L. S. CLARKE & B. B. BACHMAN.

VEHICLE SEAT.

APPLICATION FILED JAN. 3, 1910.

968,510. Patented Aug. 23, 1910.

3 SHEETS—SHEET 1.

FIG. 1

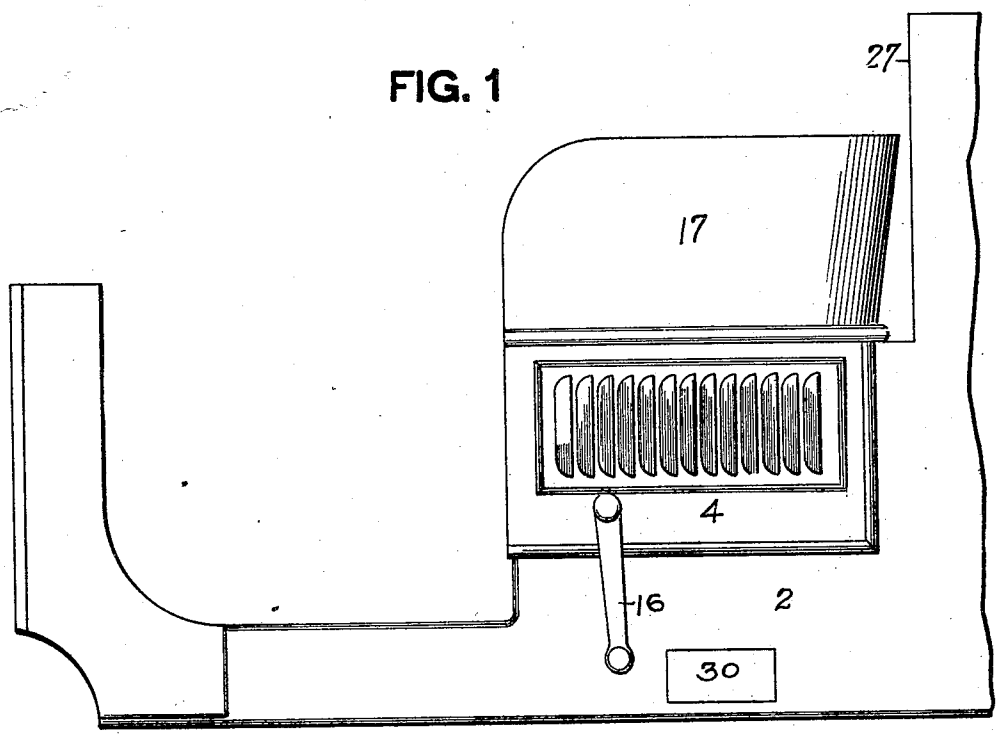
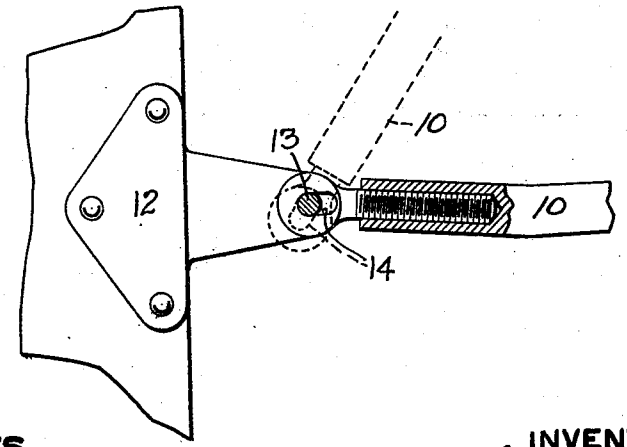


FIG. 4



WITNESSES.

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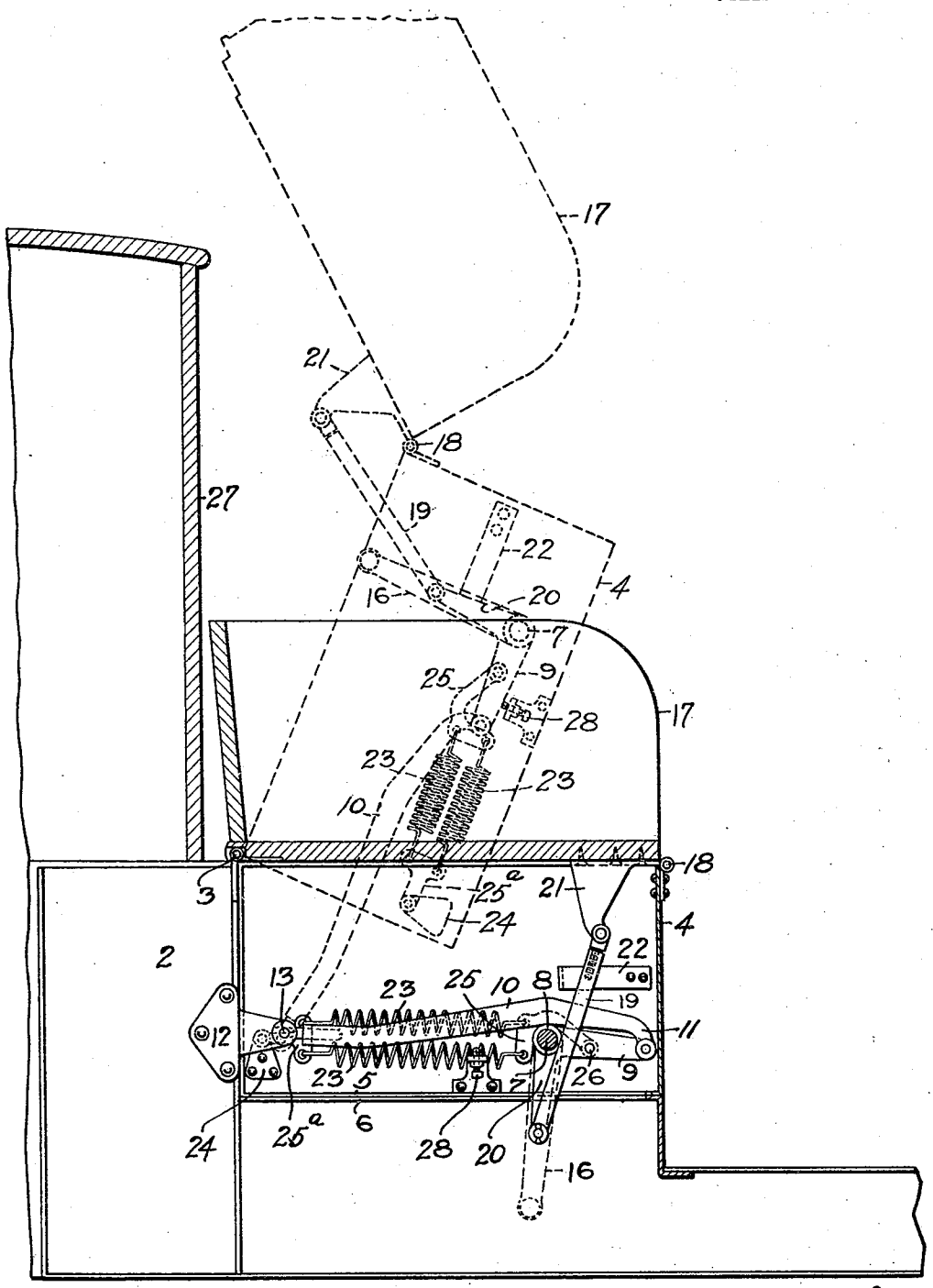

FIG. 2

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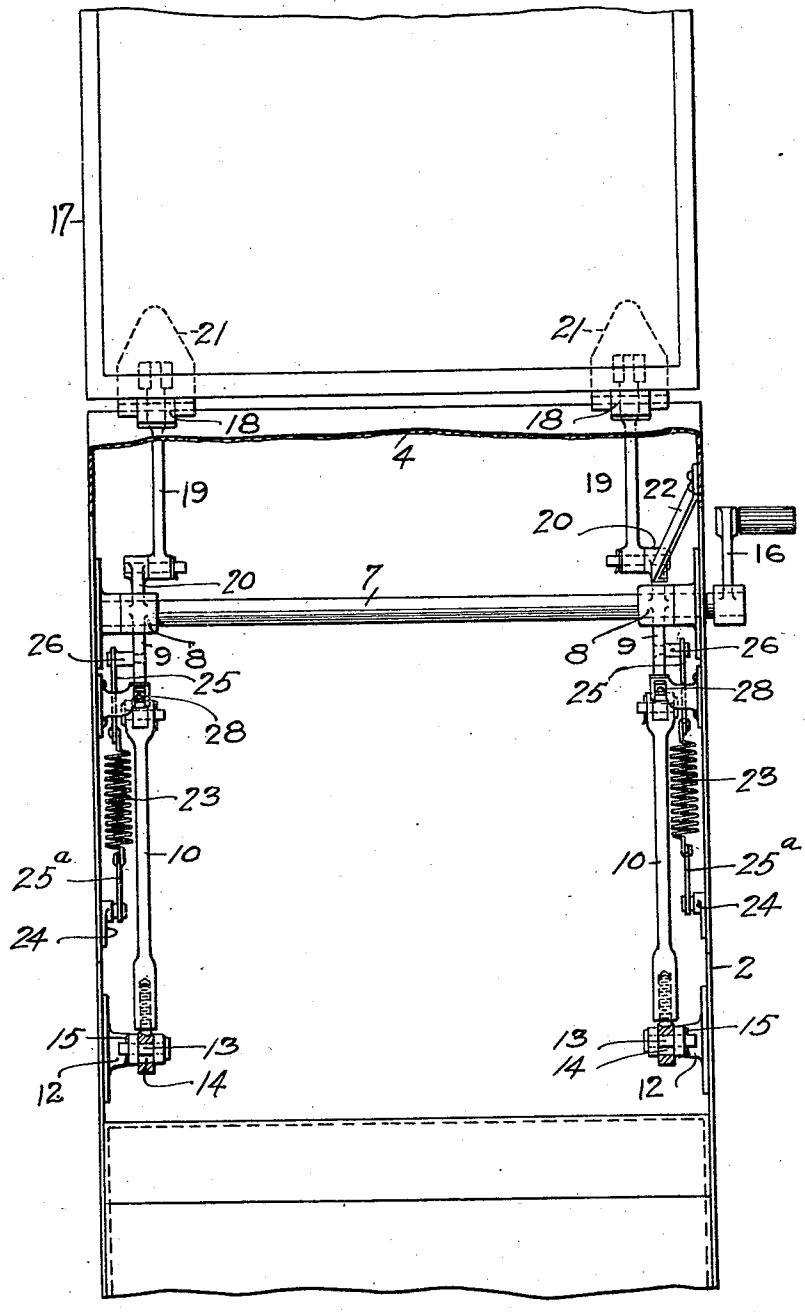
3 SHEETS—SHEET 3.

FIG. 3



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UNITED STATES PATENT OFFICE.

LOUIS S. CLARKE, OF HAVERFORD, AND BENJAMIN B. BACHMAN, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNORS TO AUTOCAR COMPANY, OF ARDMORE, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

VEHICLE-SEAT.

968,510. Specification of Letters Patent. Patented Aug. 23, 1910.

Application filed January 3, 1910. Serial No. 536,209.

To all whom it may concern:

Be it known that we, LOUIS S. CLARKE, residing at Haverford, in the county of Montgomery, and BENJAMIN B. BACHMAN, residing at Philadelphia, in the county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Vehicle-Seats; and we do hereby declare the following to be a full, clear, and exact description thereof.

Our invention relates to vehicle seats and more especially to a seat for use in connection with motor-vehicles of that type in which the motor, or engine, is located beneath the front seat.

The object of our invention is to provide mechanism of a simple character by means of which the seat may be readily lifted up out of the way and supported in its raised position with the exercise of but very little effort on the part of the operator, so that when raised the engine and its parts are exposed to full view for purposes of inspection or repair.

To these ends our invention comprises, generally stated, a seat formed of two hinged sections, the upper section being hinged at the outer end of the lower section, mechanism for raising said sections on their hinges, and for locking the same in their raised and lowered positions, all as fully hereinafter set forth and claimed.

In the drawings, Figure 1 is a side elevation of our improved seat; Fig. 2 is a sectional view, the dotted lines showing raised position of the seat; Fig. 3 is a front view with the seat raised and Fig. 4 is a detail.

In the drawings the numeral 2 designates the seat-frame. Secured by suitable hinges 3 at the rear of the seat-frame 2 is the seat-section 4 with the lower face 5 resting on the upper face 6 of the seat-frame 2. A shaft 7 extends through the seat-section 4 from one side to the other thereof, and secured to said shaft are the bell-cranks 8. Connected to the arms 9 of the bell-cranks 8 are the links 10 which have the downwardly extending end portions 11 to which the crank-arms 9 are pivotally secured, and having means provided for adjusting length. The opposite ends of the links 10 are connected to the brackets 12 which are secured to the seat-frame 2. The pins 13 connect the links with the brackets 12 and said pins pass through the slots 14 formed in said links. The cotter-pins 15 pass through the pins 13 to hold the links in position on said pins.

The arm 16 on the shaft 7 on the outside of seat-section 4 forms the operating handle by which the seat is raised and lowered. The upper seat-section 17 is hinged by suitable hinges 18 to the seat-section 4. The links 19 are pivotally secured to the arms 20 of the bell-cranks 8, and said arms are connected at their opposite ends to the brackets 21, which are secured to the upper seat-section 17 adjacent to the hinges 18, said link 19 having means provided to adjust its length. A dog 22 is mounted on the seat-section 4 to engage one of the crank arms 19 when the seat is raised as indicated in dotted lines in Fig. 2, to hold the seat in its raised position. This dog may be of any suitable construction, that illustrated comprising a spring-arm which is in position to spring out and engage the crank-arm 20 when said crank arm passes over said dog.

Springs 23 are connected to links 25^a pivotally mounted on brackets 24 on the seat-section 4 and to the curved links 25, said links 25 being secured to pins 26 on the bell-crank 8. The curved portion of the arms 25 fits over the shaft 7. These springs 23 are used to assist in counterbalancing the weight of the seat-sections 4 and 17.

Adjustable stop-pins 28 are attached to the seat-section 4 and prevent the bell-cranks 8 passing but a little over a center line drawn between the shaft 7 and the link 10, when in position indicated by dotted lines in Fig. 2. By this construction, when the seat is raised, a toggle is formed which enables the seat to be held in its open position without further assistance. However, as an extra precaution, we have provided the safety-dog 22.

Our improved seat is especially adapted for use in connection with that class of motor-vehicles in which the motor, or engine, is located under the seat, and in this style of vehicle it is necessary to have the front of the body of the car close up to the back of the seat, a portion of which is indicated by the numeral 27. It is for this reason that the upper seat-section 17 is hinged to the front end of the seat-section 4 so as to clear the front of the body of the car when the seat is raised.

When the seat is in its closed position, the seat-sections are locked from upward movement by the fact that the points where the arms 9 of the bell-cranks 8 connect with the links 10, are below the center of the shaft 7. This prevents any upward movement on the part of the seat-sections and when it is desired to raise the seat-sections, the operator grasps the handle 16 and by moving it in the proper direction throws the points of connection of the crank-arms 9 with the links 10 beyond the center of the shaft 7, and this movement first acts to lift the upper seat-section 17 due to the play of the links 10 on the pins 13 by the presence of the slots 14. This initial movement of the crank-arms to move the shaft 7 will act, through the arms 20, to lift the upper-section 17 slightly on its hinges 18 before the lower-section 4 begins to rise. When, however, the links 10 have moved the length of the slots on the pins 13, the further movement of the handle will act to lift the seat-section 4 and at the same time continue to move the seat-section 17 until the parts have been thrown into the position indicated in dotted lines in Fig. 2, when the crank-arms 9 strike the stop-pins 28 and the toggle is formed which supports the seat-sections in their raised position. At the same time the dog 22 engages one of the crank-arms 20 to assist in holding up the seat-sections. When the seat-sections are raised in this manner, they are held rigidly secure in their open position, and the engine or motor under the seat is exposed to full view, so that the operator can have access to all the parts and make a thorough inspection of the same or repair the parts as may be desired.

When it is desired to lower the seat-section, it is only necessary to press the spring-dog 22 out of engagement with the crank-arm 20, where such a dog is employed, whereupon by operating the handle 16, the seat sections are lowered and resume their normal position, and are locked in such a position.

As it is sometimes desirable to be able to get at the valves of the engine without lifting the seat, the seat-frame 2 may be provided with the door 30 by which access may be had to plugs leading to the valves, so that upon the removal of said plugs, the valves are exposed.

What we claim is:

1. In a vehicle-seat, the combination of a seat-frame, a hollow box-like seat-section hinged at its rear end to said frame, an upper seat-section hinged to the front end of said first section, and rotary hand operated mechanism for raising and lowering said seat-sections.

2. In a vehicle-seat, the combination of a seat-frame, a hollow box-like seat-section hinged at its rear end to said frame, an upper seat-section hinged to the front end of said first section, and rotary hand operated mechanism for raising said seat-sections simultaneously.

3. In a vehicle-seat, the combination of a seat-frame, a hollow box-like seat-section hinged at its rear end to said frame, an upper seat-section hinged to the front end of said first section, rotary hand operated mechanism for raising and lowering said seat-sections, and positive locking mechanism for holding said seat-sections in their normal position.

4. In a vehicle-seat, the combination of a seat-frame, a hollow box-like seat-section hinged at its rear end to said frame, an upper seat-section hinged to the front end of said first seat-section, rotary hand operated means for raising and lowering said seat-sections, and positive locking mechanism for holding said seat-sections in their raised position.

5. In a vehicle-seat, the combination of a seat-frame, a hollow box-like seat-section hinged at its rear end to said frame, an upper seat-section hinged to the front of said first section, rotary hand operated means for raising said seat-sections and means for moving said upper seat-section on its hinged joints slightly in advance of said first-section.

6. In a vehicle-seat, the combination of a seat-frame, a swinging seat-section mounted thereon, an upper seat-section mounted to swing on the outer end of said first seat-section, a rotary shaft in said first seat-section, and connections between said shaft and said seat-sections whereby the same are raised by the rotation of said shaft.

7. In a vehicle-seat, the combination of a seat-frame, a swinging seat-section mounted thereon, an upper section mounted to swing on the outer end of said first section, a shaft supported by said first section, cranks on said shaft, connections between said cranks and a fixed support, and connections between said cranks and said upper-section.

8. In a vehicle-seat, the combination of a seat-frame, a swinging seat-section mounted thereon, an upper seat-section mounted to swing the outer end of said first seat-section, a shaft mounted in said first seat-section, cranks on said shaft, a link connected to one of said cranks, the opposite end of said link being connected to a fixed support, an arm connected to the other of said cranks and to said upper seat-section.

9. In a vehicle-seat, the combination of a seat-frame, a swinging seat section mounted thereon, an upper seat-section mounted to swing from the outer end of said first seat-section, a shaft mounted in said first seat-section, a bell-crank on said shaft, a link connected to one arm of said bell-crank and connected at its opposite end to a fixed sup-

port, and an arm connected to the other end of said bell-crank, the opposite end of said arm being connected to the upper seat-section adjacent to the connection of said upper seat-section with the first seat-section.

10. In a vehicle-seat, the combination of a seat-frame, a swinging seat-section mounted thereon, an upper seat-section mounted to swing on the outer end of said first seat-section, a shaft mounted in said first seat-section, bell-cranks on said shaft, a link connected to one arm of said bell-crank and said link connected at its opposite end to the fixed support, the point of connection of said link with said bell-crank being below the center of said shaft, and connections between said bell-crank and the upper seat-section.

11. In a vehicle-seat, the combination of a seat-frame, a swinging seat section mounted thereon, an upper seat-section mounted to swing on the outer end of said first seat-section, a shaft mounted in said first seat-section, bell-cranks on said shaft, links having downwardly turned ends connected to one of the arms of said bell-cranks below the center of said shaft, the opposite end of said link being connected to a fixed support, and connections between said bell-crank and the upper seat-section.

12. In a vehicle-seat, the combination of a seat-frame, a swinging seat-section mounted thereon, an upper seat-section mounted to swing from the outer end of said first seat-section, a shaft mounted in said first seat-section, bell-cranks on said shaft, a link connected to one of the arms of said bell-crank, the opposite end of said link being connected to a fixed support, said link having extra play on said support, and connections between said bell-crank and the upper seat-section, whereby the upper seat-section rises slightly in advance of the lower seat-section.

13. In a vehicle-seat, the combination of a seat-frame, a swinging seat-section mounted thereon, an upper seat section mounted to swing on the outer end of said first seat-section, a shaft mounted in said first seat-section, a bell-crank on said shaft, a link connected to one arm of said bell-crank, the opposite end of said link having an enlarged opening, a pin on a fixed support engaging said opening, and connections between said bell-crank and the upper seat-section.

14. In a vehicle-seat, the combination of a seat-frame, a seat-section mounted to swing thereon, an upper seat-section swinging from the outer end of said first seat-section, means for raising and lowering said seat-sections simultaneously, and a spring to counterbalance the weight of said seat-sections.

15. In a vehicle seat, the combination of a seat-frame, a swinging seat-section mounted thereon, an upper seat-section on the outer end of said first seat-section, a shaft mounted in said first seat-section, crank-arms on said shaft, a link connected to one of said crank-arms and a fixed support, connections between the other crank-arm and the upper seat-section, and a spring connected to the other crank-arm and to said first seat-section.

16. In a vehicle-seat, the combination of a seat-frame, a seat-section mounted thereon, an upper seat-section mounted to swing thereon, a shaft mounted in said first seat-section, crank-arms on said shaft, a link connected to one of said crank-arms and to a fixed support, connections between the other crank-arm and the other seat-section, a pivotally mounted finger mounted on one of said cranks, a pivotally mounted lug on said first seat-section, and springs connecting said fingers and lugs.

17. In a vehicle-seat, the combination of a seat-frame, a swinging section mounted thereon, an upper swinging seat-section on said first section, toggle-levers connecting said seat sections, a rotary-shaft, and connections between said rotary-shaft and said toggle-levers.

18. In a vehicle seat, the combination of a seat-frame, a swinging hollow box-like section mounted thereon, an upper swinging seat-section on said first section, a lever mechanism for raising said seat-sections, and a locking dog for holding said seat-sections in their raised position.

19. In a vehicle-seat, the combination of a seat-frame, a swinging hollow box like section mounted thereon, an upper swinging seat section on said first section, a lever mechanism for raising said seat-sections, and a catch spring adapted to lock said seat-sections in their raised position.

In testimony whereof, we the said LOUIS S. CLARKE and BENJAMIN B. BACHMAN have hereunto set our hands.

LOUIS S. CLARKE.
BENJAMIN B. BACHMAN.

Witnesses:
E. W. MILLER,
ROBT. W. SIMMONS.