free, said springs being adjustably supported on said frame.

16. A backseat according to claim 1, the bell-crank-lever being at an angle of about 90°, the arms to which the springs are attached being directed forwardly and upwardly, the spring supports being situated near and beneath the said horizontal shaft, including a belt for preventing the seat when not in use from being spring actuated to its uppermost position, a clip on the seat to accommodate the said belt and a hook on the belt cooperating with the clip, whereby the seat may be free, or else maintained in a somewhat sagged position, said clip including means to hold the hook when the seat bottom is free, said springs being adjustably supported on said frame.

In testimony whereof, I have signed my name to this specification.

HERMANUS ANTONIUS DRIESSEN.