

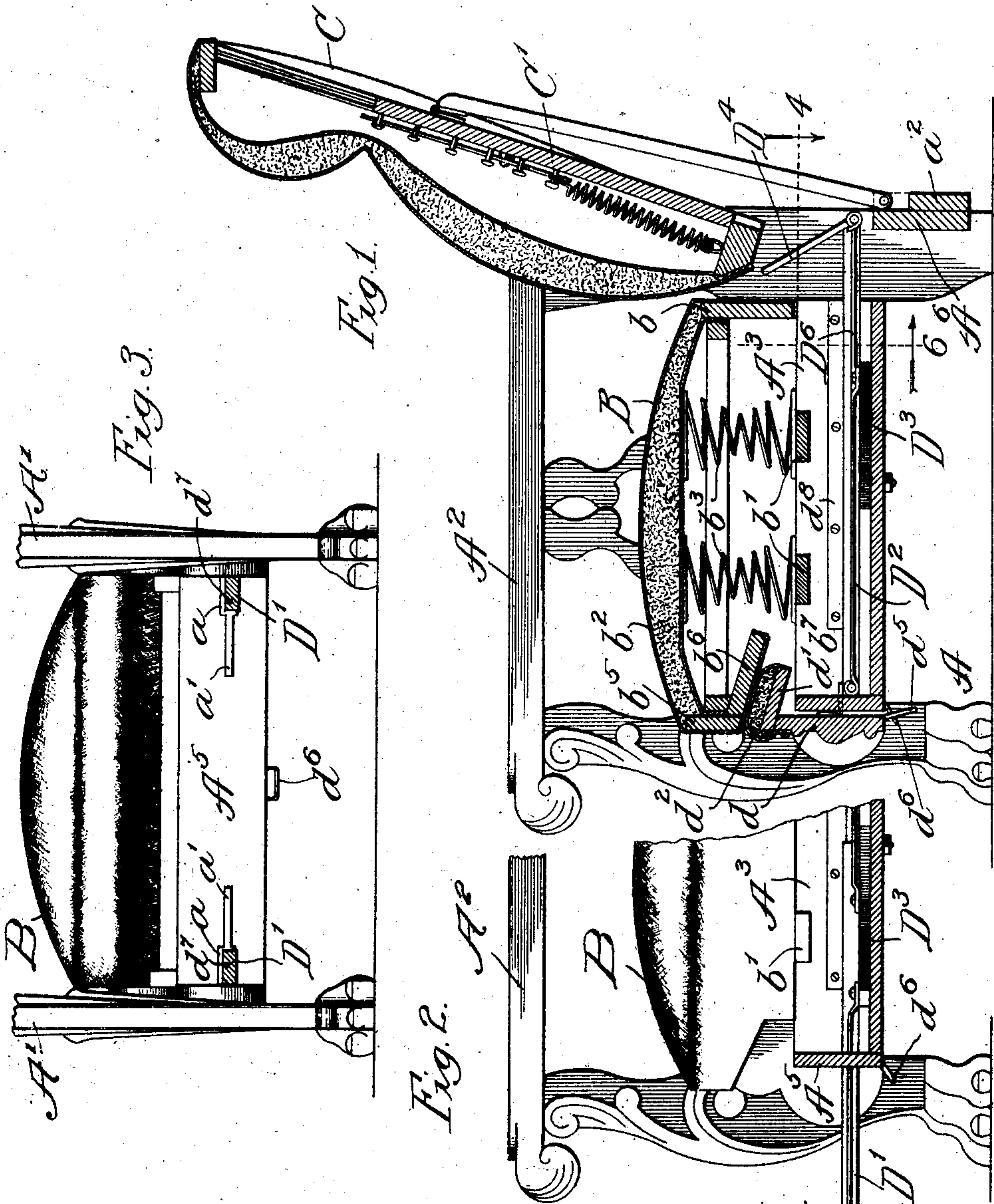
A. G. EYLES.
CHAIR.

APPLICATION FILED FEB. 1, 1908.

901,285.

Patented Oct. 13, 1908.

2 SHEETS—SHEET 1.



Witnesses:

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Inventor:

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2 SHEETS—SHEET 2.

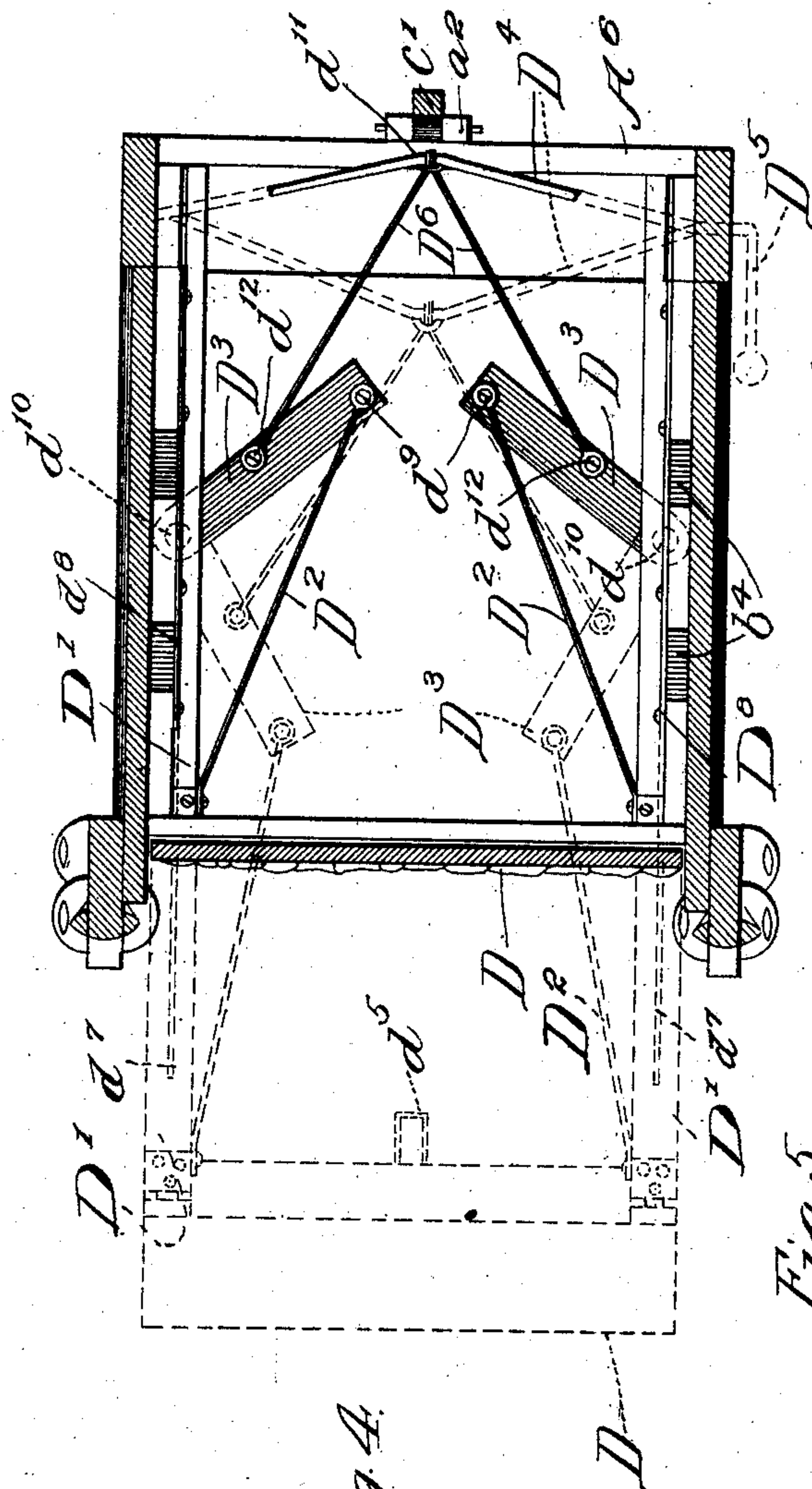


Fig. 4.

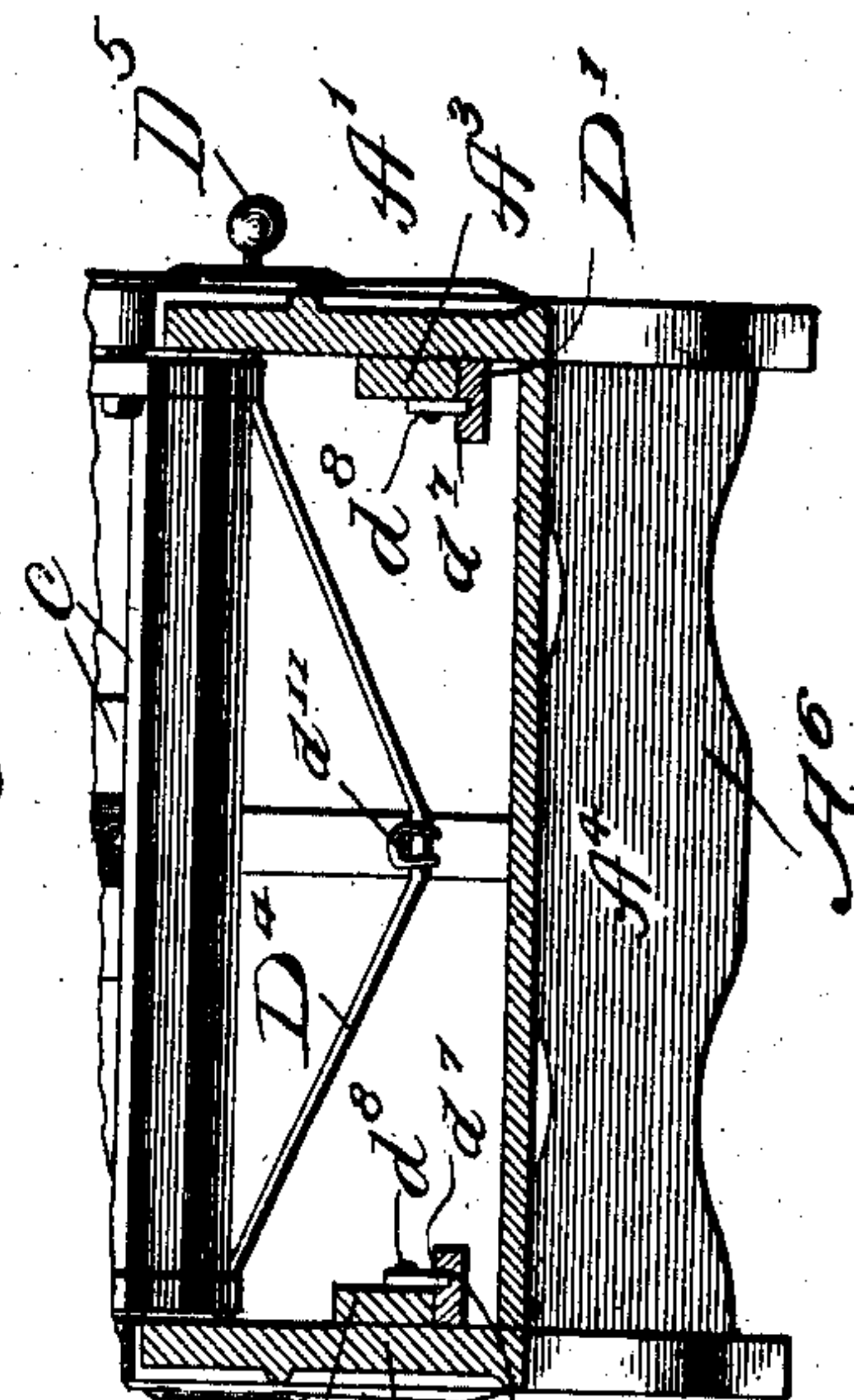


Fig. 6.

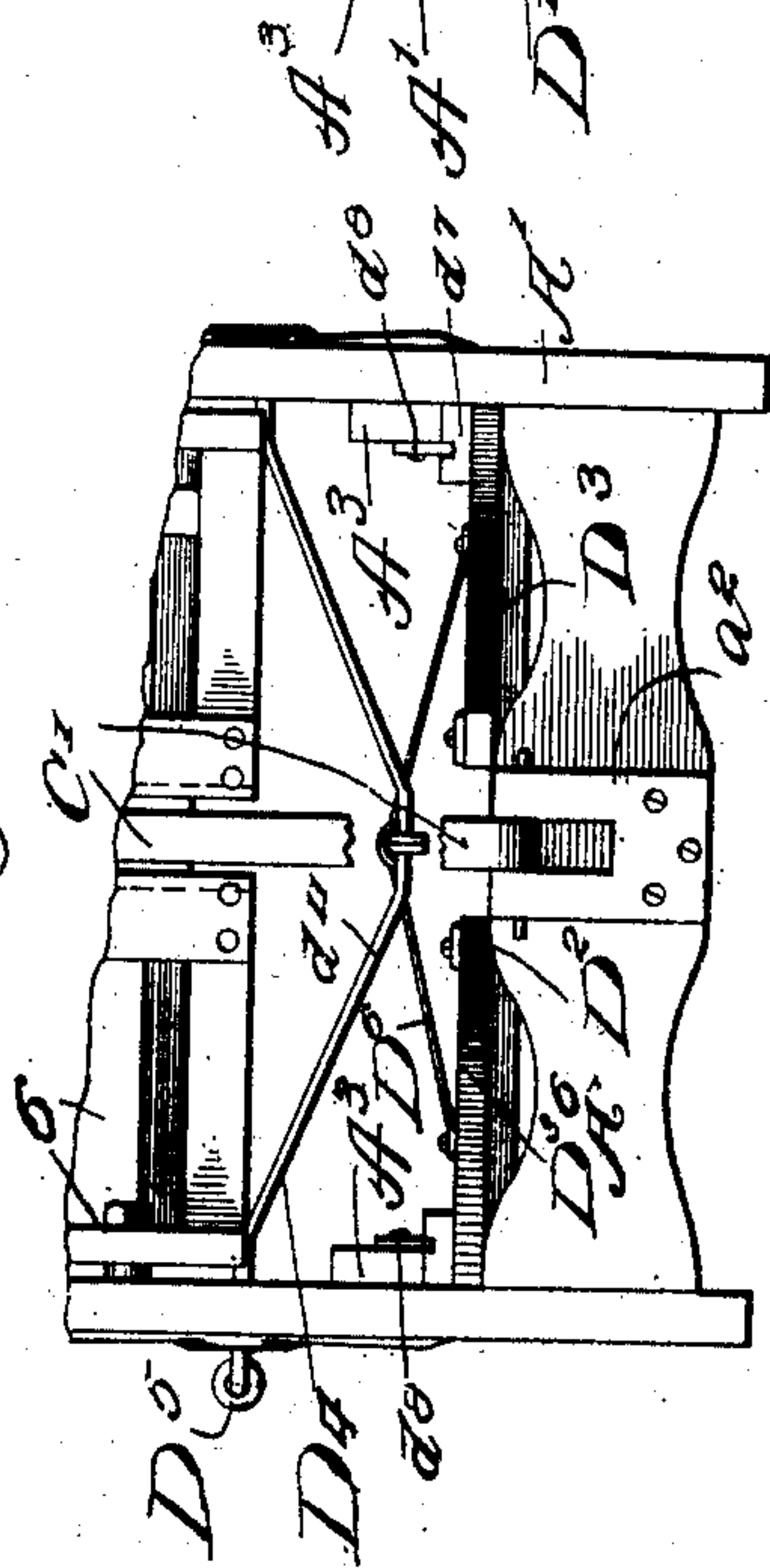


Fig. 5.

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UNITED STATES PATENT OFFICE.

ANTON G. EYLES, OF CEDAR RAPIDS, IOWA.

CHAIR.

No. 901,285.

Specification of Letters Patent.

Patented Oct. 13, 1908.

Original application filed April 5, 1907, Serial No. 366,531. Divided and this application filed February 1, 1908.

Serial No. 413,804.

To all whom it may concern:

Be it known that I, ANTON G. EYLES, a citizen of the United States, residing at Cedar Rapids, in the county of Linn and State of Iowa, have invented a new and useful Improvement in Chairs, of which the following is a specification.

My invention relates particularly to chairs provided with adjustable foot-rests; and my primary object is to provide improvements pertaining to foot-rests and mechanism for actuating the same.

The invention is illustrated in its preferred embodiment in the accompanying drawings, in which—

Figure 1 represents a vertical sectional view of a chair constructed with my improvements, the foot-rest being shown in the folded or sheathed position; Fig. 2, a broken sectional view showing the foot-rest in an extended position; Fig. 3, a broken front elevational view showing the foot-rest bars in section, the section being taken as indicated at line 3 of Fig. 2; Fig. 4, a horizontal section taken approximately as indicated at line 4 of Fig. 1, the dotted lines indicating the extended position of the foot-rest; Fig. 5, a broken, rear elevational view of the chair; and Fig. 6, a broken sectional view taken approximately as indicated at line 6 of Fig. 1.

In the construction illustrated, A represents the frame of a chair having side-members A^1 formed with arms A^2 ; A^3 , seat-supporting and guide-forming cleats applied to the inner surfaces of the side-members A^1 ; A^4 , a bottom connecting the side-members A^1 ; A^5 , a front cross-member connected with the front ends of the cleats A^3 and with the front edge of the bottom A^4 ; A^6 , a cross-member connecting the rear legs which form a part of the side-members A^1 ; B, a seat shown as removably supported on the cleats A^3 ; C, a back provided with adjusting mechanism C^1 of the character fully described and claimed in my pending application No. 366,531, filed April 5, 1907 (Patent No. 880,206, granted February 25, 1908), of which application the present application is a division; and D, my improved foot-rest which is carried by slide-bars D^1 ; D^2 , rods connecting the front portions of the said slide-bars with levers D^3 pivoted to swing in a horizontal plane immediately above the plane of the bottom A^4 ; and D^4 ,

a crank-shaft equipped with an actuating-arm D^5 , the crank portion of said shaft being connected by rods D^6 with the levers D^3 which serve to actuate the foot-rest.

The frame A of the chair may be of any suitable design and construction. As shown in Fig. 3, the front cross-member A^5 of the frame is provided with slots a in which the slide-bars D^1 move; and extending inwardly from the slots a are narrower slots a^1 through which the rods D^2 work when the foot-rest is projected. The cross-member A^6 is equipped with a pivot-block a^2 with which is connected a link or brace forming a part of the back-adjusting mechanism.

The seat B comprises a frame b having slats b^1 ; and an upholstered portion b^2 connected with the upper portion of the frame b and having its immediate portion supported on springs b^3 which rest upon the slats b^1 . The slats b^1 are received by recesses b^4 which are formed in the upper edges of the cleats A^3 , as shown in Fig. 4. The upholstering covering is extended over the front edge-piece b^5 of the seat-frame; and connected with the lower edge-portion of the relatively narrower front edge-piece b^5 is a rearwardly declining member b^6 beneath which is afforded a space b^7 for the foot-rest in the housed condition thereof.

The foot-rest D comprises a supporting-member d which occupies normally a vertical position, when in the housed condition, as shown in Fig. 1, and a rearwardly declining portion d^1 equipped with upholstering d^2 and lying normally beneath the member b^6 of the seat. The upholstering d^2 is extended over the upper portion of the front surface of the member d ; and the front surface of the member d is otherwise ornamented or carved, so that when the foot-rest is in the housed position a finished appearance results and the foot-rest forms to all appearances a part of the upholstering of the chair. The foot-rest is short enough (transversely with relation to the chair) to be received between the front legs of the chair, as shown in Figs. 1 and 4. The member d extends beneath the slide-bars D^1 by whose front end it is carried, and the intermediate portion of said member is connected by hinges d^3 which are applied to the inner surface of the member d and to the upper surfaces of the front portions of the bars D^1 . The front ends of the bars D^1 are beveled or

inclined forwardly and upwardly, as indicated at d^4 , so that the foot-rest may assume the position shown in Fig. 2, in which position the downward extension of the member d beneath the hinges bears against said beveled surfaces. The lower edge of the member d is equipped with a cam-member d^5 which is normally received within a loop-form cam-member d^6 with which the front cross-member A^5 of the main frame is equipped at its central portion, as illustrated in Figs. 1 and 3. The cam or loop d^6 declines forwardly somewhat from the lower edge of the frame-member A^5 , as illustrated in Fig. 2. The slide-bars D^1 , as has been indicated, project through the slots a in the front cross-member A^5 , and the rear portions of said bars lie beneath the cleats A^3 and rest upon the upper surfaces of the levers D^3 . Said bars are provided on their upper surfaces with slots d^7 into which project guide-plates or bars d^8 which are applied to the inner surfaces of the cleats A^3 and depend beneath the lower edges of said cleats. The rods D^2 are secured at their front ends to the inner lateral edges of the bars D^1 and have their rear ends connected by pivots d^9 with the free ends of the levers D^3 . The opposite ends of the levers D^3 are connected by pivots d^{10} with the bottom A^4 of the chair-frame. The rods D^6 may be formed of one member having its central portion wrapped about an offset d^{11} in the crank portion of the shaft D^4 . The rods diverge forwardly, as shown in Fig. 4, and their front ends are joined by pivots d^{12} with the intermediate portions of the levers D^3 . The crank-shaft D^4 is journaled in the rear portions of the side-members A^1 of the main frame at some distance above the plane of the slide-bars D^1 , so that the cranked intermediate portion of the crank-shaft normally depends downwardly and rearwardly somewhat from the axis of the shaft, as shown in Fig. 1, the dimensions being such that the crank-shaft will be housed between the rear legs of the chair when the foot-rest is in the folded position, and will swing forwardly over the rear portion of the bottom A^4 of the chair when the foot-rest is extended, as indicated by dotted lines in Fig. 4. The actuating-arm D^5 lies normally in a substantially horizontal position at the exterior of the rear portion of one of the sides A^1 of the frame, where it may conveniently be grasped by the occupant. As indicated in Fig. 4, the actuating arms extend normally forward from the axis of the crank-shaft.

From the foregoing detailed description the operation of the foot-rest will be readily understood. The foot-rest may be projected by swinging the actuating arm or lever D^5 upwardly, and thereby moving the levers D^3 to the dotted position shown in Fig. 4 and projecting the foot-rest. During the initial

movement of the foot-rest in the projecting operation, the cams d^5 , d^6 operate to tilt the foot-rest from its standing position to the inclined position shown in Fig. 4, in which position the foot-board d^1 inclines rearwardly and upwardly in position to comfortably support the feet of the occupant of the chair. During the final portion of the return movement of the foot-rest, which return movement is accomplished by actuating the hand-lever D^5 in the opposite direction, the cams d^5 , d^6 serve to restore the foot-rest to its original standing position. It will be observed that in this movement the cam d^5 enters the loop-form cam d^6 and impinges against the lower portion of the cross-member A^5 of the main frame, which therefore serves as a cam-member. The foot-rest may be operated with very slight effort on the part of the occupant of the chair, and is very comfortable and convenient.

The foregoing detailed description has been given for clearness of understanding only, and no undue limitation is to be understood therefrom.

What I regard as new, and desire to secure by Letters Patent, is—

1. The combination with a chair, of a slide, an actuating lever connected with said slide, a foot-rest movably connected with said slide, a cam connected with the foot-rest, and a cam connected with the main frame and coacting with said first-named cam, whereby the foot-rest is tilted during the projection of the slide and is righted during the retraction of the slide.

2. The combination with a chair, of a slide, actuating means connected with the slide, a foot-rest pivotally connected with the slide and adapted to tilt with relation thereto, a cam connected with the foot-rest, and a cam connected with the frame of the chair and coacting with said first-named cam, whereby the foot-rest is automatically tilted during the projection of the slide through the medium of its actuating means.

3. The combination with a chair having a seat with a space beneath its front portion for housing a foot-rest, a slide, actuating means for said slide, a foot-rest pivotally connected with said slide and having a portion depending beneath its pivot and equipped with a cam, and a cam connected with the frame of the chair and coacting with said first-named cam, whereby the foot-rest is tilted with relation to the slide during the projection of the slide through the medium of its actuating means.

4. In a chair, the combination of a main frame, a seat supported therein and formed at its front portion with a recess for receiving a foot-rest, a slide connected with the main frame, slide-actuating means, and a foot-rest having a normally vertical portion pivotally connected with said slide and hav-

ing a normally rearwardly-declining upper portion housed within said recess.

5 5. In a chair, the combination of a main frame, a seat supported therein and having its front portion provided with a recess, a slide, actuating means for said slide, a foot-rest having a vertical portion pivotally connected at an intermediate point with said
10 slide and having a rearwardly-declining portion housed within said recess, and cam connections between the lower portion of the vertical member of the foot-rest and the front portion of the main frame.

6. In a chair, the combination of a main frame, slide-bars connected therewith, a foot- 15 rest connected with said bars, a pair of levers pivoted to swing in a horizontal plane, connecting rods joining said levers to said slide-bars, a crank-shaft pivoted in the main frame and equipped with an actuating lever, 20 and connecting rods joining said crank-shaft to said pair of levers.

ANTON G. EYLES.

In presence of—

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REX P. HARBERT.